Usenet Newsgroup Archive: rec.radio.amateur.homebrew

2003-07 - 2003-12

These Usenet messages were preserved as a plain-text archive. This PDF was generated by Digital Library of Amateur Radio & Communications from the source text file in 2026.

Date span: 2003-07-01 through 2003-12-31

Source text: rec.radio.amateur.homebrew.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 4,670

Message records with no readable body available in the source text: 3

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: R.S.G.B Membership for ?1.05

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 13:39:44 UTC
From: Duncan Walters <pentode@ntlworld.com>
Message-ID: <DagMa.12825$sh4.1012236@newsfep2-win.server.ntli.net>
Source record: 34568

It's a good job you are not a RSGB news reader, Ian.
We would all get the news a fortnight too late!

2. Re: check out our web page

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 16:00:46 UTC
From: Marian <marziem@microsoft.com>
Message-ID: <bdsb6biha1@nemesis.news.tpi.pl>
Source record: 34569
Cross-posted to: alabama.birmingham.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.misc,relcom.radio.ham,se.hobby.amatorradio,sfnet.harrastus.radio.ham

U&#65533;ytkownik "gstamand" <gstd223aman@rogers.com> napisa&#65533; w wiadomo&#65533;ci news:ymsIa.146522$3Sm.108240@news01.bloor.is.net.cable.rogers.com...
>
> http://greynet.net/~gbarc/
>
>

3. 10 Meter SSB freqs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 17:30:34 UTC
From: Bob Liesenfeld <robert.liesenfeld@neicoltech.org>
Message-ID: <3F01C53A.448D18F3@neicoltech.org>
Source record: 34570

Hi gang,
Ok, with the declining nature of the current solar cycle, I figure I just about have time to build a dream project before the next peak hits. ;)

My plan is for the following:
Handheld xcvr (not cell phone tiny, more like the size of a larger brick).
Long loaded telescoping whip antenna
SSB
2-4 W output.

I plan to use either a synthesizer I have been playing with, or some incantation of the "Huff & Puff" stabilizer. However, I need to pick a range of frequencies for it as that will have a dramatic impact on the synth/H & P circuitry.
Since I have never spent much time on 10, I wondering what the common wisdom is for where the SSB activity is on this band. I would like to keep the tuning range down to 100KHz if possible, but especially with the H & P idea, I could go to say, 500KHz.

Any thoughts?

Bob 'POQ

4. Re: 10 Meter SSB freqs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 18:03:42 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <22kMa.76044$R73.9774@sccrnsc04>
Source record: 34571

> I plan to use either a synthesizer I have been playing with, or some
> incantation of the "Huff & Puff" stabilizer. However, I need to pick a
> range of frequencies for it as that will have a dramatic impact on the
> synth/H & P circuitry.
> Since I have never spent much time on 10, I wondering what the common
> wisdom is for where the SSB activity is on this band. I would like to
> keep the tuning range down to 100KHz if possible, but especially with
> the H & P idea, I could go to say, 500KHz.

28.3-28.6 MHz

W4ZCB

5. Re: Yet another powersupply question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 18:32:20 UTC
From: mcalhoun@ksu.edu
Message-ID: <bdsk3k$87g@unix1.cc.ksu.edu>
Source record: 34572

<<Many will scream "Don't use or charge batteries in your house", but don't
<<listen to them! My local Hospital uses batteries by the dozen indoors,
<<and I suspect yours does, too. I know because they give them to me when

<There is a big difference between a lead acid battery as used in cars,
<which can give off acid fumes or leak, and a gelcell battery, as used
<for indoor industrial uses, such backup power for emergency lights,
<computer systems, etc.

FWIW, the bigger batteries my hospital gives to me are NOT gel cells!

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

6. Re: R.S.G.B Membership for ?1.05

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 21:24:30 UTC
From: 128 <jtf66674@hotmal.com>
Message-ID: <h_mMa.623$ju6.5683@newsfep4-glfd.server.ntli.net>
Source record: 34573

Hello,

Was it a joke or a genuine offer by the RSGB?

"Duncan Walters" <pentode@ntlworld.com> wrote in message
news:DagMa.12825$sh4.1012236@newsfep2-win.server.ntli.net...
> It's a good job you are not a RSGB news reader, Ian.
> We would all get the news a fortnight too late!
>
>
>
>

7. Re: Yet another powersupply question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 22:07:01 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vg41gd79empad3@corp.supernews.com>
Source record: 34574

> FWIW, the bigger batteries my hospital gives to me are NOT gel cells!

I'll bet they are NOT car batteries either. They are (or certainly should be) some sort of Sealed Lead Acid (SLA) like glassmat unless they came from some UPS service in a specially designed ventilated area. Car batteries are NOT sealed and they DO emit explosive hydrogen gas when charging and should only be used in a well ventilated area (not under the radio desk in your house).

8. Re: Yet another powersupply question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-01 23:44:54 UTC
From: "G.Beat" <spamcatcher@comcast.net>
Message-ID: <W1pMa.11709$fG.5777@sccrnsc01>
Source record: 34575

Wes -

Here is the best place to start (for a linear power supply)

David Metz's WA0AUQ article
Regulated Power Supply Construction (Or what is inside your Astron)
http://www.seits.org/features/pwrsup.htm

Schematic:
http://www.seits.org/features/pwrsup.gif

I regularly see lightning strike supplies and "I do not know how to fix" on
eBay

Stock 4 components and you can fix 90% of them

LM723 regulator
25A bridge rectifier
2N3055 pass transistors
1N4007 diode

W9GB

<clutch@lycos.com> wrote in message
news:vfhjomji220fa6@corp.supernews.com...
> I just picked up a IC-706MK2G and with it being 95 degrees outside the
> thought of playing with it in the house rather than in the truck seems
> like a fine plan. Sadly, I don't have a 20A 13.8v powersupply. Guess
> I could buy one but it would seem that this would be a good homebrew
> project.
>
> I would love to learn about shoestring homebrew solutions. Cheaper
> the better.
>
> 73, wes, kc8spr
> --
> Reply to:
> Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
> Lycos address is a spam trap.

9. DDS/PLL Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 00:03:37 UTC
From: JLB <IHateSpam@nospam.net>
Message-ID: <ubpMa.753$_83.476@fe01.atl2.webusenet.com>
Source record: 34576

Typically the DDS is used as the reference oscillator for the PLL, resulting in the VCO being at a multiple of the DDS output frequency. The idea being that the VCO output will have decent phase noise performance with the fine frequency resolution of the DDS, and resaonably fast stepping times---"the best of both worlds", you might say.

I discovered an interesting alternative at :
http://lea.hamradio.si/~s57nan/ham_radio/dds_9851/dds_9851.html

This idea has the DDS acting as a programmable divider inside the PLL feedback loop. Ok, what are the advantages or disadvantages of doing this? What does it do to the phase noise and lock-up time? And what about the spurs?

Jim

N8EE

10. Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 01:28:36 UTC
From: DOUGLAS SNOWDEN <SNOWDEN@peoplepc.com>
Message-ID: <vg4da4mr811f5a@corp.supernews.com>
Source record: 34577

Just curious, have any of you had trouble with your neighbors that have had their homes wired with CAT5 cable? Does it want to act like an antenna and cause intereference (to them and you) ???

Doug N4IJ

11. have you made fm receiver from jf1ozl

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 02:40:32 UTC
From: bruce johnson <bruceaj@bigpond.com>
Message-ID: <vqrMa.1110$oN.43723@newsfeeds.bigpond.com>
Source record: 34578

http://www.intio.or.jp/jf10zl/

hi above is a link to jf1ozl home brew pages , he has a great many projects
there
has anybody made any of the FM receiver projects ?
he uses a WEIS detector and each circuit is designed slightly different
if you have made a receiver from his design could you please tell me one one
worked.
thanks
73 de bruce vk3mn

12. Re: 10 Meter SSB freqs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 04:49:00 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3F0264CA.3030601@invalid.invalid>
Source record: 34579

Bob Liesenfeld wrote:
> Since I have never spent much time on 10, I wondering what the common
> wisdom is for where the SSB activity is on this band. I would like to
> keep the tuning range down to 100KHz if possible, but especially with
> the H & P idea, I could go to say, 500KHz.

If you have to stick with a 100KHz swath, 28400-28500 is the segment to use - and you'll find plenty of activity there. If you can expand the coverage it's worthwhile to cover 28300-28700. (actually if it were my project I'd do 28000-28500 and provide for CW<grin>)
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

13. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 04:50:19 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3F026519.9090801@invalid.invalid>
Source record: 34580

DOUGLAS SNOWDEN wrote:
> Just curious, have any of you had trouble with your neighbors that have had
> their homes wired with CAT5 cable? Does it want to act like an antenna and
> cause intereference (to them and you) ???

I've wired my own home with Cat5 and have no problems, in either direction.
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

14. Re: homebrew wattmeter for measuring transmitter output power

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 06:17:16 UTC
From: Steve Cohen <stevecohen@adelphia.net>
Message-ID: <MNuMa.22366$Jw6.9383594@news1.news.adelphia.net>
Source record: 34581

You got my curiosity up. What is 90 MHz used for?

"Fred McKenzie" <fmmck@aol.com> wrote in message
news:20030615120125.12195.00000955@mb-m04.aol.com...
> << i want to check the output power of an fm transmitter, and i don't
> have a wattmeter. most of the wattmeters available in market here have
> a range of
> 0-50watt or 0-100 watt.
> i want to design one, with a range of 0-2 watt approx, >>
>
> << design an fm
> transmitter from scratch, given that "i need to transmitt an fm signal
> at 90Mhz with an output power of 2 watt" >>
>
> << i
> know it's illegal, and i am not going to cause any damage. i just want
> to learn how to design. let me mention that i am very new to this
> subject. >>
>
> Anand-
>
> You protest too much. This is a Ham Radio forum, so mention of a 90 MHz
> transmitter is like waving a red flag. Few will believe that you don't
intend
> to transmit with it.
>
> Are really trying to learn, or are you trying to get us to do your
homework?
> Measuring low power may be as simple as using a diode detector to measure
> voltage across a 50 Ohm load, and calibrating the meter scale in watts.
As a
> designer, you should be able to figure it out!
>
> If you are serious, why not become a licensed Ham Radio operator, and
design
> equipment that is legal to use? You can find a lot of interesting
information
> at http://www.qrz.com, and even practice taking a Ham Radio exam at
> http://www.qrz.com/p/testing.pl.
>
> 73, Fred, K4DII
>

15. DC to Light Recommendation?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 06:17:41 UTC
From: Steve Cohen <stevecohen@adelphia.net>
Message-ID: <9OuMa.22367$Jw6.9383764@news1.news.adelphia.net>
Source record: 34582

Any recommendations on the best products to achieve as complete a range of reception and transmission as possible? All band, all mode, CW, VLF, Low Band, VHF, UHF, AM aircraft, etc.? Kenwood TS-2000? Harris? Is there an all-in-one radio? I've got six old radios (tube sets mostly) to accomplish this, and would like to get more space and tech efficient. I just don't know the new products. Suggestions?

16. Re: R.S.G.B Membership for £1.05

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 07:50:36 UTC
From: Marcus Sleightholm <marcus.sleightholm@btinternet.com>
Message-ID: <bdu2scieb1@titan.btinternet.com>
Source record: 34583

The offer is real - I know of two people who have taken it up. Rather cheap
for a years QSL Bureau activity.

73 Marcus

"Keith" <kilowattradio_spam@earthlink.net> wrote in message
news:bdtir702hvu@enews2.newsguy.com...
> On Tue, 1 Jul 2003 22:24:30 +0100, "128" <jtf66674@hotmal.com> wrote:
>
> >Hello,
> >
> >Was it a joke or a genuine offer by the RSGB?
> >
> >"Duncan Walters" <pentode@ntlworld.com> wrote in message
> >news:DagMa.12825$sh4.1012236@newsfep2-win.server.ntli.net...
> >> It's a good job you are not a RSGB news reader, Ian.
> >> We would all get the news a fortnight too late!
> >>
> >>
> >>
> >>
> >
>
> Probably a credit card collection scam, ARRL was just hit by one this
week so
> the scammers moved their target.
>
>
> --
> NW Oregon Radio Page Ham, Police Scanner, Shortwave and more.
> http://home.earthlink.net/~kilowattradio/

17. Re: DDS/PLL Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 09:09:42 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <k485gvo2uinb2cfu1r95f6kc6ddq6ad2tn@4ax.com>
Source record: 34584

>Typically the DDS is used as the reference oscillator for the PLL, resulting
>in the VCO being at a multiple of the DDS output frequency. The idea being
>that the VCO output will have decent phase noise performance with the fine
>frequency resolution of the DDS, and resaonably fast stepping times---"the
>best of both worlds", you might say.
>
>I discovered an interesting alternative at :
>http://lea.hamradio.si/~s57nan/ham_radio/dds_9851/dds_9851.html
>
>
>
>This idea has the DDS acting as a programmable divider inside the PLL
>feedback loop. Ok, what are the advantages or disadvantages of doing this?
>What does it do to the phase noise and lock-up time? And what about the
>spurs?

Spurious are down to normal analogue pll levels.

As is phase noise.

Lock-up time is somewhat slower than the DDS, this is reduced down to normal PLL
times as well.

Doing it this way gives you one advantage over a normal analogue pll - small
frequency steps (= normal analogue pll with fractional divider).

Clive

18. Re: Testing TMOS FETs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 10:08:57 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <swmdndTB9L2eMp-iXTWJkw@comcast.com>
Source record: 34585

International Rectifier has an entire section on their website for the testing methodology for MOSFET's --
their were also several FET tester circuits in "Ham Radio" magazine -- one of the great bargains is to have the collection on CD-ROM. Do you have a FAX --email me privately and I'll send a copy.

Jack

"JGBOYLES" <jgboyles@aol.com> wrote in message news:20030624183219.11524.00001052@mb-m13.aol.com...
> Hi,
> Anybody got a cheap and dirty way of testing mrf150's out of circuit? My
> homebrew amp using 8 150's died, and some or all of the fets failed. At $50 a
> pop I don't want to throw away any that have life left in them. I did the
> usual static ohmic checks in circuit, and only identified one that looked bad.
> Also on application of dc bias, all 8 began to turn on. At very low power
> levels all 8 seemed to amplify, but with normal drive levels, no rf output.
> These are 4 push-pull sections with 2 fets per section.
> 73 Gary N4AST

19. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 11:07:39 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vg5f86gl50km92@corp.supernews.com>
Source record: 34586

I've got CAT5 Etherenet in my house (even in my shack) and have no problems either way. CAT5 is balanced and very tightly twisted so there is not a lot of leakage. You wouldn't want to run an antenna right next to it, but it is fine for a normal installation.

20. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 12:19:32 UTC
From: Ken Ashcroft <ken@g3msw.demon.co.uk>
Message-ID: <zbhmgMBU3sA$Ewi1@g3msw.demon.co.uk>
Source record: 34592

I have several PC's wired to a hub router and ADSL, using cat 5
connections. No problems have been detected with RF noise.
In article <vg4da4mr811f5a@corp.supernews.com>, DOUGLAS SNOWDEN
<SNOWDEN@peoplepc.com> writes
>Just curious, have any of you had trouble with your neighbors that have had
>their homes wired with CAT5 cable? Does it want to act like an antenna and
>cause intereference (to them and you) ???
>
>Doug N4IJ
>
>

--
Ken Ashcroft

21. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 12:27:59 UTC
From: "G.Beat" <spamcatcher@comcast.net>
Message-ID: <jdAMa.18156$Xm3.2309@sccrnsc02>
Source record: 34587

Doug -

"Properly installed" should be NO problem

I installed miles of Cat 5 running Ethernet at a major hospital.

Due to ICU, Surgery, Radiology and Lab departments, we swept the entire area
for
any potential interference - which would interfere with patient support
equipment.

NONE. The industry does not need "urban legends"

"Properly installed" is the key aspect --- and their are a number of
certification organizations
for installers and contractors.

gb

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

"DOUGLAS SNOWDEN" <SNOWDEN@peoplepc.com> wrote in message
news:vg4da4mr811f5a@corp.supernews.com...
> Just curious, have any of you had trouble with your neighbors that have
had
> their homes wired with CAT5 cable? Does it want to act like an antenna and
> cause intereference (to them and you) ???
>
> Doug N4IJ
>
>

22. FA: Microwave RF Switch / Relay 26.5 Ghz SMA 28v

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 12:49:14 UTC
From: Tom <Tom@sbrs.org.uk>
Message-ID: <3f02d4ca$0$45170$65c69314@mercury.nildram.net>
Source record: 34588
Cross-posted to: alt.ham-radio.uwave,rec.radio.amateur.homebrew,uk.radio.amateur

The title somes it up :)

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3033560326&ssPageName=ADME:B:LC:UK:1

23. 70 cm PA

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 13:14:17 UTC
From: Luis Rolo <luisrolo@netcabo.pt>
Message-ID: <bdulr9$10a7mo$1@ID-200167.news.dfncis.de>
Source record: 34589

hi ,

have someone sucessfully build a 70 cm SSB power amplifier? I am thinking
about it now that i am starting my AO40 setup and
due to low power ssb transceiver, PA is needed. Any projects, ideias, links?
thanks in advance,

Luis Rolo
CT2INY

--

Luis Rolo, CT2INY
Porto, PORTUGAL
email: luisrolo@netcabo.pt
web: not avaliable yet
Coordenates: 41° 7' 59" N, 8° 34' 7" W
Grid Locator: IN51rd

24. Looking for floating voltage regulator - MC1466L

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 13:29:54 UTC
From: jjesson@voyager.net
Message-ID: <3f02daf8_4@corp-news.newsgroups.com>
Source record: 34590
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Need one or two for a repair on a Lambda supply... willing to pay but not a fortune as the supply is an antique :-)

Thanks, Joe KB9LZB

25. VOX switch

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 14:34:52 UTC
From: Andrew <andrew_k_jones@talk21.com>
Message-ID: <bduqi9$2cv$1@ames.central.susx.ac.uk>
Source record: 34591

I am hoping that someone could help in finding voice activation switch IC.

I did find one or two very old references to a Motorola MC2830P, but have a feeling that it is discontinued as I was unable to find any information on the Motorola site.

I have found a few circuits on the web, but was hoping someone here might have used something that they would recommend. Something with a low parts count, and might work with an inexpensive computer microphone or a headset microphone meant for hands free telephone conversations.

It only needs to be momentary on. Some sort of gain adjustment or background filtering would be valuable.

any leads?

thanks
andy

26. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 18:37:51 UTC
From: mikea@mikea.ath.cx
Message-ID: <bdv8pv$oe4$6@puck.litech.org>
Source record: 34593

Ken Ashcroft <ken@g3msw.demon.co.uk> wrote:
> I have several PC's wired to a hub router and ADSL, using cat 5
> connections. No problems have been detected with RF noise.
> In article <vg4da4mr811f5a@corp.supernews.com>, DOUGLAS SNOWDEN
> <SNOWDEN@peoplepc.com> writes
> >Just curious, have any of you had trouble with your neighbors that have had
> >their homes wired with CAT5 cable? Does it want to act like an antenna and
> >cause intereference (to them and you) ???

In my experience at home and at work, it's OK unless and untill a
hub, switch, or NIC decides to get noisy. Then it's time to get out
the handheld scanner and start tracking it down. The radio shop at
WeBuildHighways, my day job, had a bad switch, and it took a day to
find out what was trashing their VHF reception.

Aside from that, it's just fine.

--
Viagra's not what it's cracked up to be. I took a dozen last night and
only nine worked.

27. Re: DC to Light Recommendation?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 18:43:36 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <j776gvsk504tkd0ocptgivs625hm9kruaa@4ax.com>
Source record: 34594

On Wed, 02 Jul 2003 06:17:41 GMT, "Steve Cohen"
<stevecohen@adelphia.net> wrote:

>Any recommendations on the best products to achieve as complete a range of
>reception and transmission as possible? All band, all mode, CW, VLF, Low
>Band, VHF, UHF, AM aircraft, etc.? Kenwood TS-2000? Harris? Is there an
>all-in-one radio? I've got six old radios (tube sets mostly) to accomplish
>this, and would like to get more space and tech efficient. I just don't
>know the new products. Suggestions?

These days it is not so much of a problem to construct a receiver that
can be tuned to any frequency between 9 kHz and 9 GHz, the problem is
building a receiver that is actually usable in that frequency
range:-).

If such large frequency range would be attempted, the local oscillator
phase noise would kill the performance completely. Wide open receiver
front ends will also very easily overload, producing a huge number of
spurious responses.

Doing a high quality DC to daylight receiver would require at least 3
or 4 different receiver topologies. One perhaps from 9 kHz to 1500
kHz, one from 1 MHz to 200 MHz, one from 100 MHz to 10 GHz and one for
frequencies above 10 GHz (if needed).

Each subreceiver would require at least a dozen of fixed input filters
or at least 4-5 tunable front end filters each, since it is hard to
make a tunable filter with a frequency range larger than 1:3. Even
with strong mixers a selective front end filter will help in keeping
the spurious responses at a reasonable level.

I would strongly recommend that you keep your old tube equipment,
since they will very clearly outperform any "DC to daylight" all in
one units at least in LF and MF.

In HF, a DC to daylight receiver will outperform the tube set in
frequency display accuracy and frequency stability, but _definitively_
not in spurious response. At frequencies above 15-30 MHz a new rig may
outperform a tube rig in sensitivity.

Above 50-100 MHz even a mediocre modern receiver may outperform an old
tube receiver.

Paul OH3LWR

28. Re: VOX switch

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 20:41:16 UTC
From: Micro-Flight <robert931@sympatico.ca>
Message-ID: <KrHMa.4763$eF3.569644@news20.bellglobal.com>
Source record: 34596

How about programming a PIC. Can't get a lower parts count than that!

"Andrew" <andrew_k_jones@talk21.com> wrote in message
news:bduqi9$2cv$1@ames.central.susx.ac.uk...
> I am hoping that someone could help in finding voice activation switch IC.
>
> I did find one or two very old references to a Motorola MC2830P, but have
a
> feeling that it is discontinued as I was unable to find any information on
> the Motorola site.
>
> I have found a few circuits on the web, but was hoping someone here might
> have used something that they would recommend. Something with a low
> parts count, and might work with an inexpensive computer microphone or
> a headset microphone meant for hands free telephone conversations.
>
> It only needs to be momentary on. Some sort of gain adjustment or
> background filtering would be valuable.
>
> any leads?
>
> thanks
> andy
>
>

29. Re: Telefunken (Germany) ECL82 (diamond)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 20:50:19 UTC
From: la8ak.xnd@online.no
Message-ID: <3f0332da.262671118@news.online.no>
Source record: 34595
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

On Sun, 22 Jun 2003 14:18:27 -0500, funkbastler
<funkbastler@yahoo.com> wrote:

>
>$9.75 from http://www.tubesandmore.com in the US.
>
>-fb-
>
a Thorn rental tellie has perhaps high enough collector value over
there....

30. Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 22:17:02 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net>
Source record: 34447

Well, I guess the death knell has sounded for the Shack as a source for experimenter and hobbyist parts. I went into a relatively new store (open less than a year) today to get a few resistors that I need in a hurry. What did I find? Not a resistor, capacitor, transistor, IC, switch, fuse, or anything that would be considered an electronic component was to be found. They had all kinds of TV coax, TV connectors, cell phones, home phones, phone accessories, satellite TV equipment, expensive toys, and a few stereo "systems", but but not an electronic component in sight. They had wire, solder, soldering irons, and such, but nothing to solder the wires to. They don't even carry the small project boxes any more.
They're looking more like the electronics section in WalMart every day.
Ooops, I take that back... the Shack's prices are 40-100% above what you'll pay for the same item at WalMart.

Adios Radio Shack !! RIP

--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Time is what keeps everything from happening all at once.

31. Re: Power supply topology question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 22:35:37 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bdvq6g$481$1@bob.news.rcn.net>
Source record: 34450

"MikeN" <mnewman@clear.net.nz> wrote in message
news:cvn6gvkah5m7ss14brmo7cbcdodcnmff4p@4ax.com...
> Not infrequently regulated power supply circuitry is found with NPN
> pass transistors like the 2n3055, in the negative supply line,
>
> I'm curious to know what are the pros and cons of putting the pass
> transistors in this way, as against the more common topology of
> putting them in the positive supply line?

Just think about where you are going to get the base drive if the pass transistor is in the positive lead. You'll need a voltage considerably higher than the output voltage. This may demand that the rectifier put out more voltage than you'd really like, which means more drop across the pass transistor and thus more dissipation (lower efficiency).

It's easy to get the supply for the base of the pass transistor if it is in the return lead, without increasing the rectifier output voltage above the minimum required to always overcome the drop in the pass transistor.

32. Power supply topology question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-02 22:48:28 UTC
From: MikeN <mnewman@clear.net.nz>
Message-ID: <cvn6gvkah5m7ss14brmo7cbcdodcnmff4p@4ax.com>
Source record: 34449

Not infrequently regulated power supply circuitry is found with NPN pass transistors like the 2n3055, in the negative supply line,

I'm curious to know what are the pros and cons of putting the pass transistors in this way, as against the more common topology of putting them in the positive supply line?

Thanks

MikeN

33. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 00:25:53 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F037811.6050704@hotmail.com>
Source record: 34451

my local RS had a pretty good selection of basic parts (2n2222's
resistors, tools, caps, etc) until last fall when they just decided, for
no apparent reason, to stop carrying them. They lost my business. Now I
drive into Montreal to goto ABRA, much cheaper parts ($0.05 each for
capacitors), but the cost of gas makes it impractical to go for less
than $20 of parts.

Tweetldee wrote:
> Well, I guess the death knell has sounded for the Shack as a source for
> experimenter and hobbyist parts. I went into a relatively new store (open
> less than a year) today to get a few resistors that I need in a hurry. What
> did I find? Not a resistor, capacitor, transistor, IC, switch, fuse, or
> anything that would be considered an electronic component was to be found.
> They had all kinds of TV coax, TV connectors, cell phones, home phones,
> phone accessories, satellite TV equipment, expensive toys, and a few stereo
> "systems", but but not an electronic component in sight. They had wire,
> solder, soldering irons, and such, but nothing to solder the wires to. They
> don't even carry the small project boxes any more.
> They're looking more like the electronics section in WalMart every day.
> Ooops, I take that back... the Shack's prices are 40-100% above what you'll
> pay for the same item at WalMart.
>
> Adios Radio Shack !! RIP
>
> --
> Tweetldee
> Tweetldee at att dot net (Just subsitute the appropriate characters in the
> address)
>
> Time is what keeps everything from happening all at once.
>
>

34. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 00:26:44 UTC
From: W7TI <noway@nohow.com>
Message-ID: <21aknl5ldloc$.1cvot9c4a9q8u$.dlg@40tude.net>
Source record: 34453

On Wed, 02 Jul 2003 22:17:02 GMT, Tweetldee wrote:

> Adios Radio Shack !! RIP

Thank goodness for Mouser and ebay.

Bill, W7TI

35. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 00:36:55 UTC
From: Chuck / KE4ETH <chuck_hawks@hotmail.com>
Message-ID: <z_IMa.4330$Sy1.3461@fe02.atl2.webusenet.com>
Source record: 34448

It's a sad thing.

My local Radio Shack is run by a fellow that stocks parts. Not the RS brand, but Ohmite and others. We have a college in that town and an electrical engineering department, so I guess that one doesn't count. A company store, 45 miles away, has an upright cabinet with drawer with resistors, ICs, Caps and other parts. Not a good selection, but some. Another store 35 miles away has the same kinda drawers with the same kinda items.

The seem to want to sell (and promise the moon) on appliance items.

Chuck

"Tweetldee" <dgmason99@att99.net> wrote in message
news:yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net...
> Well, I guess the death knell has sounded for the Shack as a source for
> experimenter and hobbyist parts. I went into a relatively new store (open
> less than a year) today to get a few resistors that I need in a hurry.
What
> did I find? Not a resistor, capacitor, transistor, IC, switch, fuse, or
> anything that would be considered an electronic component was to be found.
> They had all kinds of TV coax, TV connectors, cell phones, home phones,
> phone accessories, satellite TV equipment, expensive toys, and a few
stereo
> "systems", but but not an electronic component in sight. They had wire,
> solder, soldering irons, and such, but nothing to solder the wires to.
They
> don't even carry the small project boxes any more.
> They're looking more like the electronics section in WalMart every day.
> Ooops, I take that back... the Shack's prices are 40-100% above what
you'll
> pay for the same item at WalMart.
>
> Adios Radio Shack !! RIP
>
> --
> Tweetldee
> Tweetldee at att dot net (Just subsitute the appropriate characters in
the
> address)
>
> Time is what keeps everything from happening all at once.
>
>

36. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 00:48:07 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bdvuga$1209o3$1@ID-134747.news.dfncis.de>
Source record: 34452

And we only have ourselves to blame. How many of us, Licensed Amateurs, not members of this group, but individuals who hold a license, know one end of a soldering iron form another. Radio Shack is a BigBoard listed corporation. The Board of Directors has a responsibility to increase shareholder wealth. Those of us that do build something, have other places to buy where we can get it cheaper, and we do most of our shopping at that source. Then comes the need for a 48.5 ohm 2.5 watt resistor NOW. We race to Rat Shack, and then when such a "common" item is not available bad mouth them. If they sold more components they would carry more components. They carry a bunch of them now, there just not hung on the wall anymore. The parts are in 8 drawer cabinets, depending on what the store sold in parts prior to the conversion, about ten months ago the stores have 4 or 8 of these cabinets. There is a lot of stuff not in the store that they can get for you. All you have to do is ask. The quote 10 working day delivery (better to over deliver than over promise). In my experience delivery time for the non-stock item is two to three days. I don't work there anymore, but I still shop there, and will continue to.

--
73 es cul

wb3fup
a Salty Bear

"Tweetldee" <dgmason99@att99.net> wrote in message news:yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net...
> Well, I guess the death knell has sounded for the Shack as a source for
> experimenter and hobbyist parts. I went into a relatively new store (open
> less than a year) today to get a few resistors that I need in a hurry. What
> did I find? Not a resistor, capacitor, transistor, IC, switch, fuse, or
> anything that would be considered an electronic component was to be found.

> They had all kinds of TV coax, TV connectors,
cell phones, home phones,
> phone accessories, satellite TV equipment,
expensive toys, and a few stereo
> "systems", but but not an electronic component
in sight. They had wire,
> solder, soldering irons, and such, but nothing
to solder the wires to. They
> don't even carry the small project boxes any
more.
> They're looking more like the electronics
section in WalMart every day.
> Ooops, I take that back... the Shack's prices
are 40-100% above what you'll
> pay for the same item at WalMart.
>
> Adios Radio Shack !! RIP
>
> --
> Tweetldee
> Tweetldee at att dot net (Just subsitute the
appropriate characters in the
> address)
>
> Time is what keeps everything from happening all
at once.
>
>

37. Re: Power supply topology question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 04:03:31 UTC
From: Kari Back <kba@nic.fi>
Message-ID: <3F03AB13.4040707@nic.fi>
Source record: 34454

MikeN wrote:

>Not infrequently regulated power supply circuitry is found with NPN
>pass transistors like the 2n3055, in the negative supply line,
>
>I'm curious to know what are the pros and cons of putting the pass
>transistors in this way, as against the more common topology of
>putting them in the positive supply line?
>
>Thanks
>
>MikeN
>

One possible benefit is transistor is connected collector grounded.
There is no need
insulate the transistor and heat conduction is improved.

Possible problems may be in cases where for some reason the regulation
transistor fails,
unregulated and higher overvoltage can get to load if there is any
return path from ground to
unregulated negative line. Possibly transistor in negative line has
infinite
resistance when failed.

Some sort of overvoltage protection could be useful if the load is
sensitive to overvoltages.

rgds Kari B

>
>

38. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 07:59:13 UTC
From: Duncan Walters <pentode@ntlworld.com>
Message-ID: <onRMa.14$Oi2.12@newsfep1-win.server.ntli.net>
Source record: 34455

We used to have "Tandy" stores over here in the UK,
which were always poor substitutes to your Radio Shack
shops, but which nevertheless sold a decent proportion
of components and other stuff for constructors.
Suddenly, for whatever reason, they sold all the stuff off cheap and started
selling accessories for mobile phones and domestic TV and Hi Fi bits and
pieces.
Even Maplin Electronics over here is cutting stocks back - when you order
now you are told quite often they haven't the quantity you require and it
has to go on back
order!
Anyone would think that home construction was a dying hobby!

Duncan G4DFV

39. Re: R.S.G.B Membership for €1.05

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 08:03:15 UTC
From: Duncan Walters <pentode@ntlworld.com>
Message-ID: <drRMa.15$Oi2.13@newsfep1-win.server.ntli.net>
Source record: 34456

<G3ZHIg3zhi@hotmail.com> wrote in message
news:wPfMa.51390$%L.25461@news-lhr.blueyonder.co.uk...
> Join the Radio Society of Great Britain for €1.05 or 2 US dollars
>
> Normal membership cost is €42.50 but if you join in July
>
> with the RSGB special offer Membership will cost you €1.05
>
> That's a massive saving of €41.45 pounds!
>
> For that you get one years membership of RSGB which includes the RSGB
national radio magazine Radcom.
>
> Go to http://www.qsl.net/g3zhi/rsgb.jpg for the application form.
>
> http://www.qsl.net/g3zhi

40. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 09:40:27 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <gEXyOWELoAEAAz@ifwtech.co.uk>
Source record: 34457

Duncan Walters wrote:

>Anyone would think that home construction was a dying hobby!

Supplies of components for home construction are actually better than they have ever been. The difference is how we get hold of them.

As everybody points out, when you need a 22K resistor it's no longer possible to go to a local store. Too bad - so get over it and move on.

Instead you have to stock ordinary small components *yourself*, and plan ahead for larger projects.

One of the best investments I ever made for home construction was a set of plastic drawers and a kit of 0.25/0.5W resistors in standard values from 10 ohms up to 1M. Also I keep a reasonable supply of small capacitors, for example 0.001, 0.01 and 0.1uF for RF bypassing, and an assortment of low-value ceramic plate caps. There are plenty more drawers left for other components I know I'm going to need regularly.

It's not overly expensive to build up a basic stock like this - and you'll never be caught wanting a 22K resistor again!

Where do you buy these components? By mail order from the big distributors like Farnell and Rapid Electronics in the UK, and Digi-Key and Mouser in the USA. These are also the places we now have to go with the shopping-list for larger projects. They have a huge range of components and they will deal with amateurs if we're businesslike about it. It's mostly a matter of planning what we need.

Part of this planning is to keep a list of items that are running low and will soon need to be topped-up. That way, lots of small things will add up to make your next large order. It's also a more cost-effective way to deal with minimum order and shipping charges.

My August 'In Practice' column in RadCom will be about buying from the professional distributors (in the UK). I repeat this same basic information every year or two in the magazine, but also maintain a permanent web page on UK component and tool suppliers, and how to order from them:
www.ifwtech.co.uk/g3sek/in-prac/components.htm

As I say, in reality the situation has never been better! It's we ourselves who need to change our buying habits.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'

http://www.ifwtech.co.uk/g3sek

41. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 13:02:48 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <YPVMa.94190$R73.10817@sccrnsc04>
Source record: 34458

> As I say, in reality the situation has never been better! It's we
> ourselves who need to change our buying habits.

Better yet of course, is SMT Ian. If you can use half an order of FST-3125's, (1250), I can buy them at $0.22 each.

At $0.86 each in single quantity, they're still cheaper than an MCL mixer/switch, by 5X at least. And, yield greatly improved performance to boot!

W4ZCB

42. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 13:28:03 UTC
From: Al <ten.knilhtrae@yajfa.remove>
Message-ID: <ten.knilhtrae-BE447D.09280403072003@news.bellatlantic.net>
Source record: 34459

In article <z_IMa.4330$Sy1.3461@fe02.atl2.webusenet.com>,
"Chuck / KE4ETH" <chuck_hawks@hotmail.com> wrote:

> It's a sad thing.
>
> My local Radio Shack is run by a fellow that stocks parts. Not the RS brand,
> but Ohmite and others. We have a college in that town and an electrical
> engineering department, so I guess that one doesn't count. A company store,
> 45 miles away, has an upright cabinet with drawer with resistors, ICs, Caps
> and other parts. Not a good selection, but some. Another store 35 miles away
> has the same kinda drawers with the same kinda items.
>
> The seem to want to sell (and promise the moon) on appliance items.
>

<<< big snip >>>

Isn't the CEO of RS a women? I don't think she ever built a thing in her
life.

--

Reverse address to reply.

43. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 13:35:07 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <be1euqivu1@bob.news.rcn.net>
Source record: 34460

Not that I think RS is wonderful, but the present-day choice seems to be Radio Shack or nothing for "right now" purchases.

Unless you have a real electronic wholesaler in town that will deal with small orders, or are willing to wait a few days for DigiKey, Mouser, etc.

> In article <z_IMa.4330$Sy1.3461@fe02.atl2.webusenet.com>,
> "Chuck / KE4ETH" <chuck_hawks@hotmail.com> wrote:
>
> > My local Radio Shack is run by a fellow that stocks parts. Not the RS brand,
> > but Ohmite and others. We have a college in that town and an electrical
> > engineering department, so I guess that one doesn't count. A company store,
> > 45 miles away, has an upright cabinet with drawer with resistors, ICs, Caps
> > and other parts. Not a good selection, but some. Another store 35 miles away
> > has the same kinda drawers with the same kinda items.
> >
> > The seem to want to sell (and promise the moon) on appliance items.

And it's easy to see why they would rather sell $99.95 JunkSonic items rather than $1.49 capacitors.

44. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 15:02:41 UTC
From: donut <none@none.com>
Message-ID: <Xns93AD507D2599Adonut@216.102.43.227>
Source record: 34461

"Duncan Walters" <pentode@ntlworld.com> wrote in
news:onRMa.14$Oi2.12@newsfep1-win.server.ntli.net:

> Anyone would think that home construction was a dying hobby!

No! Say it ain't so! ;)

45. tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 15:41:43 UTC
From: nightowls627@cs.com
Message-ID: <74f89aaf.0307030741.53a9b327@posting.google.com>
Source record: 34462

I am attempting to make a code key practice unit. I cannot find anything out there! I am going to make a simple tone generator so I can practice. Is this feasible? Are there any other designs out there besides making a full oscillator?

Thank you
G. Doughty
KI4BBL

46. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 15:51:25 UTC
From: Ken Finney <kenneth.c.finney@boeing.com>
Message-ID: <HHGHDM.GA5@news.boeing.com>
Source record: 34465

```
"Alex" <ve3leg@hotmail.com> wrote in message
news:3F037811.6050704@hotmail.com...
> my local RS had a pretty good selection of basic parts (2n2222's
> resistors, tools, caps, etc) until last fall when they just decided, for
> no apparent reason, to stop carrying them. They lost my business. Now I
> drive into Montreal to goto ABRA, much cheaper parts ($0.05 each for
> capacitors), but the cost of gas makes it impractical to go for less
> than $20 of parts.
>
> Tweetldee wrote:
> > Well, I guess the death knell has sounded for the Shack as a source for
> > experimenter and hobbyist parts. I went into a relatively new store
(open
> > less than a year) today to get a few resistors that I need in a hurry.
What
> > did I find? Not a resistor, capacitor, transistor, IC, switch, fuse, or
> > anything that would be considered an electronic component was to be
found.
> > They had all kinds of TV coax, TV connectors, cell phones, home phones,
> > phone accessories, satellite TV equipment, expensive toys, and a few
stereo
> > "systems", but but not an electronic component in sight. They had wire,
> > solder, soldering irons, and such, but nothing to solder the wires to.
They
> > don't even carry the small project boxes any more.
> > They're looking more like the electronics section in WalMart every day.
> > Ooops, I take that back... the Shack's prices are 40-100% above what
you'll
> > pay for the same item at WalMart.
> >
> > Adios Radio Shack !! RIP
> >
> > --
> > Tweetldee
> > Tweetldee at att dot net (Just subsitute the appropriate characters in
the
> > address)
> >
> > Time is what keeps everything from happening all at once.
> >
> >
>
```

My local Radio Shack INCREASED the amount of parts they carried a couple of months ago. They moved all the parts from the wall racks to a couple of cabinets, but in the process, increased the number of different types they stocked.

47. Re: tone generator (CPO)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 15:57:07 UTC
From: Guessing <Guessing@connectnet.net>
Message-ID: <mnYMa.87203$Pc5.19325@fed1read01>
Source record: 34463

Greg - Use google.com -- tons of CPO's there http://www.google.com/

For example -- see URL:
http://www.uoguelph.ca/~antoon/circ/morse1.htm

And you can use a door buzzer in lieu of a CPO -- but buzz instead of nice tones.

AND You can also downlad morse programs -- some allow sending on your computer. URL:
http://ac6v.com/morseprograms.htm

MFJ has one at URL:

http://www.vectronics.com/vectronics/products.php?prodid=VEC-212

ANON - Guessin Again

"Greg" <nightowls627@cs.com> wrote in message
news:74f89aaf.0307030741.53a9b327@posting.google.com...
> I am attempting to make a code key practice unit. I cannot find
> anything out there! I am going to make a simple tone generator so I
> can practice. Is this feasible? Are there any other designs out
> there besides making a full oscillator?
>
> Thank you
> G. Doughty
> KI4BBL

48. Re: tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 15:59:32 UTC
From: troglodite@aol.com
Message-ID: <20030703115932.05184.00000067@mb-m14.aol.com>
Source record: 34464

>
>I am attempting to make a code key practice unit. I cannot find
>anything out there! I am going to make a simple tone generator so I
>can practice. Is this feasible? Are there any other designs out
>there besides making a full oscillator?
>

I'm not sure what you mean by "a full oscillator." You could use a simple buzzer or a Mallory Sonalert. The latter has a pleasant tone. I made a mechanical oscillator out of a small speaker once by substituting a couple of silver plated wires cut from old diodes for one of the flexible wires connecting to the voice coil. You adjust the wires so they just make contact normally, then wire the thing to a flashlight cell and a key, setting the polarity so that the cone moves to open the contact. Kinda raucus(sp) but it worked.

Doug Moore KB9TMY

49. Re: tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 18:01:49 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030703140149.19694.00000051@mb-m28.aol.com>
Source record: 34466

Thanks for the input. I did searches all over the place but missed the one by "guessing" It looks like the one I found here: http://ourworld.compuserve.com/homepages/Bill_Bowden/page10.htm#tone.gif

I will put this together this weekend and see how it goes.

73
G. Doughty
KI4BBL

remove nojunk to email

50. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 18:33:51 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0307031033.3e63ef42@posting.google.com>
Source record: 34467

"Tweetldee" <dgmason99@att99.net> wrote in message
news:<yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net>...
> Adios Radio Shack !! RIP

Well, they still have fuses and light bulbs, at least.

Digi-Key has, in the past decade or so, gotten really good at carrying RF inductors and capacitors. They even have a small assortment of microwave parts now. I think that homebrewing could be entering a renaissance age of using all the really good radio stuff that is permeating everywhere.

Recently I built a 1.6 GHz LNA with a 0.5 dB noise figure... using about $5 in parts from Digi-Key. This *is* the dawn of a new age in homebrewing.

Tim.

51. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 18:43:24 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <be210viig1@bob.news.rcn.net>
Source record: 34469

"Tim Shoppa" <shoppa@trailing-edge.com> wrote in message
news:bec993c8.0307031033.3e63ef42@posting.google.com...
> "Tweetldee" <dgmason99@att99.net> wrote in message
news:<yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net>...
> > Adios Radio Shack !! RIP
>
> Well, they still have fuses and light bulbs, at least.
>
> Digi-Key has, in the past decade or so, gotten really good at carrying RF
> inductors and capacitors. They even have a small assortment of microwave
> parts now. I think that homebrewing could be entering a renaissance age
> of using all the really good radio stuff that is permeating everywhere.
>
> Recently I built a 1.6 GHz LNA with a 0.5 dB noise figure... using about
> $5 in parts from Digi-Key. This *is* the dawn of a new age in
homebrewing.

Agreed.

I contend that the NUMBER of people homebrewing is probably about the same
as ages ago, it's just a much smaller percentage of the ham population. And
the field is so much wider that it's hard to stock everything everyone
wants.

Back when 100 tube types would satisfy most demands, 10 or 20 variable
capacitors, 10% 1/2-W and 1-W Allen-Bradley resistors were enough, etc, etc,
the stocking challenge wasn't so big.

52. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 18:55:09 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <h__Ma.2464$ZT5.2449@news2.east.cox.net>
Source record: 34468

"G.Beat" <spamcatcher@comcast.net> wrote in message
news:jdAMa.18156$Xm3.2309@sccrnsc02...
> Doug -
>
> "Properly installed" should be NO problem
>
> I installed miles of Cat 5 running Ethernet at a major hospital.
>
> Due to ICU, Surgery, Radiology and Lab departments, we swept the entire
area
> for
> any potential interference - which would interfere with patient support
> equipment.
>
> NONE. The industry does not need "urban legends"
>
> "Properly installed" is the key aspect --- and their are a number of
> certification organizations
> for installers and contractors.
>
> gb
>

The amount of RF required to interfere with a sensitive RF
receiver is quite a few magnitudes less than what would
interfere with patient support equipment.

53. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 20:14:48 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <be22ro$9qi$1@freenet9.carleton.ca>
Source record: 34470

"R J Carpenter" (rcarpen@erols.com) writes:
> "Tim Shoppa" <shoppa@trailing-edge.com> wrote in message
> news:bec993c8.0307031033.3e63ef42@posting.google.com...
>> "Tweetldee" <dgmason99@att99.net> wrote in message
> news:<yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net>...
>> > Adios Radio Shack !! RIP
>>
>> Well, they still have fuses and light bulbs, at least.
>>
>> Digi-Key has, in the past decade or so, gotten really good at carrying RF
>> inductors and capacitors. They even have a small assortment of microwave
>> parts now. I think that homebrewing could be entering a renaissance age
>> of using all the really good radio stuff that is permeating everywhere.
>>
>> Recently I built a 1.6 GHz LNA with a 0.5 dB noise figure... using about
>> $5 in parts from Digi-Key. This *is* the dawn of a new age in
> homebrewing.
>
> Agreed.
>
> I contend that the NUMBER of people homebrewing is probably about the same
> as ages ago, it's just a much smaller percentage of the ham population. And
> the field is so much wider that it's hard to stock everything everyone
> wants.
>
> Back when 100 tube types would satisfy most demands, 10 or 20 variable
> capacitors, 10% 1/2-W and 1-W Allen-Bradley resistors were enough, etc, etc,
> the stocking challenge wasn't so big.
>
>
And this has been seen as the cause of the disappearance of the local
electronic outlet. Even in 1971 when I first entered one of those stores,
there was an awful lot of overlap between the needs of the electronic repair
person and the electronic hobbyist. Most of the parts I bought had
uses elsewhere, and the relatively few parts that weren't, like variable
capacitors, weren't much of a burden.

Even a few years later, I had to go to a different breed of stores to
buy ICs, because the old stores weren't carrying much in that area
(other than costly replacement line devices). The old stores started
fading out, unable or unwilling to make the transition. Face it,
those old stores had been around for a long time, with those wooden
floors and plenty of WWII surplus, and if for no other reason, it
was probably seen by many as a good time to retire or move on, rather

than expend money on new stock and even new decor.

The problem with the newer distributors were that they often didn't carry radio parts, and sure didn't carry surplus. Likely because the component count went way up, and they had to stop somewhere. Instead of one-stop locations, you'd have to go to a few places, and maybe mail order for some. Many of the newer stores seemed more interested in only professional sales, so they didn't want those hobbyists hanging around on Saturday mornings which is what happened at the old stores (and created the atmosphere). Actually, the newer distributors weren't the type of place you wanted to hang out. I remember going to Active circa 1975 or 76, and you entered a tiny reception room where you filled out an order form, and someone in the back collected the parts.

Radio Shack was handy for some parts, but I never routinely bought there because the prices were too high, and I couldn't get everything there. On the other hand, I never had the animosity that some seem to have for the place, ironically from those who never seemed to buy parts elsewhere. But the parts there likely were balanced against the equipment the stores were selling, and they were seen in seen way as beneficial. For whatever reason(s), in recent years that benefit seems to have diminished, so the parts are disappearing from Radio Shack.

This is 25 to 30 years after those parts stores I first went to at age 11 started disappearing.

Michael VE2BVW

54. Re: VOX switch

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 20:22:09 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F04909D.2686DB1C@bellatlantic.net>
Source record: 34471

Andrew wrote:
>
> I am hoping that someone could help in finding voice activation switch IC.
>
> I did find one or two very old references to a Motorola MC2830P, but have a
> feeling that it is discontinued as I was unable to find any information on
> the Motorola site.
>
> I have found a few circuits on the web, but was hoping someone here might
> have used something that they would recommend. Something with a low
> parts count, and might work with an inexpensive computer microphone or
> a headset microphone meant for hands free telephone conversations.
>
> It only needs to be momentary on. Some sort of gain adjustment or
> background filtering would be valuable.
>
> any leads?
>
> thanks
> andy

Ramsey electronics has a voice operated switch kit:
http://www.ramseyelectronics.com/

It is not a low parts count, but it's relatively cheap and might
be an option for you.

55. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 20:27:55 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <0749gvgr50s5hvrv47bs0qtnpss3rc6gbt@4ax.com>
Source record: 34472

On Thu, 3 Jul 2003 09:35:07 -0400, "R J Carpenter" <rcarpen@erols.com>
wrote:

>Not that I think RS is wonderful, but the present-day choice seems to be
>Radio Shack or nothing for "right now" purchases.
>
>Unless you have a real electronic wholesaler in town that will deal with
>small orders, or are willing to wait a few days for DigiKey, Mouser, etc.
>
I will admit to being spoiled.

Those in the Boston area are familiar with You-Do-It Electronics here
in Needham (aka You-Blew-It). I have managed to stump them a few
times, but I had to really work at it.

There are others in the area, no particular reason for me to seek them
out.

A history of high-tech manufacturing in the area probably enhances the
odds of something similar.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

56. Re: R.S.G.B Membership for £1.05

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 20:35:31 UTC
From: Keith Lanham <keith@lanham.plus.com>
Message-ID: <Pw0Na.45319$9C6.2210419@wards.force9.net>
Source record: 34473

```
"Keith" <kilowattradio_spam@earthlink.net> wrote in message
news:bdtir702hvu@enews2.newsguy.com...
> On Tue, 1 Jul 2003 22:24:30 +0100, "128" <jtf66674@hotmal.com> wrote:
>
> >Hello,
> >
> >Was it a joke or a genuine offer by the RSGB?
> >
> >"Duncan Walters" <pentode@ntlworld.com> wrote in message
> >news:DagMa.12825$sh4.1012236@newsfep2-win.server.ntli.net...
> >> It's a good job you are not a RSGB news reader, Ian.
> >> We would all get the news a fortnight too late!
> >>
> >>
> >>
> >>
> >>
> >
>
> Probably a credit card collection scam, ARRL was just hit by one this
week so
> the scammers moved their target.
>
```

I can vouch to the fact it is a genuine offer, I paid my £1:05 (By Cheque)
today.

```
--

Regards
Keith - G1XFL
Email keith@g1xfl.net
```

57. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 20:39:58 UTC
From: "Jim, N2VX" <ZZZjim_cronin@juno.comZZZ>
Message-ID: <2v49gv0qhl197l9rjm1ptaa94isgatcftr@4ax.com>
Source record: 34474

On Tue, 1 Jul 2003 21:28:36 -0400, "DOUGLAS SNOWDEN"
<SNOWDEN@peoplepc.com> wrote:

>Just curious, have any of you had trouble with your neighbors that have had
>their homes wired with CAT5 cable? Does it want to act like an antenna and
>cause intereference (to them and you) ???
>
>Doug N4IJ
>

Ours generates noise on HF. I have a vertical antenna about 15 feet
from the house and that doesn't help. We didn't have problems with
the old-style coax cable ethernet. I'll switch to shielded cat-5
cable in the near future.

73,
Jim
N2VX

58. Re: Power supply topology question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 21:00:21 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F049990.4024D2E9@bellatlantic.net>
Source record: 34475

R J Carpenter wrote:
>
> "MikeN" <mnewman@clear.net.nz> wrote in message
> news:cvn6gvkah5m7ss14brmo7cbcdodcnmff4p@4ax.com...
> > Not infrequently regulated power supply circuitry is found with NPN
> > pass transistors like the 2n3055, in the negative supply line,
> >
> > I'm curious to know what are the pros and cons of putting the pass
> > transistors in this way, as against the more common topology of
> > putting them in the positive supply line?
>
> Just think about where you are going to get the base drive if the pass
> transistor is in the positive lead. You'll need a voltage considerably
> higher than the output voltage.

Could you specify what you mean by "considerably higher"?

> This may demand that the rectifier put out
> more voltage than you'd really like, which means more drop across the pass
> transistor and thus more dissipation (lower efficiency).
>
> It's easy to get the supply for the base of the pass transistor if it is in
> the return lead, without increasing the rectifier output voltage above the
> minimum required to always overcome the drop in the pass transistor.

59. Source for 1000pF feedthrough capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 21:48:40 UTC
From: Sebastian Tombs <tombssebastian@hotmail.com>
Message-ID: <Yw1Na.57671$2ay.6707@news01.bloor.is.net.cable.rogers.com>
Source record: 34476

Does anyone know of a source for 1000 pF feedthrough capacitors in Canada or the US. I've looked on the web, bit the only one I found was in SOuth Australia and I want to build the project THIS month :). A local source for me, (Montreal, Ottawa, Toronto) would be the best...

Thanks

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.493 / Virus Database: 292 - Release Date: 6/25/03

60. Re: Source for 1000pF feedthrough capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 21:58:57 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <BG1Na.29578$926.2840@sccrnsc03>
Source record: 34477

"Sebastian Tombs" <tombssebastian@hotmail.com> wrote in message
news:Yw1Na.57671$2ay.6707@news01.bloor.is.net.cable.rogers.com...
> Does anyone know of a source for 1000 pF feedthrough capacitors in Canada
or
> the US. I've looked on the web, bit the only one I found was in SOuth
> Australia and I want to build the project THIS month :). A local source
for
> me, (Montreal, Ottawa, Toronto) would be the best...
>
Maplin (England) has some 1000 pF and 0.1 uF feedthrus at a very attractive
price. May be surplus, they don't look new, but conversely, I don't think
they've been used before either.

W4ZCB

61. Re: Source for 1000pF feedthrough capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 22:12:27 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f04aa35$0$48894$edfadb0f@dtext02.news.tele.dk>
Source record: 34478

Hello

> Does anyone know of a source for 1000 pF feedthrough capacitors in Canada
or
> the US. I've looked on the web, bit the only one I found was in SOuth

http://www.danssmallpartsandkits.net/

Regards Max

62. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 22:38:13 UTC
From: 6212hgk{invert}@newsguy.com
Message-ID: <3f04b053.4445671@News.CIS.DFN.DE>
Source record: 34479

On Wed, 2 Jul 2003 17:36:55 -0700, "Chuck / KE4ETH"
<chuck_hawks@hotmail.com> wrote:

>It's a sad thing.
>
>My local Radio Shack is run by a fellow that stocks parts. Not the RS brand,
>but Ohmite and others. We have a college in that town and an electrical
>engineering department, so I guess that one doesn't count. A company store,
>45 miles away, has an upright cabinet with drawer with resistors, ICs, Caps
>and other parts. Not a good selection, but some. Another store 35 miles away
>has the same kinda drawers with the same kinda items.

Franchise stores have a great degree of flexibility; the Shack in Lincoln
City, OR, not only stocks componets well, but also has S&W revolvers.

http://www.bizcenter.org/ClientStories/radioshack.pdf
http://www.valuecom.com/acclaim/Oregon/Computers_and_Internet/The_Electronic_Superstore.ht
ml

Company stores, on the other hand, are often hopeless.

So sayeth a former two-store Shack manager.

<snip>
--
Nobody but a fool goes into a federal counterrorism operation without duct tape - Richard
Preston, THE COBRA EVENT.

63. New URL for Dan's Small Parts(?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 22:48:59 UTC
From: Bob Liesenfeld <robert.liesenfeld@neicoltech.org>
Message-ID: <3F04B2DB.246765AE@neicoltech.org>
Source record: 34480

Hey gang,
Looks like Dan changed his URL.
The one I have used for a couple years is dead, but this one works.
:))

http://www.danssmallpartsandkits.net/

Wonder when it happened? Glad to see he is still around tho....

Bob WB0POQ

64. Re: tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-03 23:37:19 UTC
From: k9sqg@aol.com
Message-ID: <20030703193719.17843.00000076@mb-m03.aol.com>
Source record: 34481

Sure, just key the speaker or power lead to see what works for your application. ARRL handbooks have circuits.

73s,

Evan

65. Re: Source for 1000pF feedthrough capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 00:01:45 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F04C3E9.3050802@hotmail.com>
Source record: 34482

Not sure what the difference is between them and normal ones, but ABRA electronics in Montreal has tons of capacitors for as little as $0.05 each. What is the difference between them and normal ones?

Sebastian Tombs wrote:
> Does anyone know of a source for 1000 pF feedthrough capacitors in Canada or
> the US. I've looked on the web, bit the only one I found was in SOuth
> Australia and I want to build the project THIS month :). A local source for
> me, (Montreal, Ottawa, Toronto) would be the best...
>
> Thanks
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.493 / Virus Database: 292 - Release Date: 6/25/03
>
>

66. Re: Source for 1000pF feedthrough capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 00:53:09 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <be2j5l$m52$1@freenet9.carleton.ca>
Source record: 34483

Alex (ve3leg@hotmail.com) writes:
> Not sure what the difference is between them and normal ones, but ABRA
> electronics in Montreal has tons of capacitors for as little as $0.05
> each. What is the difference between them and normal ones?
>
They are physically different.

They are basically a way of getting something in or out of a chassis
or compartment without any associated RF.

So all feedthrough capacitors fit in some kind of hole. Some have a thread
so you can hold it in place with a nut. Others are soldered in place. The
center lead obviously carries the signal you want, but from that point to
ground there is a (pretty good) capacitor to ground. No extra leads to
cause problems, likely because of the physical layout less chance for
a stray signal to come out of (or into) the box.

At the very least, they are a neat way of hooking wires to a box,
since they in effect supply terminals that you can solder wires to.

Michael VE2BVW

> Sebastian Tombs wrote:
>> Does anyone know of a source for 1000 pF feedthrough capacitors in Canada or
>> the US. I've looked on the web, bit the only one I found was in SOuth
>> Australia and I want to build the project THIS month :). A local source for
>> me, (Montreal, Ottawa, Toronto) would be the best...
>>
>> Thanks
>>
>>
>> ---
>> Outgoing mail is certified Virus Free.
>> Checked by AVG anti-virus system (http://www.grisoft.com).
>> Version: 6.0.493 / Virus Database: 292 - Release Date: 6/25/03
>>
>>
>

67. Re: Looking for floating voltage regulator - MC1466L

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 00:55:10 UTC
From: "G.Beat" <now9gb@spam.comcast.net>
Message-ID: <Of4Na.30600$926.2942@sccrnsc03>
Source record: 34484
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Joe -

Let's look at the obvious.

The MC designation is Motorola Semiconductor. The Motorola division that produced analog, logic and discrete semiconductors was "spun off" into ON Semiconductor www.onsemi.com/

There are companies that have a wide assortment of new and obsolete Motorola semiconductors

A quick search of http://www.1sourcecomponents.com/

Shows this part IN STOCK

gb
--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB
<jjesson@voyager.net> wrote in message
news:3f02daf8_4@corp-news.newsgroups.com...
>
> Need one or two for a repair on a Lambda supply... willing to pay but
not
> a fortune as the supply is an antique :-)
>
> Thanks, Joe KB9LZB

68. Re: New URL for Dan's Small Parts(?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 00:58:04 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <be2jesmoq1@freenet9.carleton.ca>
Source record: 34485

Bob Liesenfeld (robert.liesenfeld@neicoltech.org) writes:
> Hey gang,
> Looks like Dan changed his URL.
> The one I have used for a couple years is dead, but this one works.
> :))
>
> http://www.danssmallpartsandkits.net/
>
> Wonder when it happened? Glad to see he is still around tho....
>
> Bob WB0POQ
>
Maybe you saw my comment in rec.radio.shortwave earlier today.

As I said over there, just last week I decided to check the site,
since sometimes he has things on sale, and got a "404 error"
for the old URL, http://www.fix.net/dans.html A websearch found this new
URL.

It was a surprise to find that the old URL was not working, and
my first thought was the worst. It had been a few weeks, at least,
since I last checked the site. I don't recall seeing any mention of
the new URL, but perhaps it was aliased to the old site for a while,
and the only one just expired recently.

Michael VE2BVW

69. Re: Looking for floating voltage regulator - MC1466L

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 00:59:41 UTC
From: "G.Beat" <now9gb@spam.comcast.net>
Message-ID: <1k4Na.30630$926.2985@sccrnsc03>
Source record: 34486
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

A useful reference for linear power supplies (largely based on LM723)

http://www.seits.org/features/pwrsup.htm

w9gb
--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB
<jjesson@voyager.net> wrote in message
news:3f02daf8_4@corp-news.newsgroups.com...
>
> Need one or two for a repair on a Lambda supply... willing to pay but
not
> a fortune as the supply is an antique :-)
>
> Thanks, Joe KB9LZB

70. Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 01:37:27 UTC
From: Harry George <hgg9140@seanet.com>
Message-ID: <m3ptkrul60.fsf@wilma.local>
Source record: 34488

I've just gotten into Amateur Radio, and am setting up a workshop for homebrew. I understand my local radio club isn't much on homebrew. Anyone in this area available to give me some pointers? Or maybe there is a FAQ for this newsgroup?

I've already gotten some designs from ARRL sites and books, plus some general web searching. I have Digikey, Allied, and Radio Shack catalogs, but need "used parts" sources.

71. NE570N

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 02:24:52 UTC
From: TH <sgmtim@iquest.net>
Message-ID: <nz5Na.87$sX1.16975@news.iquest.net>
Source record: 34489

Cleaning out my garage, I found a NE570N IC that I bought for a project a few years ago. I never built the project and no longer have the plans. Looking through Google, I see the NE570N is now obsolete. If anyone has a need for this IC drop me a line. Best of all, it's free.

72. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 03:16:56 UTC
From: Chuck / KE4ETH <chuck_hawks@hotmail.com>
Message-ID: <175Na.10355$Sy1.8668@fe02.atl2.webusenet.com>
Source record: 34487

"donut" <none@none.com> wrote in message
news:Xns93AD507D2599Adonut@216.102.43.227...
> "Duncan Walters" <pentode@ntlworld.com> wrote in
> news:onRMa.14$Oi2.12@newsfep1-win.server.ntli.net:
>
> > Anyone would think that home construction was a dying hobby!
>
> No! Say it ain't so! ;)

Where will we live......

73. Re: tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 03:37:39 UTC
From: Gerry MacDonald <gerry.macdonald@globaltv.ca>
Message-ID: <7E6Na.52957$Mc4.6662480@news0.telusplanet.net>
Source record: 34490

The easiest circuit uses an XR2206 IC. They are a couple of bucks and will
give a pure sinewave.
Sure sounds a lot better than a 555 timer

Gerry ve6qlt

"Greg" <nightowls627@cs.com> wrote in message
news:74f89aaf.0307030741.53a9b327@posting.google.com...
> I am attempting to make a code key practice unit. I cannot find
> anything out there! I am going to make a simple tone generator so I
> can practice. Is this feasible? Are there any other designs out
> there besides making a full oscillator?
>
> Thank you
> G. Doughty
> KI4BBL

74. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 03:39:42 UTC
From: "G.Beat" <now9gb@spam.comcast.net>
Message-ID: <1G6Na.32828$fG.17155@sccrnsc01>
Source record: 34491

Jim -

Shielded twisted pair is included within the EIA/TIA 568 standard
and is used in parts of Europe. It is more expensive to install and takes
more time to terminate (but less than the old IBM Type 1 cabling system !!)

Greg

--
Do not use Reply
Reply only through ARRL forwarding service to W9GB

"Jim, N2VX" <ZZZjim_cronin@juno.comZZZ> wrote in message
news:2v49gv0qhl197l9rjm1ptaa94isgatcftr@4ax.com...
> On Tue, 1 Jul 2003 21:28:36 -0400, "DOUGLAS SNOWDEN"
> <SNOWDEN@peoplepc.com> wrote:
>
> >Just curious, have any of you had trouble with your neighbors that have
had
> >their homes wired with CAT5 cable? Does it want to act like an antenna
and
> >cause intereference (to them and you) ???
> >
> >Doug N4IJ
> >
>
> Ours generates noise on HF. I have a vertical antenna about 15 feet
> from the house and that doesn't help. We didn't have problems with
> the old-style coax cable ethernet. I'll switch to shielded cat-5
> cable in the near future.
>
> 73,
> Jim
> N2VX

75. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 03:54:33 UTC
From: "G.Beat" <now9gb@spam.comcast.net>
Message-ID: <ZT6Na.32855$fG.17690@sccrnsc01>
Source record: 34492

>" Uncle Peter" <radioconnectionNO@cox.netSPAM> wrote in message
news:h__Ma.2464$ZT5.2449@news2.east.cox.net...
>
> The amount of RF required to interfere with a sensitive RF
> receiver is quite a few magnitudes less than what would
> interfere with patient support equipment.
>
>On Tue, 1 Jul 2003 21:28:36 -0400, "DOUGLAS SNOWDEN"
><SNOWDEN@peoplepc.com> wrote:
>
>Just curious, have any of you had trouble with your neighbors that have had
>their homes wired with CAT5 cable? Does it want to act like an antenna and
>cause interference (to them and you) ???
>
>Doug N4IJ
>
>Ours generates noise on HF. I have a vertical antenna about 15 feet
>from the house and that doesn't help. We didn't have problems with
>the old-style coax cable Ethernet. I'll switch to shielded cat-5
>cable in the near future.
>
>73,
>Jim
>N2VX

I will only speak for what I know, have observed in the field or tested in
the biomed labs.

When testing commenced in 1992 at Mercy, we found the majority of the
problems were with
switching power supplies that powered the network and computer equipment.
Our discoveries and test results forced Compaq to recall equipment for noise
and
improper grounding [One bad Chinese supplier - they were using several at
that time].

Coax [10-Base-T] will limit you to standard Ethernet speed (10 Mb) - and is
subject to the
quality of cable and its coax shielding - which is why Belden has specific
model number of Thick and Thin
Ethernet.

Fiber Optic is ideal - but you have termination costs and again power issues
with equipment.

I have not yet tested any of the upcoming 802.3af equipment ("power for phones") -
yet another potential to examine in the "wiring closet".

Greg
w9gb
--
Do not use Reply
Reply only through ARRL forwarding service to W9GB

76. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 08:28:07 UTC
From: Duncan Walters <pentode@ntlworld.com>
Message-ID: <rUaNa.376$fe4.141@newsfep3-gui.server.ntli.net>
Source record: 34493

Where will we live......

DOH !!

77. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 08:32:17 UTC
From: Wim Lewis <wiml@underhill.hhhh.org>
Message-ID: <be3e2h$re8$0@216.39.137.58>
Source record: 34494

In article <m3ptkrul60.fsf@wilma.local>,
Harry George <hgg9140@seanet.com> wrote:
>I've just gotten into Amateur Radio, and am setting up a workshop for
>homebrew. I understand my local radio club isn't much on homebrew.
>Anyone in this area available to give me some pointers? Or maybe
>there is a FAQ for this newsgroup?

Whoops. I wrote most of my reply, below, before noticing that the FAQs
do in fact have this information in them. These links ought to get
you started:

http://www.repairfaq.org/ELE/F_surplus_us6.html#SURPLUSUS_012
http://www.qsl.net/pnwvhfs/resources/vendors.htm

Since I've already written my own version of this information, I'll
include it:

>I've already gotten some designs from ARRL sites and books, plus some
>general web searching. I have Digikey, Allied, and Radio Shack
>catalogs, but need "used parts" sources.

Let's see. You'll probably want to know about Vetco, in Bellevue; they
sell surplus parts of all kinds. Their stock got a bit smaller and less
eclectic when they moved into their current space, a few years ago, but
they're still worth visiting.

There used to be a Radar Electronics in dowtown Seattle, on Western,
which had quite a good selection of "electronics for industry"
(think a retail version of Mouser/DigiKey) as well as surplus
in the back. I gather they've moved up north and dropped the surplus
section, but they're probably still a good source for when you want
something today and are willing to pay the retail price.

I'm told that the surplus guy from Radar opened his own store, which
some googling reveals to be "House of Science"[1]. Also in that general
area is "The Old Technology Shop", which tends more towards vintage
audio gear, but can be good also[2].

A place not mentioned in the FAQ links above is the University of
Washington Surplus Property Auction[3]. Extremely variable, even moreso
than Boeing Surplus, but occasionally some good stuff.

[1] http://houseofscience.com/ (horrible page design, though)
[2] 7712 Aurora Ave North; I can't find a website for them
[3] http://www.washington.edu/admin/surplus/

--
Wim Lewis <wiml@hhhh.org>, Seattle, WA, USA. PGP keyID 27F772C1

78. Wanted: Good 260MHZ Preamp plans

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 08:40:09 UTC
From: Digitalebola <administrator@digitalsignals.org.NOSPAM>
Message-ID: <3f053d59@dnews.tpgi.com.au>
Source record: 34495

Does anyone have any good easy to understand/easy to read plans for a 260mhz preamp ?

Thanks!

PS: Please reply via my email address if you can
Take off the .NOSPAM

79. Re: VOX switch

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 09:15:33 UTC
From: Andrew <andrew_k_jones@talk21.com>
Message-ID: <be3gk3jpf1@ames.central.susx.ac.uk>
Source record: 34496

I did see the kit, but wanted to see if I could make something myself first.

There was a suggestion to us a microcontroller, and I am now considering the use of the analogue comparator on an AVR microcontroller that will be being used in the project.

It seems that most VOX circuits boil down to comparing a microphone voltage to a threshold reference. I am not really to experienced in audio filtering and amplification, so I would have to find some web documentation on making a circuit to handle the sound in portion. I suppose it would even be possible to have one of the PWM channels on the microcontorller set the reference voltage, and in this way it would be adjustable.

If anyone has some tutorial sights on sound handling hardware (filter, amplify, etc) please suggest.

cheers,
andy

----- Original Message -----
From: <ehsjr@bellatlantic.net>
Newsgroups: rec.radio.amateur.homebrew
Sent: Thursday, July 03, 2003 9:22 PM
Subject: Re: VOX switch

>
>
> Andrew wrote:
> >
> > I am hoping that someone could help in finding voice activation switch IC.
> >
> > I did find one or two very old references to a Motorola MC2830P, but have a
> > feeling that it is discontinued as I was unable to find any information on
> > the Motorola site.
> >
> > I have found a few circuits on the web, but was hoping someone here might
> > have used something that they would recommend. Something with a low
> > parts count, and might work with an inexpensive computer microphone or
> > a headset microphone meant for hands free telephone conversations.
> >
> > It only needs to be momentary on. Some sort of gain adjustment or
> > background filtering would be valuable.

> >
> > any leads?
> >
> > thanks
> > andy
>
> Ramsey electronics has a voice operated switch kit:
> http://www.ramseyelectronics.com/
>
> It is not a low parts count, but it's relatively cheap and might
> be an option for you.

80. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 10:16:49 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0307040216.81eb42f@posting.google.com>
Source record: 34347

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:<be210viig1@bob.news.rcn.net>...
> "Tim Shoppa" <shoppa@trailing-edge.com> wrote in message
> news:bec993c8.0307031033.3e63ef42@posting.google.com...
> > "Tweetldee" <dgmason99@att99.net> wrote in message
> news:<yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net>...
> > > Adios Radio Shack !! RIP
> >
> > Well, they still have fuses and light bulbs, at least.
> >
> > Digi-Key has, in the past decade or so, gotten really good at carrying RF
> > inductors and capacitors. They even have a small assortment of microwave
> > parts now. I think that homebrewing could be entering a renaissance age
> > of using all the really good radio stuff that is permeating everywhere.
> >
> > Recently I built a 1.6 GHz LNA with a 0.5 dB noise figure... using about
> > $5 in parts from Digi-Key. This *is* the dawn of a new age in
> > homebrewing.
>
> Agreed.

Actually, Digi-Key's very first product was a digital keyer for hams...
after that for a long while they didn't have much in the way of RF products,
but in the last couple of years they've really come around. They've
been driven almost certainly by consumer electronics use of RF parts,
but as hams we have to learn how to take advantage of all that stuff out
there.

Learning to use all that stuff isn't necessarily automatic! Many of the
parts are available only in surface-mount today. But even though I grew
up on 6L6's and transformers pulled from junk TV sets, I've managed to
make the transition. If a stuck-in-the-mud guy like me can make the
transition, I think others can too!

Oh, yeah, Digi-Key still sells folded-sheet-metal chassis boxes :-)

Tim.

81. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 12:12:52 UTC
From: arm@helix.nih.gov
Message-ID: <8beNa.184$y5.78122@mencken.net.nih.gov>
Source record: 34348

I get interference from a hub in the basement near the rig. Most noise
is on 20 meters. The problem is especially bad if there is an
unterminated wire connected to the hub.

Jim, N2VX (ZZZjim_cronin@juno.comZZZ) wrote:
: On Tue, 1 Jul 2003 21:28:36 -0400, "DOUGLAS SNOWDEN"
: <SNOWDEN@peoplepc.com> wrote:
:
: >Just curious, have any of you had trouble with your neighbors that have had
: >their homes wired with CAT5 cable? Does it want to act like an antenna and
: >cause intereference (to them and you) ???
: >
: >Doug N4IJ
: >
:
: Ours generates noise on HF. I have a vertical antenna about 15 feet
: from the house and that doesn't help. We didn't have problems with
: the old-style coax cable ethernet. I'll switch to shielded cat-5
: cable in the near future.
:
: 73,
: Jim
: N2VX

82. Re: Source for 1000pF feedthrough capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 12:13:35 UTC
From: Bruce Raymond <braymond@ameritech.net>
Message-ID: <PbeNa.5053$Vx2.2503175@newssvr28.news.prodigy.com>
Source record: 34376

Ocean States Electronics lists them in their catalog.

http://www.oselectronics.com/PDF%20Pages/pg093.pdf

Hope this helps.

Bruce Raymond/ND8I

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:be2j5l$m52$1@freenet9.carleton.ca...
> Alex (ve3leg@hotmail.com) writes:
> > Not sure what the difference is between them and normal ones, but ABRA
> > electronics in Montreal has tons of capacitors for as little as $0.05
> > each. What is the difference between them and normal ones?
> >
> They are physically different.
>
> They are basically a way of getting something in or out of a chassis
> or compartment without any associated RF.
>
> So all feedthrough capacitors fit in some kind of hole. Some have a
thread
> so you can hold it in place with a nut. Others are soldered in place.
The
> center lead obviously carries the signal you want, but from that point to
> ground there is a (pretty good) capacitor to ground. No extra leads to
> cause problems, likely because of the physical layout less chance for
> a stray signal to come out of (or into) the box.
>
> At the very least, they are a neat way of hooking wires to a box,
> since they in effect supply terminals that you can solder wires to.
>
> Michael VE2BVW
>
> > Sebastian Tombs wrote:
> >> Does anyone know of a source for 1000 pF feedthrough capacitors in
Canada or
> >> the US. I've looked on the web, bit the only one I found was in SOuth
> >> Australia and I want to build the project THIS month :). A local
source for
> >> me, (Montreal, Ottawa, Toronto) would be the best...
> >>
> >> Thanks
> >>
> >>

> >> ---
> >> Outgoing mail is certified Virus Free.
> >> Checked by AVG anti-virus system (http://www.grisoft.com).
> >> Version: 6.0.493 / Virus Database: 292 - Release Date: 6/25/03
> >>
> >>
> > >
>
>

83. I WTB an HBR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 12:39:03 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3f042369$1_4@newsfeed>
Source record: 34349

Hi, all concerned:

Looks like the other guy sniped me for $5 on that "HBR16" or HBR12 or what ever it was on ebay. Oh, well. Serves me right for going to sleep at a reasonable hour.

In any case, I won the "matching" c-w transmitter auction, and I'd like to get a receiver to keep it company, if I can afford it.

If anybody wants to sell his finished-or-not HBRxx, send me some info, pictures, and asking-price, privately, please.

Yeh, I started and stopped one in 1958 or 1959, and am suddenly nostalgic for some hollow-state technology again ;o).

TIA and 73,
Dave, N3HE

84. Re: Yet another powersupply question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 12:49:36 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <be3t3q$b4s$1@nic.grnet.gr>
Source record: 34350

if a nice window is opened there is no problem
my shack is small and in the winter i can sniff the fumes,but in the summer
a is ok
(4 car bats 12v)

--
http://www.qsl.net/sv1hao
"mcalhoun" <mcalhoun@ksu.edu> wrote in message
news:bdsk3k$87g@unix1.cc.ksu.edu...
> <<Many will scream "Don't use or charge batteries in your house", but
don't
> <<listen to them! My local Hospital uses batteries by the dozen indoors,
> <<and I suspect yours does, too. I know because they give them to me when
>
> <There is a big difference between a lead acid battery as used in cars,
> <which can give off acid fumes or leak, and a gelcell battery, as used
> <for indoor industrial uses, such backup power for emergency lights,
> <computer systems, etc.
>
> FWIW, the bigger batteries my hospital gives to me are NOT gel cells!
>
> --Myron.
> --
> Five boxes preserve our freedoms: soap, ballot, witness, jury, and
cartridge
> PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785)
539-4448
> NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle,
Pistol)

85. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 13:18:55 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <MrScnRH979OH4piiXTWJjg@ctc.net>
Source record: 34351

> I've just gotten into Amateur Radio, and am setting up a workshop for
> homebrew. I understand my local radio club isn't much on homebrew.
> Anyone in this area available to give me some pointers? Or maybe
> there is a FAQ for this newsgroup?
>
> I've already gotten some designs from ARRL sites and books, plus some
> general web searching. I have Digikey, Allied, and Radio Shack
> catalogs, but need "used parts" sources.
>
>

Don't forget to look on e-bay for some items. I have bought large ammounts
of components for a few dollars.

86. Radio/TV Books FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 13:45:45 UTC
From: G4BXD@qsl.net
Message-ID: <3f04310e.270528@news.compuserve.com>
Source record: 34352

Radio/TV Books FS

Modern Practical Radio & Television by C.A.Quarrington, pub Caxton,
May 1952
volume I, II, III (with index)

good condition, no loose pages, spines intact.

£10 plus pp.

BN.

87. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 13:58:26 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vgb2068arv7nfd@corp.supernews.com>
Source record: 34353

Go to some hamfests and buy some old radios, transmitteres, receivers, test
equipment, parts, etc and you'll have a ball getting them going and learn.
Not really homebrewing but close and a good stepping stone.
good luck
hank wd5jfr
"Harry George" <hgg9140@seanet.com> wrote in message
news:m3ptkrul60.fsf@wilma.local...
> I've just gotten into Amateur Radio, and am setting up a workshop for
> homebrew. I understand my local radio club isn't much on homebrew.
> Anyone in this area available to give me some pointers? Or maybe
> there is a FAQ for this newsgroup?
>
> I've already gotten some designs from ARRL sites and books, plus some
> general web searching. I have Digikey, Allied, and Radio Shack
> catalogs, but need "used parts" sources.
>
>
>

88. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 15:13:05 UTC
From: Harry George <hgg9140@seanet.com>
Message-ID: <m3smpmmike.fsf@wilma.local>
Source record: 34354

Wim Lewis <wiml@underhill.hhhh.org> writes:

> In article <m3ptkrul60.fsf@wilma.local>,
> Harry George <hgg9140@seanet.com> wrote:
> >I've just gotten into Amateur Radio, and am setting up a workshop for
> >homebrew. I understand my local radio club isn't much on homebrew.
> >Anyone in this area available to give me some pointers? Or maybe
> >there is a FAQ for this newsgroup?
>
> Whoops. I wrote most of my reply, below, before noticing that the FAQs
> do in fact have this information in them. These links ought to get
> you started:
>
> http://www.repairfaq.org/ELE/F_surplus_us6.html#SURPLUSUS_012
> http://www.qsl.net/pnwvhfs/resources/vendors.htm
>
> Since I've already written my own version of this information, I'll
> include it:
>
> >I've already gotten some designs from ARRL sites and books, plus some
> >general web searching. I have Digikey, Allied, and Radio Shack
> >catalogs, but need "used parts" sources.
>
> Let's see. You'll probably want to know about Vetco, in Bellevue; they
> sell surplus parts of all kinds. Their stock got a bit smaller and less
> eclectic when they moved into their current space, a few years ago, but
> they're still worth visiting.
>
> There used to be a Radar Electronics in dowtown Seattle, on Western,
> which had quite a good selection of "electronics for industry"
> (think a retail version of Mouser/DigiKey) as well as surplus
> in the back. I gather they've moved up north and dropped the surplus
> section, but they're probably still a good source for when you want
> something today and are willing to pay the retail price.
>
> I'm told that the surplus guy from Radar opened his own store, which
> some googling reveals to be "House of Science"[1]. Also in that general
> area is "The Old Technology Shop", which tends more towards vintage
> audio gear, but can be good also[2].
>
> A place not mentioned in the FAQ links above is the University of
> Washington Surplus Property Auction[3]. Extremely variable, even moreso
> than Boeing Surplus, but occasionally some good stuff.
>

>
> [1] http://houseofscience.com/ (horrible page design, though)
> [2] 7712 Aurora Ave North; I can't find a website for them
> [3] http://www.washington.edu/admin/surplus/
>

Thanks, I'll check them out. I used to go to Vetco and Radar a lot.
I went to the old Vetco place (just off 520 past 405) last weekend and
found nothing (I see from the qsl webpage that it has moved, I'll try
to find it). Also, I went down to Radar on Western, saw their sign
saying moved to Bothel, went there, and found as you said that it is
no longer a surplus shop.

I go to Boeing Surplus sometimes for sheet aluminum, and to Everett
Steel and Pipe for mild steel. Hadn't thought of UW Surplus (I used
to work for UW Equipment Inventory Accounting -- wonder if any of the
old gang is still there).

>
>
> --
> Wim Lewis <wiml@hhhh.org>, Seattle, WA, USA. PGP keyID 27F772C1

89. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 15:19:50 UTC
From: Harry George <hgg9140@seanet.com>
Message-ID: <m3of0ami95.fsf@wilma.local>
Source record: 34355

"Ralph Mowery" <rmowery@ctc.net> writes:

> > I've just gotten into Amateur Radio, and am setting up a workshop for
> > homebrew. I understand my local radio club isn't much on homebrew.
> > Anyone in this area available to give me some pointers? Or maybe
> > there is a FAQ for this newsgroup?
> >
> > I've already gotten some designs from ARRL sites and books, plus some
> > general web searching. I have Digikey, Allied, and Radio Shack
> > catalogs, but need "used parts" sources.
> >
> >
>
> Don't forget to look on e-bay for some items. I have bought large ammounts
> of components for a few dollars.

What category is used for components? I see Radio Equipment, and
specific big ticket items.

90. Re: tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 16:48:50 UTC
From: fmmck@aol.com
Message-ID: <20030704124850.13292.00000069@mb-m13.aol.com>
Source record: 34356

<< I am attempting to make a code key practice unit. >>

Greg-

The circuits using a 555 may be the easiest to build, but here is another from back in the 60s. Some of the parts were obtained from an old transistor radio and mounted in its plastic case, which was mounted to a piece of wood that also held the key.

Use an audio transformer with a center-tapped primary, with its secondary connected to a speaker. Connect the top of the primary to an audio transistor's collector. Connect the bottom through a parallel 100K Ohm resistor and 0.02 MicroFarad capacitor, to the transistor's base.

The key is in series with a 9 volt battery, connected between the transistor's emitter and the transformer's center tap. A 0.2 microfarad capacitor is connected across the transformer's primary, and a 1 microfarad capacitor is connected between the center tap and transistor's emitter.

If an NPN transistor is used, the battery positive terminal is connected to the center tap, and vice versa for PNP. The 1 microfarad capacitor polarity should match.

Parts values are not critical, and you may get better results or a more pleasing tone by experimenting.

73, Fred, K4DII

91. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 16:53:19 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <ZOOdnVF6IeHELJiiU-KYuQ@ctc.net>
Source record: 34357

> >
> > Don't forget to look on e-bay for some items. I have bought large
ammounts
> > of components for a few dollars.
>
> What category is used for components? I see Radio Equipment, and
> specific big ticket items.

Look under"Business & Industrial" and subcategory of "electronic Components"
Then simiconductors or passive components or whatever you are looking for.
You can get individual types of items or there are some things you may want
to get such as power cubes or asymblies to strip out for parts.

YOu can also find some test gear and tools under the same catagory.

92. Re: tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 17:16:19 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030704131619.09004.00000067@mb-m20.aol.com>
Source record: 34358

thanks. My dad has some old tubes. In fact, he built an oscillator in 1962 but cannot find it . . . kind of a pack rat and will probably keel over trying to find it. So I do have access to the parts you mention.

Thanks for the input. It really makes a new ham feel welcome.
remove nojunk to email

93. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 19:07:47 UTC
From: **THE-RFI-EMI-GUY** <NoSpamBogus@NoSpamBogus.com>
Message-ID: <3F05D083.9090400@NoSpamBogus.com>
Source record: 34359

Can Cat-5 be run through conduit without any signal degradation? Reason
is to provide mechanical protection.

G.Beat wrote:

>Doug -
>
>"Properly installed" should be NO problem
>
>I installed miles of Cat 5 running Ethernet at a major hospital.
>
>Due to ICU, Surgery, Radiology and Lab departments, we swept the entire area
>for
>any potential interference - which would interfere with patient support
>equipment.
>
>NONE. The industry does not need "urban legends"
>
>"Properly installed" is the key aspect --- and their are a number of
>certification organizations
>for installers and contractors.
>
>gb
>
>
>

--
Joe Leikhim K4SAT

"Jazz is not dead. It just smells funny." -F.Z.

94. Re: Ethernet Wired Homes - Conduit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 20:30:32 UTC
From: "G.Beat" <now9gb@spam.comcast.net>
Message-ID: <ItlNa.10936$NW6.6963@rwcrnsc51.ops.asp.att.net>
Source record: 34360

>> Can Cat-5 be run through conduit without any signal degradation? Reason
>> is to provide mechanical protection.

Yes,

Category 5 cable can be run through metallic conduit - to serve as a
pathway.
Specific local or city building codes MAY require this routing of horizontal
cabling.

The EIA/TIA 569 standard covers both horizontal cabling and backbone cabling
for
commercial installation.

For a new hospital in downtown Chicago, where I served as the cabling
consultant
with AT&T Systemax representatives, the horizontal pathways were all
metallic conduit
(Chicago has some of the toughest ordinance and building requirements for
wiring)

--
Do not use Reply
Reply only through ARRL forwarding service to W9GB

"**THE-RFI-EMI-GUY**" <NoSpamBogus@NoSpamBogus.com> wrote in message
news:3F05D083.9090400@NoSpamBogus.com...
> Can Cat-5 be run through conduit without any signal degradation? Reason
> is to provide mechanical protection.
>
> G.Beat wrote:
>
> >Doug -
> >
> >"Properly installed" should be NO problem
> >
> >I installed miles of Cat 5 running Ethernet at a major hospital.
> >
> >Due to ICU, Surgery, Radiology and Lab departments, we swept the entire
area
> >for
> >any potential interference - which would interfere with patient support
> >equipment.
> >
> >"Properly installed" is the key aspect --- and their are a number of
> >certification organizations

> >for installers and contractors.
> >
> >gb
> >

95. Re: Looking for floating voltage regulator - MC1466L

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-04 20:50:08 UTC
From: Fred Bartoli <fred.bartoli.nospamplease@free.removethis.fr.invalid>
Message-ID: <3f05e8aa$0$12471$626a54ce@news.free.fr>
Source record: 34361

"G.Beat" <now9gb@spam.comcast.net> a crit dans le message news:
Of4Na.30600$926.2942@sccrnsc03...
> Joe -
>
> Let's look at the obvious.
>
> The MC designation is Motorola Semiconductor. The Motorola division that
> produced analog, logic and discrete semiconductors was "spun off" into
> ON Semiconductor www.onsemi.com/
>
> There are companies that have a wide assortment of new and obsolete
Motorola
> semiconductors
>
> A quick search of http://www.1sourcecomponents.com/
>
> Shows this part IN STOCK
>

Did you use them for small qty ?
What are their prices vs normal prices for still available components ?
(the pb is they want us to give a target price)

I mean, I'm homebrewing a VNA and other toys, and need a lot of different
small qty stuff and digikey, newark, farnell and so on will become somewhat
pricey at the end of the line.

How useful can they be for me ?

Thanks,
Fred.

96. Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 00:00:27 UTC
From: TH <sgmtim@iquest.net>
Message-ID: <UxoNa.98$sX1.18607@news.iquest.net>
Source record: 34362

I had an old regenerative set that was in pretty bad shape so I'm using the parts to build a FET regen set. I just found out the old 2.5 mh choke is open. I know I can purchase these mail order, but I'd like to get this project completed this weekend. Looking through my boxes of old parts, I found an old peaking coil for a tube type TV. The coil is adjustable from .2 to 2.8 mh, at 7 ohms DC resistance. I don't see why this wouldn't work, but thought I'd ask anyway. Will this coil be okay to use??

Thanks

97. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 00:08:08 UTC
From: Bob Liesenfeld <robert.liesenfeld@neicoltech.org>
Message-ID: <3F0616E8.54119B5A@neicoltech.org>
Source record: 34363

TH wrote:

> The coil is adjustable from
> .2 to 2.8 mh, at 7 ohms DC resistance. I don't see why this wouldn't work,
> but thought I'd ask anyway. Will this coil be okay to use??
>

Should be fine. Some impact may be observed depending on where it is to be
used in the circuit. Perhaps as a audio load in the drain circuit??

Bob WB0POQ

98. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 00:10:59 UTC
From: Bob Liesenfeld <robert.liesenfeld@neicoltech.org>
Message-ID: <3F061793.6DC8F4DF@neicoltech.org>
Source record: 34364

Bob Liesenfeld wrote:

> Perhaps as a audio load in the drain circuit??

Sorry.....RF load

>
>
> Bob WB0POQ

99. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 02:59:45 UTC
From: W7TI <noway@nohow.com>
Message-ID: <9pfpol1s05gn.hk8i4pwolozz$.dlg@40tude.net>
Source record: 34367

On Fri, 4 Jul 2003 19:00:27 -0500, TH wrote:

> I had an old regenerative set that was in pretty bad shape so I'm using the
> parts to build a FET regen set. I just found out the old 2.5 mh choke is
> open. I know I can purchase these mail order, but I'd like to get this
> project completed this weekend. Looking through my boxes of old parts, I
> found an old peaking coil for a tube type TV. The coil is adjustable from
> .2 to 2.8 mh, at 7 ohms DC resistance. I don't see why this wouldn't work,
> but thought I'd ask anyway. Will this coil be okay to use??
>
> Thanks

Is this a coil only, or does it have a paralleled resistor? In TV jargon,
a "peaking" coil is used in the video circuits to achieve the desired
bandwidth and almost always has a built-in resistor in parallel. If yours
is just a simple adjustable coil with no resistor, should be ok.

73, Bill W7TI

100. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 03:04:21 UTC
From: Jim Thompson <jimtjimt@hotmail.com>
Message-ID: <VerNa.15729$aD6.5505@nwrddc03.gnilink.net>
Source record: 34365

Well, that's been the direction they have been heading since the Allied Radio days. I know one store owner who would joke that the company push was not "Cell Phones", but "Sell Phones. Anyway, you might make a mention to the store owner. If nobody complains he might be thinking he did a good thing not offering components.

jim

"Tweetldee" <dgmason99@att99.net> wrote in message news:yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net...
> Well, I guess the death knell has sounded for the Shack as a source for
> experimenter and hobbyist parts. I went into a relatively new store (open
> less than a year) today to get a few resistors that I need in a hurry.
What
> did I find? Not a resistor, capacitor, transistor, IC, switch, fuse, or
> anything that would be considered an electronic component was to be found.
> They had all kinds of TV coax, TV connectors, cell phones, home phones,
> phone accessories, satellite TV equipment, expensive toys, and a few
stereo
> "systems", but but not an electronic component in sight. They had wire,
> solder, soldering irons, and such, but nothing to solder the wires to.
They
> don't even carry the small project boxes any more.
> They're looking more like the electronics section in WalMart every day.
> Ooops, I take that back... the Shack's prices are 40-100% above what
you'll
> pay for the same item at WalMart.
>
> Adios Radio Shack !! RIP
>
> --
> Tweetldee
> Tweetldee at att dot net (Just subsitute the appropriate characters in
the
> address)
>
> Time is what keeps everything from happening all at once.
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.493 / Virus Database: 292 - Release Date: 6/25/03

101. FA: Vintage Homebrew Transmitter on eBay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 03:06:39 UTC
From: Jim Thompson <jimtjimt@hotmail.com>
Message-ID: <3hrNa.15730$aD6.15545@nwrddc03.gnilink.net>
Source record: 34366

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3033866693&category=4675&
rd=1

The rig being offered is an old homebrew CW transmitter in a National Radio case. Even if you are not in the market, you might enjoy looking at the pictures. I had fun shooting.

This is a collector's item and like the ad says, I like to talk about this rig so don't be shy with questions or comments. In fact if anyone has information as to it's origin I'd love to hear from you.

regards
Jim

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.493 / Virus Database: 292 - Release Date: 6/25/03

102. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 03:29:38 UTC
From: 10-4GoodBuddy <10-4GoodBuddy@nowhere.net>
Message-ID: <20030704232939.144$lg@news.newsreader.com>
Source record: 34368

wow, thanks for tip! best junk i've seen in meny moons!
"Ralph Mowery" <rmowery@ctc.net> wrote in message
news:ZOOdnVF6IeHELJiiU-KYuQ@ctc.net...
> > >
> > > Don't forget to look on e-bay for some items. I have bought large
> ammounts
> > > of components for a few dollars.
> >
> > What category is used for components? I see Radio Equipment, and
> > specific big ticket items.
>
> Look under"Business & Industrial" and subcategory of "electronic
Components"
> Then simiconductors or passive components or whatever you are looking for.
> You can get individual types of items or there are some things you may
want
> to get such as power cubes or asymblies to strip out for parts.
>
> YOu can also find some test gear and tools under the same catagory.
>
>

103. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 04:59:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vgcmq73b2ihtcc@corp.supernews.com>
Source record: 34369

You might also examine the original choke carefully and see if you can locate the break. It's most likely to be at an end, or where the choke has been scuffed on the outside of one of the pies. If it's at either of these spots, you can repair it with some small wire, a steady hand, and a good magnifier. (If it's on the outside of a pie, you'll have to unwind a turn or two.) An X-Acto knife with a pointy blade is a good tool for getting an outside turn loose without doing too much damage to the turns underneath.

Roy Lewallen, W7EL

W7TI wrote:
> On Fri, 4 Jul 2003 19:00:27 -0500, TH wrote:
>
>
>>I had an old regenerative set that was in pretty bad shape so I'm using the
>>parts to build a FET regen set. I just found out the old 2.5 mh choke is
>>open. I know I can purchase these mail order, but I'd like to get this
>>project completed this weekend. Looking through my boxes of old parts, I
>>found an old peaking coil for a tube type TV. The coil is adjustable from
>>.2 to 2.8 mh, at 7 ohms DC resistance. I don't see why this wouldn't work,
>>but thought I'd ask anyway. Will this coil be okay to use??
>>
>>Thanks
>
>
> --
>
> Is this a coil only, or does it have a paralleled resistor? In TV jargon,
> a "peaking" coil is used in the video circuits to achieve the desired
> bandwidth and almost always has a built-in resistor in parallel. If yours
> is just a simple adjustable coil with no resistor, should be ok.
>
> 73, Bill W7TI

104. Re: DDS/PLL Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 09:40:48 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f069d60$0$22126@echo-01.iinet.net.au>
Source record: 34370

Check http://www.qsl.net/ke5fx/synth.html
for a 1-2 GHz design using DDS/PLL technology

<c.a.m@antijunk3.blueyonder.co.uk> wrote in message
news:k485gvo2uinb2cfu1r95f6kc6ddq6ad2tn@4ax.com...
>
> >Typically the DDS is used as the reference oscillator for the PLL,
resulting
> >in the VCO being at a multiple of the DDS output frequency. The idea
being
> >that the VCO output will have decent phase noise performance with the
fine
> >frequency resolution of the DDS, and resaonably fast stepping
times---"the
> >best of both worlds", you might say.
> >
> >I discovered an interesting alternative at :
> >http://lea.hamradio.si/~s57nan/ham_radio/dds_9851/dds_9851.html
> >
> >
> >
> >This idea has the DDS acting as a programmable divider inside the PLL
> >feedback loop. Ok, what are the advantages or disadvantages of doing
this?

At the frequencies we used it would have been necessary to use a prescaler
in front of the DDS. The newer chips seem to be getting up towards a 1GHz
clock rate, so this might be an option

> >What does it do to the phase noise and lock-up time? And what about the
> >spurs?
>
> Spurious are down to normal analogue pll levels.

We found in our design that phase noise was attenuated by the loop inside
the loop bandwidth, but was dependent on the quality of the VCO outside
this. The PLL is sensitive to any spurs on its reference and multiplies them
by 20 Log N dB, where N is the loop division ratio. This applies near the
comparison freq and at harmonics of the comparison freq. So you have to
severely band limit the output of the DDS. If it were in a loop with a
constant reference freq output, you could get even better band limiting, so
this problem might be reduced. Alternatively, the loop filter would get rid
of wideband spurs. Another advantage would be that the computation of output
frequency would be somewhat simpler than with the other appraoch

Does anyone have a pointer to a detailed analysis of this approach?

Richard

> As is phase noise.
>
> Lock-up time is somewhat slower than the DDS, this is reduced down to normal PLL
> times as well.
>
> Doing it this way gives you one advantage over a normal analogue pll - small
> frequency steps (= normal analogue pll with fractional divider).
>
> Clive
>

105. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 11:47:52 UTC
From: TH <sgmtim@iquest.net>
Message-ID: <5VyNa.103$sX1.18871@news.iquest.net>
Source record: 34372

It's just an adjustable coil with no resistor. Thanks for the help. The coil is sort of bulky and I wanted to make sure it would work so I could lay the components out on the circuit board.

This has turned out to be a great weekend project. The original radio was hand built probably around '35 or so, but had been hacked up over the years. I'm using the original caps, knobs, vernier, etc and to make a FET version. It's pretty neat, the binding post for the antenna is marked "long wire ant" and the ground lug is marked "gnd". I'm using the original coils (six each) and the bakelite socket.

BTW, I bought the project box from Ten Tec for $6. They are having a close out sale on discontinued enclosures.

http://www.tentec.com/enc_closeout.htm

"W7TI" <noway@nohow.com> wrote in message
news:9pfpol1s05gn.hk8i4pwolozz$.dlg@40tude.net...
> On Fri, 4 Jul 2003 19:00:27 -0500, TH wrote:
>
> > I had an old regenerative set that was in pretty bad shape so I'm using
the
> > parts to build a FET regen set. I just found out the old 2.5 mh choke is
> > open. I know I can purchase these mail order, but I'd like to get this
> > project completed this weekend. Looking through my boxes of old parts,
I
> > found an old peaking coil for a tube type TV. The coil is adjustable
from
> > .2 to 2.8 mh, at 7 ohms DC resistance. I don't see why this wouldn't
work,
> > but thought I'd ask anyway. Will this coil be okay to use??
> >
> > Thanks
>
> ____
>
> Is this a coil only, or does it have a paralleled resistor? In TV jargon,
> a "peaking" coil is used in the video circuits to achieve the desired
> bandwidth and almost always has a built-in resistor in parallel. If yours
> is just a simple adjustable coil with no resistor, should be ok.
>
> 73, Bill W7TI

106. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-05 19:18:11 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <hn7egvo4mii5u2m7g9n3oce61m24kc81jm@4ax.com>
Source record: 34371

On Fri, 4 Jul 2003 19:59:45 -0700, W7TI <noway@nohow.com> wrote:

>Is this a coil only, or does it have a paralleled resistor? In TV jargon,
>a "peaking" coil is used in the video circuits to achieve the desired
>bandwidth and almost always has a built-in resistor in parallel. If yours
>is just a simple adjustable coil with no resistor, should be ok.

Why the parallel resistor? Is it to lower Q and increase the
bandwidth?

107. Re: VOX switch

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 05:55:57 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F07BA0C.6F5D56E0@bellatlantic.net>
Source record: 34373

Andrew wrote:
>
> I did see the kit, but wanted to see if I could make something myself first.
>
> There was a suggestion to us a microcontroller, and I am now considering the
> use of the analogue comparator on an AVR microcontroller that will be being
> used in the project.
>
> It seems that most VOX circuits boil down to comparing a microphone voltage
> to a threshold reference. I am not really to experienced in audio filtering
> and amplification, so I would have to find some web documentation on making
> a circuit to handle the sound in portion. I suppose it would even be
> possible to have one of the PWM channels on the microcontorller set the
> reference voltage, and in this way it would be adjustable.
>
> If anyone has some tutorial sights on sound handling hardware (filter,
> amplify, etc) please suggest.
>
> cheers,
> andy
>

A VOX is a simple circuit - no need for microcontrollers
or filters for a basic VOX. I made one with a 555 which
I triggered with a voltage created by the audio. Feed
the audio out of an amplifier to a diode & capacitor.
When there is an audio signal, the diode and capacitor
develop a voltage that triggers the 555. You don't need
a 555 - that's what I had on hand - you can use a
Schmidt trigger IC like a 4093.

108. M2 5WL Yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 09:04:19 UTC
From: Robert Offer <robert@g1zjp.freeserve.co.uk>
Message-ID: <be8omj$o3q$1@newsg3.svr.pol.co.uk>
Source record: 34374

Hi all,
Can anybody help me please? I am looking for the YO modelling file for the early M2 5W/L yagi - 17 elements. The original was mounted on a square boom 1.25" & 1" square section. I have the later one, but am unsure that the two are the same - I suspect not.
Thanks for any help
73
Bob
G1ZJP

109. Re: M2 5WL Yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 09:53:04 UTC
From: Robert Offer <robert@g1zjp.freeserve.co.uk>
Message-ID: <be8ri1$3kn$1@newsg1.svr.pol.co.uk>
Source record: 34375

Sorry the 17 elements (stated in my request) should read 18 elements on the older style M2 5W/L yagi - Total boom length is 10.461m on the older one as opposed to 10.056m (given on my later M2 5W/L modelling file).
Thanks
Bob
G1ZJP

110. looking for high voltage caps..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 12:22:53 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1057494344.251851@auth2.dns.griffin.net.uk>
Source record: 34377

hello..
looking for uk supplier of 22pf..47pf...39pf 1kv ceramic caps for use in low pass filters....

had no luck so far..tried RS Farrnell.cpc etc..Any ideas where i might get some???

thanks Simon G0ZEN

111. FT-767DX Power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 13:20:15 UTC
From: Sven Arne Astrup <sastrup@online.no>
Message-ID: <2rVNa.4302$os2.65371@news2.e.nsc.no>
Source record: 34378

Hallo!

Do any of you know where I could get hold of a new power transformer for the FT-767DX tranceiver?

73 de Sven LA6KJ

--
Phone: +47 78 99 80 81
E-mail: sastrup@online.no

In and outgoing Emails scanned by NAV 2003

112. Re: Had it with Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 15:07:02 UTC
From: cornytheclown@hotmail.com
Message-ID: <8e8f59d4.0307060707.7f56c8b8@posting.google.com>
Source record: 34379

"Tweetldee" <dgmason99@att99.net> wrote in message
news:<yRIMa.33235$3o3.2422802@bgtnsc05-news.ops.worldnet.att.net>...
> snipped.....its been reposted enough as this is probably the 20th reply or so...maybe
even farthur down the list...

I never bought a whole lot from the shack....batteries,ferric
chloride, and the occasional doo dad were my only big purchases.

Until about 4 years ago I had a shack within walking distance that was
very well stocked in high priced components....like I said I didnt buy
much but they were handy when I somehow didnt have it in one of my
bins.

We did have a regular electronics place here for years....Radio
Electric Supply and it was dingy dusty electronics supply house that
carried everything but they dried up for lack of business about 6 or 7
years ago maybe 8....

2 other places in nearby towns that actually carry electronic supplies
but they are geard more toward cable, computers, and communications
now......any ics or semiconductors will be the 3.00 a pop brand names
like NTE..... no more resistor packs or bulk anything....one of the
stores does not even stock magnet wire and the pros there didnt even
know what it was.

I make my purchases from mouser and electronix express and a few
others....mostly mouser. If you are serious about the hobby you might
as well order 10 or more of the common stuff and make large orders to
save on shipping.

I went to rat shack a couple of weeks ago....they moved to the other
side of town. They had very few components left and didnt knw if they
would restock. They had it all in a big cabinet with bins. They did
have a couple of new rat shack soldering iron stations and some tools
but resistors, capacitors, semicondutors were barely stocked. #
bottles of ferric chloride...I bought 2.

They did have lots of coax type stuff....bncs in many shapes and sizes
and all kinds of "f" coax stuff.

The store was empty and I was immediately accosted by two salesmen who
left me alone when I said I was just loking for electronic parts.

The whole store except for less than 10 square feet is dedicated to
computers and phones....the odd battery selection, the behind the
counter calcualtors etc....but rat shack is clearly a cell phone
dealership now.

113. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 16:02:26 UTC
From: fmmck@aol.com
Message-ID: <20030706120226.19729.00000341@mb-m28.aol.com>
Source record: 34380

<<
This has turned out to be a great weekend project. The original radio was
hand built probably around '35 or so, but had been hacked up over the years.
I'm using the original caps, knobs, vernier, etc and to make a FET version. >>

TH-

I started in electronics as a teenager back in the 50s, by salvaging scrapped radios from the trash behind a friend's repair shop. I separated all the parts and built a sizable collection of tubes, resistors, capacitors and miscellaneous hardware to be used in future projects.

Then I bought a multimeter. I found that many old resistors had drifted high in value, and paper capacitors were almost always leaky. My sizable collection suddenly shrank to a handful of parts!

If you use such old components in your project, I suggest at least checking them with an Ohmmeter. It will save you a lot of frustration.

73, Fred, K4DII

114. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 21:22:01 UTC
From: DOUGLAS SNOWDEN <SNOWDEN@peoplepc.com>
Message-ID: <vgh4nppv01hb37@corp.supernews.com>
Source record: 34381

That seems to answer my question - not a problem.

Doug
N4IJ

"Andrew R Mitz" <arm@helix.nih.gov> wrote in message
news:8beNa.184$y5.78122@mencken.net.nih.gov...
>
> I get interference from a hub in the basement near the rig. Most noise
> is on 20 meters. The problem is especially bad if there is an
> unterminated wire connected to the hub.
>
> Jim, N2VX (ZZZjim_cronin@juno.comZZZ) wrote:
> : On Tue, 1 Jul 2003 21:28:36 -0400, "DOUGLAS SNOWDEN"
> : <SNOWDEN@peoplepc.com> wrote:
> :
> : >Just curious, have any of you had trouble with your neighbors that have
had
> : >their homes wired with CAT5 cable? Does it want to act like an antenna
and
> : >cause intereference (to them and you) ???
> : >
> : >Doug N4IJ
> : >
> :
> : Ours generates noise on HF. I have a vertical antenna about 15 feet
> : from the house and that doesn't help. We didn't have problems with
> : the old-style coax cable ethernet. I'll switch to shielded cat-5
> : cable in the near future.
> :
> : 73,
> : Jim
> : N2VX

115. Re: Coil Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 21:56:09 UTC
From: W7TI <noway@nohow.com>
Message-ID: <3fvt5r4wqhkc$.1qz5imrn6o6rs.dlg@40tude.net>
Source record: 34382

On Sat, 05 Jul 2003 12:18:11 -0700, Paul Burridge wrote:

> Why the parallel resistor? Is it to lower Q and increase the
> bandwidth?

Yes. In TV's, peaking coils are used to achieve the needed ~4.5 MHz
bandwidth in the video amplifier circuit.

--
Bill, W7TI

116. RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-06 23:55:42 UTC
From: Alfred Lorona <w6wqc@dslextreme.com>
Message-ID: <beacud$30410$1@ID-49117.news.dfncis.de>
Source record: 34383

Most mixers I've seen are not matched to 50+j0. They are simply terminated in 50+j0. Is this the best or optimum termination or does it matter?

117. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 03:32:09 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <beaq0e$mqq@library2.airnews.net>
Source record: 34384

"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
news:beacud$30410$1@ID-49117.news.dfncis.de...
> Most mixers I've seen are not matched to 50+j0. They are simply terminated
> in 50+j0. Is this the best or optimum termination or does it matter?

There is no "best" or "optimum" termination, beyond the fact that you want a
purely resistive termination. (DUH!). 50 ohms is just the standard value.

118. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 04:44:22 UTC
From: John Moriarity <k6qq@hdo.net>
Message-ID: <vghulrp9ghi534@corp.supernews.com>
Source record: 34385

"John R. Strohm" <strohm@airmail.net> wrote in message
news:beaq0e$mqq@library2.airnews.net...
> "Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
> news:beacud$30410$1@ID-49117.news.dfncis.de...
> > Most mixers I've seen are not matched to 50+j0. They are simply
terminated
> > in 50+j0. Is this the best or optimum termination or does it matter?
>
> There is no "best" or "optimum" termination, beyond the fact that you want
a
> purely resistive termination. (DUH!). 50 ohms is just the standard value.

That *may* be true, but most mixers are characterized
with 50 ohm (resistive) terminations at all ports.

Use other impedances at your own risk!

73, John - K6QQ

119. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 06:07:52 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <beb2vq$45d@library2.airnews.net>
Source record: 34386

"John Moriarity" <k6qq@hdo.net> wrote in message
news:vghulrp9ghi534@corp.supernews.com...
>
> "John R. Strohm" <strohm@airmail.net> wrote in message
> news:beaq0e$mqq@library2.airnews.net...
> > "Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
> > news:beacud$30410$1@ID-49117.news.dfncis.de...
> > > Most mixers I've seen are not matched to 50+j0. They are simply
> terminated
> > > in 50+j0. Is this the best or optimum termination or does it matter?
> >
> > There is no "best" or "optimum" termination, beyond the fact that you
want
> a
> > purely resistive termination. (DUH!). 50 ohms is just the standard
value.
>
> That *may* be true, but most mixers are characterized
> with 50 ohm (resistive) terminations at all ports.
>
> Use other impedances at your own risk!

In the immortal words of Natasha the Sex Goddess: Well, DUH!

120. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 06:49:12 UTC
From: Josh <idhavetobenuts@nowhere.com>
Message-ID: <3F0917E8.5060401@nowhere.com>
Source record: 34387

John R. Strohm wrote:
> "John Moriarity" <k6qq@hdo.net> wrote in message
> news:vghulrp9ghi534@corp.supernews.com...
>
>>"John R. Strohm" <strohm@airmail.net> wrote in message
>>news:beaq0e$mqq@library2.airnews.net...
>>
>>>"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
>>>news:beacud$30410$1@ID-49117.news.dfncis.de...
>>>
>>>>Most mixers I've seen are not matched to 50+j0. They are simply
>>>
>>terminated
>>
>>>>in 50+j0. Is this the best or optimum termination or does it matter?
>>>
>>>There is no "best" or "optimum" termination, beyond the fact that you
>>
> want
>
>>a
>>
>>>purely resistive termination. (DUH!). 50 ohms is just the standard
>>
> value.
>
>>That *may* be true, but most mixers are characterized
>>with 50 ohm (resistive) terminations at all ports.
>>
>>Use other impedances at your own risk!
>
>
> In the immortal words of Natasha the Sex Goddess: Well, DUH!
>
>

Where do I find this goddess?

121. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 07:16:48 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <bs6igvsvst08j14bsmt3s09vi5k0u7df5b@4ax.com>
Source record: 34388

On Sun, 6 Jul 2003 21:44:22 -0700, "John Moriarity" <k6qq@hdo.net>
wrote:

>That *may* be true, but most mixers are characterized
>with 50 ohm (resistive) terminations at all ports.

That may apply to most diode ring mixer, but this is not necessarily
true for other (active) mixers.

Paul OH3LWR

122. Startek front end

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 11:00:05 UTC
From: jwodell@provide.net
Message-ID: <3f095213.821207@news.provide.net>
Source record: 34389

This isn't precisely homebrew, but I have a Startek counter, ATH-10.

I think the recent storms have blown the input transistors. Trouble is that they're not transistors, apparently, but little integrated circuits.

I have not the faintest idea of what they are. I think they're made by

Microtek or some such thing, but they seem to be gone.

No great loss. Not a great counter, but it was handy. Shouldn't leave it hooked up during a storm!

Please reply to jwodell@provide.net

Thanks and 73, Jerry, W8GND

123. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 14:43:23 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <fGfOa.59741$Xm3.15727@sccrnsc02>
Source record: 34390

"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
news:beacud$30410$1@ID-49117.news.dfncis.de...
> Most mixers I've seen are not matched to 50+j0. They are simply terminated
> in 50+j0. Is this the best or optimum termination or does it matter?

A commutating (or reversing switch) type mixer, such as a diode
ring mixer (DBM) will, ideally, present the same impedance at its input
as it is terminated in. This is because, in theory, the output is
always connected to the input, but the phase of the connection
reverses with time. Thus in a downconverting DBM, if the IF is
terminated in 50 ohms, the RF input will have a 50 ohm input
impedance. If the IF is terminated in 75 ohms, then the RF input
will have an impedance of 75 ohms.

In practical DBMs, transformers are used. These are optimized for
a particular impedance, so you will get best performance at the
specified impedance level.

The LO port input impedance has no particular value, being dependent
on drive level, diode turn-on voltage, etc. Typically, it is considerably
less than 50 ohms in a 50 ohm mixer. The manufacturer still advises
driving with a 50 ohm source so that the transformer will be optimally
terminated on at least the primary. I have driven DBM's with voltage
sources and current sources and they will often work OK that way.

Rick N6RK

124. Re: Source for 1000pF feedthrough capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 14:49:51 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1973286ca80c5f70989690@news-central.giganews.com>
Source record: 34391

```
In article <Yw1Na.57671$2ay.6707@news01.bloor.is.net.cable.rogers.com>,
tombssebastian@hotmail.com says...
> Does anyone know of a source for 1000 pF feedthrough capacitors in Canada or
> the US. I've looked on the web, bit the only one I found was in SOuth
> Australia and I want to build the project THIS month :). A local source for
> me, (Montreal, Ottawa, Toronto) would be the best...
>

Do an eBay search on (feedthrough, feedthru).

-- jm

-------------------------------------------------------
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
-------------------------------------------------------
```

125. Help with 6M 1W PA....

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 21:13:22 UTC
From: pbreed@NoSpam.com
Message-ID: <p8ojgv0dkl0pg3jknvpqte69rvlrudr9k4@4ax.com>
Source record: 34392

I'm doing some RC work with a solar plane and I need want to boost the 150mw from my RC transmitter to the 1W limit.

I'd actually like to hit about 1.5 or 2W running at 12V in and pad it down to exactly 1W.

Any suggestions on what readily available transistors to use?

Any suggestions on basic circuit topology?

Paul (Kl7JG)

126. Vacuum Tube VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 22:48:58 UTC
From: whru@msn.com
Message-ID: <e52bdeaf.0307071448.2615d70e@posting.google.com>
Source record: 34393

I would like to build a VFO for a CW transmitter using any type of
vacuum tube. Can someone help with a schematic? Thank you.
73
wb6iiq / dh1nwr

127. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-07 23:56:14 UTC
From: DrGrok@mungednet.com
Message-ID: <bed0sg$dh3$1@bob.news.rcn.net>
Source record: 34394

In article <3F0917E8.5060401@nowhere.com>, Josh <idhavetobenuts@nowhere.com> wrote:
>
>
>John R. Strohm wrote:
>> "John Moriarity" <k6qq@hdo.net> wrote in message
>> news:vghulrp9ghi534@corp.supernews.com...
>>
>>>"John R. Strohm" <strohm@airmail.net> wrote in message
>>>news:beaq0e$mqq@library2.airnews.net...
>>>
>>>>"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
>>>>news:beacud$30410$1@ID-49117.news.dfncis.de...
>>>>
>>>>>Most mixers I've seen are not matched to 50+j0. They are simply
>>>>
>>>terminated
>>>
>>>>>in 50+j0. Is this the best or optimum termination or does it matter?
>>>>
>>>>There is no "best" or "optimum" termination, beyond the fact that you
>>>
>> want
>>
>>>a
>>>
>>>>purely resistive termination. (DUH!). 50 ohms is just the standard
>>>
>> value.
>>
>>>That *may* be true, but most mixers are characterized
>>>with 50 ohm (resistive) terminations at all ports.
>>>
>>>Use other impedances at your own risk!
>>
>>
>> In the immortal words of Natasha the Sex Goddess: Well, DUH!
>>
>>
>
>Where do I find this goddess?
>
Why, with Boris, of course!

128. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 01:32:07 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bed7h7$d3o@library1.airnews.net>
Source record: 34395

"Josh" <idhavetobenuts@nowhere.com> wrote in message
news:3F0917E8.5060401@nowhere.com...
>
>
> John R. Strohm wrote:
> > "John Moriarity" <k6qq@hdo.net> wrote in message
> > news:vghulrp9ghi534@corp.supernews.com...
> >
> >>"John R. Strohm" <strohm@airmail.net> wrote in message
> >>news:beaq0e$mqq@library2.airnews.net...
> >>
> >>>"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
> >>>news:beacud$30410$1@ID-49117.news.dfncis.de...
> >>>
> >>>>Most mixers I've seen are not matched to 50+j0. They are simply
> >>>
> >>terminated
> >>
> >>>>in 50+j0. Is this the best or optimum termination or does it matter?
> >>>
> >>>There is no "best" or "optimum" termination, beyond the fact that you
> >>
> > want
> >
> >>a
> >>
> >>>purely resistive termination. (DUH!). 50 ohms is just the standard
> >>
> > value.
> >
> >>That *may* be true, but most mixers are characterized
> >>with 50 ohm (resistive) terminations at all ports.
> >>
> >>Use other impedances at your own risk!
> >
> >
> > In the immortal words of Natasha the Sex Goddess: Well, DUH!
> >
> >
>
> Where do I find this goddess?

http://www.amore.com/ Normally, I'd say "Google is your FRIEND", but the
site Google has for her is gone. However, the other site, which the Google

entry reminded me of, is still around. This site is actually for real, by the way.

129. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 01:34:38 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bed7h8$d3o@library1.airnews.net>
Source record: 34396

"Dr. Grok" <DrGrok@mungednet.com> wrote in message
news:bed0sg$dh3$1@bob.news.rcn.net...
> In article <3F0917E8.5060401@nowhere.com>, Josh
<idhavetobenuts@nowhere.com> wrote:
> >
> >
> >John R. Strohm wrote:
> >> "John Moriarity" <k6qq@hdo.net> wrote in message
> >> news:vghulrp9ghi534@corp.supernews.com...
> >>
> >>>"John R. Strohm" <strohm@airmail.net> wrote in message
> >>>news:beaq0e$mqq@library2.airnews.net...
> >>>
> >>>>"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
> >>>>news:beacud$30410$1@ID-49117.news.dfncis.de...
> >>>>
> >>>>>Most mixers I've seen are not matched to 50+j0. They are simply
> >>>>
> >>>terminated
> >>>
> >>>>in 50+j0. Is this the best or optimum termination or does it matter?
> >>>>
> >>>>There is no "best" or "optimum" termination, beyond the fact that you
> >>>
> >> want
> >>
> >>>a
> >>>
> >>>>purely resistive termination. (DUH!). 50 ohms is just the standard
> >>>
> >> value.
> >>
> >>>That *may* be true, but most mixers are characterized
> >>>with 50 ohm (resistive) terminations at all ports.
> >>>
> >>>Use other impedances at your own risk!
> >>
> >>
> >> In the immortal words of Natasha the Sex Goddess: Well, DUH!
> >>
> >>
> >
> >Where do I find this goddess?
> >

> Why, with Boris, of course!

Nope. You're thinking of Natasha Fatale. I'm thinking of Dr. Natasha Terry. Dr. Terry runs around with Sandra Margot, aka "Tyffany Million".

130. Re: Vacuum Tube VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 01:37:24 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bed7h9$d3o@library1.airnews.net>
Source record: 34397

"Fred" <whru@msn.com> wrote in message
news:e52bdeaf.0307071448.2615d70e@posting.google.com...
> I would like to build a VFO for a CW transmitter using any type of
> vacuum tube. Can someone help with a schematic? Thank you.
> 73
> wb6iiq / dh1nwr

The library is your FRIEND. Go dig out old editions of the "ARRL Handbook".

131. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 02:16:00 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1973f401840b6af6989698@news.earthlink.net>
Source record: 34398

In article <vg4da4mr811f5a@corp.supernews.com>, SNOWDEN@peoplepc.com
says...
> Just curious, have any of you had trouble with your neighbors that have had
> their homes wired with CAT5 cable? Does it want to act like an antenna and
> cause intereference (to them and you) ???
>
> Doug N4IJ
>
>
>
i run a home ethernet with cat5 and there's a lot of cop traffic from
the magistrate's office next door. no prob.

132. VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 03:16:09 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1974021d39271fb6989699@news.earthlink.net>
Source record: 34399

hi:

i see a lot of transmitter schems where the VFO's power is switched with the mic or key. and i saw a test where it took 5 minutes of warm up time for a VFO to stabilize.

now, of course a good op will be checking to make sure he's on freq., but aside from reduced current drain on batteries, are there other good reasons to switch the VFO providing it's not leaking into other parts of the rig (if it's a tranceiver) and wreaking havoc?

yeah, this is for a homebrew project. as much as i like the idea of powering down the VFO when it's not needed ...

thanks in advance for any info on this.

mike c

133. Re: Vacuum Tube VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 03:19:49 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <pLqOa.2174$wk6.1194@rwcrnsc52.ops.asp.att.net>
Source record: 34400

"Fred" <whru@msn.com> wrote in message
news:e52bdeaf.0307071448.2615d70e@posting.google.com...
> I would like to build a VFO for a CW transmitter using any type of
> vacuum tube. Can someone help with a schematic? Thank you.
> 73
> wb6iiq / dh1nwr

Fred -

You can also look at proven designs and schematics
Drift is an issue with tube based VFO - and regulated power supplies
are recommended.

Many schematics and manuals are available at BAMA
Such as the Johnson Viking VFO-122
http://bama.sbc.edu/

Here is another web site for schematics
http://www.geocities.com/CapeCanaveral/Hall/8701/hamfiles.htm

w9gb
--
Do not use Reply.
Reply only through ARRL forwarding service to W9GB

134. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 03:46:06 UTC
From: fmmck@aol.com
Message-ID: <20030707234606.19811.00000199@mb-m18.aol.com>
Source record: 34401

<< i see a lot of transmitter schems where the VFO's power is switched with the mic or key. and i saw a test where it took 5 minutes of warm up time for a VFO to stabilize. >>

Mike-

One of the effects of keying the VFO by keying the power, is a distinct chirp. Another method used in the vacuum tube days, is grid-block keying. A negative voltage is applied to the grid of the oscillator tube, and shorted to ground to turn on the oscillator. This approach would apply to an FET oscillator as well.

Keeping the oscillator running and keying subsequent stages will usually produce a more stable signal. However, it is not unusual for some of the oscillator's signal to leak through and be radiated by the antenna. You can probably imagine a CW tone that gets louder when keyed, but the pitch doesn't change. When such a station is nearby, it is hard to discriminate between the strength of the keyed and unkeyed signal. If you use this approach, you should pay attention to keeping the oscillator from bleeding through. One method might be to key all of the following stages, for example.

73, Fred, K4DII

135. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 04:32:01 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.197413cf5b333e8498969a@news.earthlink.net>
Source record: 34402

In article <20030707234606.19811.00000199@mb-m18.aol.com>, fmmck@aol.com
says...
> << i see a lot of transmitter schems where the VFO's power is switched with
> the mic or key. and i saw a test where it took 5 minutes of warm up time
> for a VFO to stabilize. >>
>
> Mike-
>
> One of the effects of keying the VFO by keying the power, is a distinct chirp.
> Another method used in the vacuum tube days, is grid-block keying. A negative
> voltage is applied to the grid of the oscillator tube, and shorted to ground to
> turn on the oscillator. This approach would apply to an FET oscillator as
> well.
>
> Keeping the oscillator running and keying subsequent stages will usually
> produce a more stable signal. However, it is not unusual for some of the
> oscillator's signal to leak through and be radiated by the antenna. You can
> probably imagine a CW tone that gets louder when keyed, but the pitch doesn't
> change. When such a station is nearby, it is hard to discriminate between the
> strength of the keyed and unkeyed signal. If you use this approach, you should
> pay attention to keeping the oscillator from bleeding through. One method
> might be to key all of the following stages, for example.

that's what i was thinking. key the amps and maybe dump the VFO into a
terminator inside the RFI shield thru a good pin diode switch.

mike
>
> 73, Fred, K4DII
>

136. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 04:34:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vgkier952mib67@corp.supernews.com>
Source record: 34403

I don't think it's ever a good idea to switch the VFO on or off, because of drift. Also, unless the VFO is turned on before the rest of the transmitter and off after the rest of the transmitter, you'll get a bad chirp if on CW. (It would probably be acceptable on AM, and possibly ok on SSB, though.)

Often, a VFO will be heterodyned to the operating frequency. If so, you can switch the crystal oscillator it's heterodyned with. If it's running on the operating frequency, you can pull a trick I first saw W7ZOI do. He switches in some extra C or L when not transmitting, to move the VFO frequency far enough away so it's not a bother. You've got the potential chirp problem here, too (although not nearly so badly as if the VFO is switched from an off state), plus the potential for momentarily transmitting out of band if your VFO is idling there. That can be overcome with timing, making sure the VFO comes to frequency before the rest of the transmitter goes on, and stays there until the rest of the transmitter is off.

In the heyday of the vacuum tube, it was important to keep things simple, since components were expensive and active components (tubes) expensive, large, and power hungry. Fortunately, the bands weren't as crowded, so drift, sloppy keying, and the like were better tolerated. It's quite a trick to mix the techniques of yore and the signal purity requirements and expectations of today. Good luck!

Roy Lewallen, W7EL

Active8 wrote:
> hi:
>
> i see a lot of transmitter schems where the VFO's power is switched with
> the mic or key. and i saw a test where it took 5 minutes of warm up time
> for a VFO to stabilize.
>
> now, of course a good op will be checking to make sure he's on freq.,
> but aside from reduced current drain on batteries, are there other good
> reasons to switch the VFO providing it's not leaking into other parts of
> the rig (if it's a tranceiver) and wreaking havoc?
>
> yeah, this is for a homebrew project. as much as i like the idea of
> powering down the VFO when it's not needed ...
>
> thanks in advance for any info on this.
>
> mike c

137. Re: Ethernet Wired Homes - Conduit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 05:13:11 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <lrsOa.120466$MJ5.82176@fed1read03>
Source record: 34404

Las Vegas NV, since the MGM fire, requires all data cable (cat 5 and cat5e included) to be run in Metallic conduit... I built a warehouse for a major parcel carrier (who likes to destroy boatanchors) What an expensive city to run data cable (and phone)!!!!!!!

138. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 05:15:00 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <3tsOa.120467$MJ5.114971@fed1read03>
Source record: 34405

arrrrggg type 1!!!!!!!!!!! ever see type 2... (it also had phone cable in it!!)

Both types were a B*^ch to manage correctly!!!!!

Bob (who's fingers still hurt from type 1 terminations!!!)

139. Balun 6:1 without Amidon

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 05:39:35 UTC
From: Frank <not-for-mail@spammed.domain.virgilio.it>
Message-ID: <65mkgvkorp0a6jto8p1nohle268i50v9id@4ax.com>
Source record: 34406

I can't find Amidon ferrite so
I was wondering if i can build
a balun 1:6 (for a Windom antenna)
by using PVC as core.
Thanks

140. Headphone Repair Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 06:16:44 UTC
From: WavyDave <nowaynowhere@yahoo.com>
Message-ID: <bednpe0ac1@enews2.newsguy.com>
Source record: 34407

Am trying to repair the (cat chewed) wires of my new titanium headphones, and the usual splicing is not working. They are full size, the wire going to a 1/8 jack. I can undo my repair and hear a low voltage from my supply when applied to the wires. There are a common and either green or red wire on each side, they do not seem to be insulated from one another (the common and colored wire I mean). Any ideas as to what I am missing are appreciated. :)

141. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 07:41:08 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0307072341.4826b49@posting.google.com>
Source record: 34408

"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
news:<beacud$30410$1@ID-49117.news.dfncis.de>...
> Most mixers I've seen are not matched to 50+j0. They are simply terminated
> in 50+j0. Is this the best or optimum termination or does it matter?

Hi Alfred,
a mixer is a three-port device. If I remember the theory, a three-port
device can never be matched to the same characteristic impedance on
all three ports. If two ports are matched, the third one is isolated,
so that the network degenerates to a two-port device. Therefore a
mixer with 50+0j ohm RF input cannot have 50+0j ohms neither at the LO
input nor at the output. Some mismatch losses seem to be necessary
with mixers, but they can be easily overcome by increasing the LO
power and more amplification at the output.

BR from Ivan

142. Re: Opinions on Marconi 2955 Service Monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 09:00:05 UTC
From: Andrew Tweddle <sarason@alphalink.com.au>
Message-ID: <3f12cf4d$1@news.alphalink.com.au>
Source record: 34220

Andy Brinkley wrote:
> Sort of of, or maybe on topic. I have been offered a Marconi 2955 Service
> monitor for an attractive price.
> I understand that IFR bought Marconi, and will try to contact them next week
> as far as support.
>
> Any body use the 2955? Comments???
>
> TNX
>
> Andy NC4AB
>
>
Nice machine,
but the push buttons could be better!

143. Re: Balun 6:1 without Amidon

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 09:55:40 UTC
From: Serge <poissondanlo@wanadoo.fr>
Message-ID: <3F0A951C.5000009@wanadoo.fr>
Source record: 34409

hi Franck
you can make a balun with an old ferrite of THT in a television , it is
cheap and works as well as a amidon toroid
also , can use old ferrites in old VHF or UHF television antennas (
about 2 inches x 0.5 inche)
Serge /f5jtm

144. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 10:02:07 UTC
From: Serge <poissondanlo@wanadoo.fr>
Message-ID: <3F0A969F.7000306@wanadoo.fr>
Source record: 34410

hello
all about theory of mixer on web site of minicircuits.com
serge

145. Re: Balun 6:1 without Amidon

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 11:03:11 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f0aa4d3$0$48907$edfadb0f@dtext02.news.tele.dk>
Source record: 34411

Hello Franck

> also , can use old ferrites in old VHF or UHF television antennas (

Another way is plain ferrite rods
http://members.fortunecity.com/xe1bef/balun.htm

Regards Max

146. Re: Startek front end

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 12:43:52 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <o0zOa.7$Yf.8146@news.ntplx.net>
Source record: 34412

You might try Mini-Circuits MAR-6s.
More than likely they are MMICs designed
for 50 ohm systems--just remember to adjust
the bias resistors for the devices you put in.

Zack Lau W1VT
"Jerry W. O'Dell" <jwodell@provide.net> wrote in message
news:3f095213.821207@news.provide.net...
> This isn't precisely homebrew, but I have a Startek counter, ATH-10.
>
> I think the recent storms have blown the input transistors. Trouble is
> that they're not transistors, apparently, but little integrated
> circuits.
>
> I have not the faintest idea of what they are. I think they're made by
>
> Microtek or some such thing, but they seem to be gone.
>
> No great loss. Not a great counter, but it was handy. Shouldn't
> leave it hooked up during a storm!
>
> Please reply to jwodell@provide.net
>
> Thanks and 73, Jerry, W8GND
>

147. FA:Greenlee punches,RJ-1A,chokes, xfmrs...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 12:54:05 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <N9zOa.44867$3o3.3015458@bgtnsc05-news.ops.worldnet.att.net>
Source record: 34413

Two nice Greenlee punches large-2" and 2.125" round dia-more later
vac relay-RF1A
Swinging choke
Output xfmr
4:balun
Power xfmr
Hvy duty RF Switch

more stuff coming...CHECK DAILY....

see seller heytubeguy

73 Joe

148. Re: Headphone Repair Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 13:43:19 UTC
From: kd7cdg@painfullyObvious.arrl.net
Message-ID: <Xns93B24EC14hatchdavidticom@157.170.133.60>
Source record: 34414

"WavyDave" <nowaynowhere@yahoo.com> wrote in
<bednpe0ac1@enews2.newsguy.com>:

>Am trying to repair the (cat chewed) wires of my new titanium
>headphones, and the usual splicing is not working. They are full size,
>the wire going to a 1/8 jack. I can undo my repair and hear a low
>voltage from my supply when applied to the wires. There are a common and
>either green or red wire on each side, they do not seem to be insulated
>from one another (the common and colored wire I mean). Any ideas as to
>what I am missing are appreciated. :)
>
>
>

I've seen wire like that, but haven't played with it.
The colored wire probably has a heavy varnish coating. It may be
solderable as-is, meaning the varnish melts/burns off at higher
soldering temperatures (750F). See if you can tin the colored wire
with your soldering iron. If not you may have to scrape off the
insulation.

--
David Hatch
KR7DH
Design Engineering Whipping Boy
Texas Instruments - Tucson

149. Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 15:34:23 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F0AE47F.63C71A31@clifto.com>
Source record: 34415

I was going through my bookmarks when I came upon one about diodes (<http://uweb.superlink.net/bhtongue/7diodeCv/7diodeCv.html>). In his third paragraph, the author asserts:

For RF diode detectors to work, one needs a device that has a non-linear V/I curve. In other words, the slope of the V/I curve must change as a function of applied Voltage. The slope must be steeper (or shallower) at higher voltages and shallower (or steeper) at lower voltages than at the quiescent operating point.

If there's any truth to this, someone please enlighten me. I've always been of the belief that an envelope detector diode would be most perfect if the diode was a perfect switch, i.e. zero attoamps reverse current and perfectly linear forward current (as though the diode was a wire during the forward conduction period). I don't see how a changing slope during forward conduction could do anything other than distort the demodulated waveform, especially on tiny signals.

--
The function of an asshole is to emit quantities of crap. Spammers do a very good job of that. However, I do object to my inbox being a spammer's toilet bowl. -- Walter Dnes

150. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 15:48:19 UTC
From: reach me through the sonic server <hatespamdontbother@yahoo.com>
Message-ID: <beep43$h9d$2@woodrow.ucdavis.edu>
Source record: 34416

Many detectors using diodes have an active bias voltage/current applied.
An Autek WM-1 peak reading watt meter is a great circuit of said.

cheers
skipp
http://sonic.ucdavis.edu

: Clifton T. Sharp Jr. <clifto@clifto.com> wrote:
: I was going through my bookmarks when I came upon one about diodes
: (<http://uweb.superlink.net/bhtongue/7diodeCv/7diodeCv.html>). In his
: third paragraph, the author asserts:

: For RF diode detectors to work, one needs a device that has a
: non-linear V/I curve. In other words, the slope of the V/I curve
: must change as a function of applied Voltage. The slope must be
: steeper (or shallower) at higher voltages and shallower (or steeper)
: at lower voltages than at the quiescent operating point.

: If there's any truth to this, someone please enlighten me. I've always
: been of the belief that an envelope detector diode would be most perfect
: if the diode was a perfect switch, i.e. zero attoamps reverse current
: and perfectly linear forward current (as though the diode was a wire
: during the forward conduction period). I don't see how a changing slope
: during forward conduction could do anything other than distort the
: demodulated waveform, especially on tiny signals.

: --
: The function of an asshole is to emit quantities of crap. Spammers do
: a very good job of that. However, I do object to my inbox being a
: spammer's toilet bowl. -- Walter Dnes

151. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 15:56:16 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F0AEB6E.77F3C75C@ieee.org>
Source record: 34417

Active8 wrote:

> hi:
>
> i see a lot of transmitter schems where the VFO's power is switched with
> the mic or key. and i saw a test where it took 5 minutes of warm up time
> for a VFO to stabilize.
>
> now, of course a good op will be checking to make sure he's on freq.,
> but aside from reduced current drain on batteries, are there other good
> reasons to switch the VFO providing it's not leaking into other parts of
> the rig (if it's a tranceiver) and wreaking havoc?
>
> yeah, this is for a homebrew project. as much as i like the idea of
> powering down the VFO when it's not needed ...
>
> thanks in advance for any info on this.
>
> mike c

Oscillators should run continuously for maximum stability. This is true for crystal oscillators as well as VFO's. However it is sometimes desirable to give up
some stability for other advantages such as reduced power drain.

Bill K7NOM

152. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 17:39:40 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000056.003ade9d@btinternet.com>
Source record: 34418

Hi,

> For RF diode detectors to work, one needs a device that has a
> non-linear V/I curve. In other words, the slope of the V/I curve
> must change as a function of applied Voltage. The slope must be
> steeper (or shallower) at higher voltages and shallower (or steeper)
> at lower voltages than at the quiescent operating point.
>
> If there's any truth to this, someone please enlighten me. I've always
> been of the belief that an envelope detector diode would be most perfect
> if the diode was a perfect switch, i.e. zero attoamps reverse current
> and perfectly linear forward current (as though the diode was a wire
> during the forward conduction period). I don't see how a changing slope
> during forward conduction could do anything other than distort the
> demodulated waveform, especially on tiny signals.

You believe correctly! A diode detector is nothing much more than a rectifier and should be characterised accordingly. Curvature of the forward characteristic has to be lived with and is not something generally to be desired. There are exceptions to this where the law of the initial curvature is employed in certain instruments but not usually in demodulating an AM signal.

However, with very weak signals a small degree of forward biassing is sometimes employed to obtain the greatest recovered audio. This comes about because the positive peaks are driven onto the greatest slope while the negative ones, which would normally distract from the charge on the load capacitor, are placed on the flatter part below the bias point and so not recovered so well.

Cheers - Joe

153. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 17:51:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vgm15m4k9hdje9@corp.supernews.com>
Source record: 34419

That might be true for lossless, linear networks (I honestly don't know), but it's a simple manner to create a lossy three-port network that presents 50 ohms at all three ports. For example, a 16.67 ohm resistor from each port to a common point, or simply a 50 ohm resistor at each port with no internal connections between ports. A mixer is nonlinear besides having loss, so there's no good reason to believe that it conforms to rules that apply to lossless, linear networks.

Roy Lewallen, W7EL

OK1SIP wrote:
> "Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
news:<beacud$30410$1@ID-49117.news.dfncis.de>...
>
>>Most mixers I've seen are not matched to 50+j0. They are simply terminated
>>in 50+j0. Is this the best or optimum termination or does it matter?
>
>
> Hi Alfred,
> a mixer is a three-port device. If I remember the theory, a three-port
> device can never be matched to the same characteristic impedance on
> all three ports. If two ports are matched, the third one is isolated,
> so that the network degenerates to a two-port device. Therefore a
> mixer with 50+0j ohm RF input cannot have 50+0j ohms neither at the LO
> input nor at the output. Some mismatch losses seem to be necessary
> with mixers, but they can be easily overcome by increasing the LO
> power and more amplification at the output.
>
> BR from Ivan

154. Re: R.S.G.B Membership for ?1.05

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 21:15:13 UTC
From: David Keates <david@keates01.fsworld.co.uk>
Message-ID: <befchq$8am$1@newsg2.svr.pol.co.uk>
Source record: 34420

Please read the news on uk.radio.amateur
"Duncan Walters" <pentode@ntlworld.com> wrote in message
news:drRMa.15$Oi2.13@newsfep1-win.server.ntli.net...
>
> <G3ZHIg3zhi@hotmail.com> wrote in message
> news:wPfMa.51390$%L.25461@news-lhr.blueyonder.co.uk...
> > Join the Radio Society of Great Britain for ?1.05 or 2 US dollars
> >
> > Normal membership cost is ?42.50 but if you join in July
> >
> > with the RSGB special offer Membership will cost you ?1.05
> >
> > That's a massive saving of ?41.45 pounds!
> >
> > For that you get one years membership of RSGB which includes the RSGB
> national radio magazine Radcom.
> >
> > Go to http://www.qsl.net/g3zhi/rsgb.jpg for the application form.
> >
> > http://www.qsl.net/g3zhi
>
>

155. Re: Headphone Repair Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 21:52:14 UTC
From: TH <sgmtim@iquest.net>
Message-ID: <befed1$133$1@news.iquest.net>
Source record: 34422

I had a pair like that. The wires are insulated only by the enamel coating
on the wire. I had to scrape the coating to get a good splice.

TH

"WavyDave" <nowaynowhere@yahoo.com> wrote in message
news:bednpe0ac1@enews2.newsguy.com...
> Am trying to repair the (cat chewed) wires of my new titanium headphones,
> and the usual splicing is not working. They are full size, the wire going
to
> a 1/8 jack. I can undo my repair and hear a low voltage from my supply
> when applied to the wires. There are a common and either green or red wire
> on each side, they do not seem to be insulated from one another (the
common
> and colored wire I mean). Any ideas as to what I am missing are
> appreciated. :)
>
>

156. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 21:54:46 UTC
From: Alfred Lorona <w6wqc@dslextreme.com>
Message-ID: <befejm$4htf2$1@ID-49117.news.dfncis.de>
Source record: 34421

The post appears to have generated some interest. Specifically, how does the match/mis-match, as the case may be, affect one of the (perhaps the) most important paramater which is the input 3rd order intermodulation distortion level? And what about loss?

In other words, will a mixer (not limited to diode mixers) operate equally well into any termination as long as it is R+j0?

AL

157. Re: Headphone Repair Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 22:23:35 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <4vgmgvsosknqkhmsk5dv4thakffq2qcdi8@4ax.com>
Source record: 34423

On Tue, 8 Jul 2003 16:52:14 -0500, "TH" <sgmtim@iquest.net> wrote:

>I had a pair like that. The wires are insulated only by the enamel coating
>on the wire. I had to scrape the coating to get a good splice.
>
>TH
>
If it is like magnet wire enamel, soldering heat will not always
remove it. You need to either scrape with a razor blade, or use a
heavy-duty chemical made for the purpose. The warning label on it may
have you using a razor.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

158. hp141t

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 22:24:58 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1057703420.371322@auth2.dns.griffin.net.uk>
Source record: 34424

has anyone got a copy (that can be downloaded) of the user manual for my
old hp141t..cant seem to get the storage bity working..all else ok..i
think...
any repair mods whatso ever would be useful...

as screen intensity seems to be fading, needs to be up 3/4 before visable,
at full on is quite bright, but seems to be less after trying to get storage
to work!!just got a REALLY flooded bright screen when switching to storage,
but no trace, just like someone had thrown a bucket of luminous green paint
on the screen which slowly ran down the screen!!
any ideas??

thanks simon g0zen

159. MAST FOR SALE ON EBAY

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 22:38:25 UTC
From: Haywood Electronics <haywood_Nospam_electronics@ntlworld.com>
Message-ID: <SKHOa.1175$pQ2.96161@newsfep1-win.server.ntli.net>
Source record: 34425

FOR SALE ON EBAY :

60 ft WINCH UP / TILT OVER MAST

EXCELLENT CONDITION

CONTACT JIM G4NPS
jim.g4nps@ntlworld.com

CLICK ON THIS LINK TO VIEW :

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3034227252&category=150
2

TNX FOR LOOKING !

160. Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 22:56:40 UTC
From: rpg@hotmail.com
Message-ID: <4ef33040.0307081456.36da045@posting.google.com>
Source record: 34426

Hi, I'm looking for a small, 2m FM fixed frequency TX design for a backup telemetry link on a model craft. I've seen designs based on discontinued Motorolla baby-monitor ICs, but simple varactor/tripler designs seem less common. Weight/size are important, and I'd like output around 1-2W. Duty cycle will be fairly low. There is 4.8V or 12V available already; 4.8V is likely to be noisier, as it drives the servos. 12V is prefered.

What I was thinking was ~48 Mhz crystal oscillator with varactor, fed into a tripler, then a bandpass, then into an amplifier (RF transistor?)?

I've seen a number oscillator designs floating around (handbook and otherwise), but I don't know how to find out what's most appropriate. Any suggestions, designs I've missed, books to read, etc? Something like the Ramsey FM6 (preraid)?

Plan B is to find another HTX-200 or similar, pull out the guts, and use that. :) But I'd rather have something I can lay out myself.

Thanks,
R C
KG4MVB

161. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-08 23:13:16 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <befjhp$35l@library1.airnews.net>
Source record: 34427

"Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:3F0AE47F.63C71A31@clifto.com...
> I was going through my bookmarks when I came upon one about diodes
> (<http://uweb.superlink.net/bhtongue/7diodeCv/7diodeCv.html>). In his
> third paragraph, the author asserts:
>
> For RF diode detectors to work, one needs a device that has a
> non-linear V/I curve. In other words, the slope of the V/I curve
> must change as a function of applied Voltage. The slope must be
> steeper (or shallower) at higher voltages and shallower (or steeper)
> at lower voltages than at the quiescent operating point.
>
> If there's any truth to this, someone please enlighten me. I've always
> been of the belief that an envelope detector diode would be most perfect
> if the diode was a perfect switch, i.e. zero attoamps reverse current
> and perfectly linear forward current (as though the diode was a wire
> during the forward conduction period). I don't see how a changing slope
> during forward conduction could do anything other than distort the
> demodulated waveform, especially on tiny signals.

Dude, you and they are talking about the exact same thing.

Think about the V-I curve on an ideal diode. Observe that, if the diode is
reverse-biased, no conduction takes place. In principle, you can crank the
reverse voltage up as high as you like, and STILL no conduction takes place.
(In practice, you run into avalanche and zener breakdown.) If the diode is
forward-biased, the diode conducts like crazy. There is a CORNER in the
curve, i.e. a change in the slope of the V/I curve, at NOMINALLY V=0V.
(Actually, V=0.7V for silicon, V=0.3V for germanium, V=1.7V for red LEDs,
about 2.2V for yellow, about 2.4V for green, and so on and so forth...)

162. Re: hp141t

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 01:25:27 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <7kqdnQ8DA6tV85aiU-KYvg@comcast.com>
Source record: 34428

there were so many of these built that you should be able to get a manual
from www.w7fg.com

"zindazenda" <zen@lineisp.co.uk> wrote in message
news:1057703420.371322@auth2.dns.griffin.net.uk...
> has anyone got a copy (that can be downloaded) of the user manual for my
> old hp141t..cant seem to get the storage bity working..all else ok..i
> think...
> any repair mods whatso ever would be useful...
>
> as screen intensity seems to be fading, needs to be up 3/4 before visable,
> at full on is quite bright, but seems to be less after trying to get
storage
> to work!!just got a REALLY flooded bright screen when switching to
storage,
> but no trace, just like someone had thrown a bucket of luminous green
paint
> on the screen which slowly ran down the screen!!
> any ideas??
>
>
>
>
> thanks simon g0zen
>
>
>
>
>

163. Re: Headphone Repair Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 02:22:03 UTC
From: WavyDave <nowaynowhere@yahoo.com>
Message-ID: <befudd0754@enews2.newsguy.com>
Source record: 34429

All, thanks, I am up and running again. I was also given the following hint
regarding enamel

Hint for removing enamel:
- Heat it up with a match or cigarette lighter;
- When hot, quickly sink it in alcohol.
The enamel cracks. Just take it off with your fingers.

Ricardo

"WavyDave" <nowaynowhere@yahoo.com> wrote in message
news:bednpe0ac1@enews2.newsguy.com...
> Am trying to repair the (cat chewed) wires of my new titanium headphones,
> and the usual splicing is not working. They are full size, the wire going
to
> a 1/8 jack. I can undo my repair and hear a low voltage from my supply
> when applied to the wires. There are a common and either green or red wire
> on each side, they do not seem to be insulated from one another (the
common
> and colored wire I mean). Any ideas as to what I am missing are
> appreciated. :)
>
>

164. Re: RF mixer termination

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 04:53:00 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <beg73hmq1@slb9.atl.mindspring.net>
Source record: 34430

My understanding is that diode mixer IF ports do more or less match the RF port impedance of 50 ohms when each diode is turned on hard from the LO drive. Granted, it is "approximate" but a good general way to look at the mixer IF port impedance.

The reason to broadband terminate the IF port as 50 ohms is to provide a "matched" termination for the RF signals and all of the other RF type components that show up on the IF port.

A mismatch on the IF port will tend to reflect the mismatched signal back into the mixer diode junctions and depending on phase and so on may, and usually does, result in degraded dynamic range and possibly higher mixer loss too.

While it is not a truely matched load for the LO signal impedance, it does absorb most of the mixer products and so a non-reactive 50 ohm load is the best "generic" load impedance for most mixer uses.

In certain circumstances, one can calculate and match the actual impedances but this is tricky and prone to errors so using a fixed broadband 50 ohm load is usually the simplest way to get good performance.

Jim Pennell
N6BIU

165. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 06:37:39 UTC
From: Marcus Sleightholm <marcus.sleightholm@btinternet.com>
Message-ID: <begd7j$c2a$1@hercules.btinternet.com>
Source record: 34431

Motorola did a number of one chip FM TX ICs, - they are cheap and widely available and produce about 50mW output which can be use to drive something like a 2N3866 output stage (I only give that device number as I have one in the junk box!)

73 Marcus M3ChB

"R C" <rpg@hotmail.com> wrote in message news:4ef33040.0307081456.36da045@posting.google.com...
> Hi, I'm looking for a small, 2m FM fixed frequency TX design for a
> backup telemetry link on a model craft. I've seen designs based on
> discontinued Motorolla baby-monitor ICs, but simple varactor/tripler
> designs seem less common. Weight/size are important, and I'd like
> output around 1-2W. Duty cycle will be fairly low. There is 4.8V or
> 12V available already; 4.8V is likely to be noisier, as it drives the
> servos. 12V is prefered.
>
> What I was thinking was ~48 Mhz crystal oscillator with varactor, fed
> into a tripler, then a bandpass, then into an amplifier (RF
> transistor?)?
>
> I've seen a number oscillator designs floating around (handbook and
> otherwise), but I don't know how to find out what's most appropriate.
> Any suggestions, designs I've missed, books to read, etc? Something
> like the Ramsey FM6 (preraid)?
>
> Plan B is to find another HTX-200 or similar, pull out the guts, and
> use that. :) But I'd rather have something I can lay out myself.
>
> Thanks,
> R C
> KG4MVB

166. Re: hp141t

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 07:44:09 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <1mFXmeCJf8C$EAAW@ifwtech.co.uk>
Source record: 34435

zindazenda wrote:
>has anyone got a copy (that can be downloaded) of the user manual for my
>old hp141t..cant seem to get the storage bity working..all else ok..i
>think...

There's a US Army site containing lots of scanned downloadable manuals
for test equipment of this vintage... but I've lost the URL - can anyone
help, please?

>any repair mods whatso ever would be useful...
>
>as screen intensity seems to be fading, needs to be up 3/4 before visable,
>at full on is quite bright, but seems to be less after trying to get storage
>to work!!just got a REALLY flooded bright screen when switching to storage,
>but no trace, just like someone had thrown a bucket of luminous green paint
>on the screen which slowly ran down the screen!!
>any ideas??

Daft as it seems, that actually sounds quite promising! I thought my
tube was dying too, until someone showed me how to set up storage mode.

The optimum intensity setting in storage mode is lower than in normal
mode, and the setting is *very* critical to get a clear and visible
trace with no flare. It should be just below the point where the
background intensity starts to increase very rapidly... but a gnat's
whisker below that, the trace itself is too dim to see! You'll never get
the same contrast between a bright trace and dead-black background that
you do in normal mode.

Keep on experimenting, and you may well find it's OK.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

167. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 07:58:54 UTC
From: n2cqr@clix.pt
Message-ID: <97f305da.0307082358.ba14faf@posting.google.com>
Source record: 34432

fmmck@aol.com (Fred McKenzie) wrote in message
> Keeping the oscillator running and keying subsequent stages will usually
> produce a more stable signal. However, it is not unusual for some of the
> oscillator's signal to leak through and be radiated by the antenna. You can
> probably imagine a CW tone that gets louder when keyed, but the pitch doesn't
> change. When such a station is nearby, it is hard to discriminate between the
> strength of the keyed and unkeyed signal. If you use this approach, you should
> pay attention to keeping the oscillator from bleeding through. One method
> might be to key all of the following stages, for example.

I had a rig in which I kept the oscillator running on key up. "VXO 6 watter"
from "QRP Classics". Great rig. The "backwave" never caused difficulty in
copying. I got about 5 W out (keydown) and about 15 milliwatts out (keyup!)
This provided some fun: If a station gave me a good report, I'd ask if they
could hear the REALLY QRP oscillator on key up. Many could!
73 Bill CU2JL
http://planeta.clix.pt/n2cqr

168. Re: hp141t

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 08:23:07 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000057.00214c21@btinternet.com>
Source record: 34433

Hi,

E-mail as I have it in .pdf format somewhere.

Cheers - Joe

169. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 08:52:01 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <rjlngvgug2vulgjtta97f3slsma5ohqblv@4ax.com>
Source record: 34434

It can actually be much simpler these days using a minicircuits vco (50R output) and a pll chip, not a lot else to it really.

10mW would give you a fair old range line of sight.

Stick a minicircuits ERA 80mW device (4 legs, 50R in, 50R out) on the output of the vco if you want a bit more umpf.

Just as easy on 70cms or the unlicensed 458MHz ISM band, same for 23cms and 13cm or 2.4GHz ISM band. It's SO EASY these days with the building blocks you can get.

Clive

170. Re: looking for high voltage caps..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 11:11:00 UTC
From: IV3SBE Enrico <spytech@tiscali.it>
Message-ID: <3f0bfac5@shknews01>
Source record: 34436

hallo,
If could be of help i can send you some 2 KV caps, they are cheap here in
Italy, just inform me of the quantity and if needed for HiPWR RF,

73's

IV3SBE enrico

"zindazenda" <zen@lineisp.co.uk> ha scritto nel messaggio
news:1057494344.251851@auth2.dns.griffin.net.uk...
> hello..
> looking for uk supplier of 22pf..47pf...39pf 1kv ceramic caps for use in
low
> pass filters....
>
> had no luck so far..tried RS Farrnell.cpc etc..Any ideas where i might get
> some???
>
> thanks Simon G0ZEN
>
>

171. PL and SO numbers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 12:49:59 UTC
From: clutch@lycos.com
Message-ID: <vgo3tfkcbbnnf2@corp.supernews.com>
Source record: 34437

Is there a list somewhere on the net that breaks down what fitting goes with what?

thanks,

Wes, kc8spr
--
Reply to:
Whiskey Echo Sierra Sierra AT Gee Tee EYE EYE dot COM
Lycos address is a spam trap.

172. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 16:40:25 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F0C4579.6120ED41@clifto.com>
Source record: 34438

John R. Strohm wrote:
> "Clifton T. Sharp Jr." <clifto@clifto.com> wrote...
> > (<http://uweb.superlink.net/bhtongue/7diodeCv/7diodeCv.html>).
> >
> > In other words, the slope of the V/I curve
> > must change as a function of applied Voltage. The slope must be
> > steeper (or shallower) at higher voltages and shallower (or steeper)
> > at lower voltages than at the quiescent operating point.
> >
> > I don't see how a changing slope
> > during forward conduction could do anything other than distort the
> > demodulated waveform, especially on tiny signals.
>
> Think about the V-I curve on an ideal diode. Observe that, if the diode is
> reverse-biased, no conduction takes place. In principle, you can crank the
> reverse voltage up as high as you like, and STILL no conduction takes place.
> (In practice, you run into avalanche and zener breakdown.) If the diode is
> forward-biased, the diode conducts like crazy. There is a CORNER in the
> curve, i.e. a change in the slope of the V/I curve, at NOMINALLY V=0V.
> (Actually, V=0.7V for silicon, V=0.3V for germanium, V=1.7V for red LEDs,
> about 2.2V for yellow, about 2.4V for green, and so on and so forth...)

I'm not sure I was clear on my question. The only nonlinearity I want in
my detector diode is the noncontinuous function

| Vin when Vin >= 0.000000 micronanofemtoattovolts
Vout = |
| 0 when Vin < 0.000000 micronanofemtoattovolts

...while the author seems to be saying that the nonlinearity which exists
just above the barrier voltage is essential to detection. He does say,

"The slope must be steeper (or shallower) at higher voltages and
shallower (or steeper) at lower voltages than at the quiescent
operating point."

Given my perfect diode and (let's say) a 0.25V peak signal, I contend
that my output envelope will be an exact reproduction of the input
envelope; but (see his graph #2) his required nonlinearity will seriously
distort the output envelope.

He seems to be saying that without that, you can't demodulate the signal.
I assert that without that, I demodulated it better than he did.

--
The function of an asshole is to emit quantities of crap. Spammers do

a very good job of that. However, I do object to my inbox being a spammer's toilet bowl. -- Walter Dnes

173. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 16:43:10 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F0C461E.47DA5FD@clifto.com>
Source record: 34439

reach me through the sonic server wrote:
> : Clifton T. Sharp Jr. <clifto@clifto.com> wrote:
> : (<http://uweb.superlink.net/bhtongue/7diodeCv/7diodeCv.html>).
> :
> : For RF diode detectors to work, one needs a device that has a
> : non-linear V/I curve. In other words, the slope of the V/I curve
> : must change as a function of applied Voltage.
>
> : If there's any truth to this, someone please enlighten me. I've always
> : been of the belief that an envelope detector diode would be most perfect
> : if the diode was a perfect switch, i.e. zero attoamps reverse current
> : and perfectly linear forward current (as though the diode was a wire
> : during the forward conduction period). I don't see how a changing slope
> : during forward conduction could do anything other than distort the
> : demodulated waveform, especially on tiny signals.
>
> Many detectors using diodes have an active bias voltage/current applied.
> An Autek WM-1 peak reading watt meter is a great circuit of said.

And that removes a lot of the nonlinearity (especially by no longer
chopping the bottom 0.2V off the input signal). But this author seems to
be saying that detection can't work without that nonlinearity.

--
The function of an asshole is to emit quantities of crap. Spammers do
a very good job of that. However, I do object to my inbox being a
spammer's toilet bowl. -- Walter Dnes

174. Re: PL and SO numbers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 18:28:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vgonml25nmct38@corp.supernews.com>
Source record: 34440

Dunno about the net, but there's a list in the _ARRL Handbook_.

Roy Lewallen, W7EL

clutch@lycos.com wrote:
> Is there a list somewhere on the net that breaks down what fitting
> goes with what?
>
> thanks,
>
> Wes, kc8spr

175. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 18:35:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vgoo4b4403vsb0@corp.supernews.com>
Source record: 34441

You're right. The author is wrong.

Roy Lewallen, W7EL

Clifton T. Sharp Jr. wrote:
>
>
> I'm not sure I was clear on my question. The only nonlinearity I want in
> my detector diode is the noncontinuous function
>
> | Vin when Vin >= 0.000000 micronanofemtoattovolts
> Vout = |
> | 0 when Vin < 0.000000 micronanofemtoattovolts
>
> ...while the author seems to be saying that the nonlinearity which exists
> just above the barrier voltage is essential to detection. He does say,
>
> "The slope must be steeper (or shallower) at higher voltages and
> shallower (or steeper) at lower voltages than at the quiescent
> operating point."
>
> Given my perfect diode and (let's say) a 0.25V peak signal, I contend
> that my output envelope will be an exact reproduction of the input
> envelope; but (see his graph #2) his required nonlinearity will seriously
> distort the output envelope.
>
> He seems to be saying that without that, you can't demodulate the signal.
> I assert that without that, I demodulated it better than he did.
>

176. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 19:45:17 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <hh_Oa.46512$3o3.3142492@bgtnsc05-news.ops.worldnet.att.net>
Source record: 34442

"Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:3F0C4579.6120ED41@clifto.com...
>
> I'm not sure I was clear on my question. The only nonlinearity I want in
> my detector diode is the noncontinuous function
>
> | Vin when Vin >= 0.000000 micronanofemtoattovolts
> Vout = |
> | 0 when Vin < 0.000000 micronanofemtoattovolts
>
> ...while the author seems to be saying that the nonlinearity which exists
> just above the barrier voltage is essential to detection. He does say,
>
> "The slope must be steeper (or shallower) at higher voltages and
> shallower (or steeper) at lower voltages than at the quiescent
> operating point."

Am I missing the contradiction? Say you have a quiescent operating point of 0V. An ideal diode would have an infinately high slope above that point and a 0 slope below that point. Or vice-versa. That seems to fit the given statement.

Real world diodes have differing ideal q-points and variable slopes. And most of the other articles seem to be aimed at getting the most out of such diodes.

>
> Given my perfect diode and (let's say) a 0.25V peak signal, I contend
> that my output envelope will be an exact reproduction of the input
> envelope; but (see his graph #2) his required nonlinearity will seriously
> distort the output envelope.

I think your perfect diode analysis is correct. I think the only nonlinearity the author requires is around a q-point. I don't get the impression the author requires a diode to have a variable slope characteristic at other voltages.

>
> He seems to be saying that without that, you can't demodulate the signal.
> I assert that without that, I demodulated it better than he did.

The author's last revision was on 07/2/2003, so he must still have an interest. I suppose you could send him an e-mail. The address is the first item in article #1.
>
> --

Frank Dresser

177. Re: Vacuum Tube VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 21:16:19 UTC
From: la8ak.xnd@online.no
Message-ID: <3f0c6a05.84892423@news.online.no>
Source record: 34443

On Mon, 7 Jul 2003 20:37:24 -0500, "John R. Strohm"
<strohm@airmail.net> wrote:

>"Fred" <whru@msn.com> wrote in message
>news:e52bdeaf.0307071448.2615d70e@posting.google.com...
>> I would like to build a VFO for a CW transmitter using any type of
>> vacuum tube. Can someone help with a schematic? Thank you.
>> 73
>> wb6iiq / dh1nwr
>
>The library is your FRIEND. Go dig out old editions of the "ARRL Handbook".
>
>
they are so easy to follow - from the time when 10kc/s drift per hour
wasn't really much ....

73 Jan-Martin
http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

178. Re: hp141t

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 21:24:20 UTC
From: Bruno I6YPK <i6ypk#nospam#@yahoo.it>
Message-ID: <8K%Oa.12679$qa5.296412@news2.tin.it>
Source record: 34444

The site is :
http://www.logsa.army.mil/etms/find_etm.cfm

PIN Numbers:

032076.PDF=HP141T
039665.PDF=HP8553
034771.PDF=HP8552
035000.PDF=HP8552
035001.PDF=HP8555
052862.PDF=HP8556
044822.PDF=HP8444
051025.PDF=HP8443

73
Bruno I6YPK
http://www.qsl.net/i6ypk

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> ha scritto nel messaggio
news:1mFXmeCJf8C$EAAW@ifwtech.co.uk...
> zindazenda wrote:
> >has anyone got a copy (that can be downloaded) of the user manual for my
> >old hp141t..cant seem to get the storage bity working..all else ok..i
> >think...
>
> There's a US Army site containing lots of scanned downloadable manuals
> for test equipment of this vintage... but I've lost the URL - can anyone
> help, please?
>
> >any repair mods whatso ever would be useful...
> >
> >as screen intensity seems to be fading, needs to be up 3/4 before
visable,
> >at full on is quite bright, but seems to be less after trying to get
storage
> >to work!!just got a REALLY flooded bright screen when switching to
storage,
> >but no trace, just like someone had thrown a bucket of luminous green
paint
> >on the screen which slowly ran down the screen!!
> >any ideas??
>
> Daft as it seems, that actually sounds quite promising! I thought my
> tube was dying too, until someone showed me how to set up storage mode.
>

> The optimum intensity setting in storage mode is lower than in normal
> mode, and the setting is *very* critical to get a clear and visible
> trace with no flare. It should be just below the point where the
> background intensity starts to increase very rapidly... but a gnat's
> whisker below that, the trace itself is too dim to see! You'll never get
> the same contrast between a bright trace and dead-black background that
> you do in normal mode.
>
> Keep on experimenting, and you may well find it's OK.
>
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

179. ECC82 and ECC83 on E-bay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 21:41:06 UTC
From: servis_za_elektroniku@yahoo.com
Message-ID: <71725543.0307091341.21265a74@posting.google.com>
Source record: 34445
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

5 pcs of ECC83 and
2 pcs of ECC82

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3034698205&category=3284&rd=1

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544344860&category=14947&rd=1

180. Re: hp141t

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 21:51:54 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <4hYk3xM65ID$EAJD@ifwtech.co.uk>
Source record: 34303

Bruno I6YPK wrote:

>> There's a US Army site containing lots of scanned downloadable manuals
>> for test equipment of this vintage... but I've lost the URL - can anyone
>> help, please?
>The site is :
>http://www.logsa.army.mil/etms/find_etm.cfm

Thank you!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

181. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-09 23:46:21 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F0CA94D.7020503@hotmail.com>
Source record: 34446

Can anyone provide some part #'s for these one chip FM TX & RX IC's? I'm interested too.

Marcus Sleightholm wrote:
> Motorola did a number of one chip FM TX ICs, - they are cheap and widely
> available and produce about 50mW output which can be use to drive something
> like a 2N3866 output stage (I only give that device number as I have one in
> the junk box!)
>
> 73 Marcus M3ChB
>
> "R C" <rpg@hotmail.com> wrote in message
> news:4ef33040.0307081456.36da045@posting.google.com...
>
>>Hi, I'm looking for a small, 2m FM fixed frequency TX design for a
>>backup telemetry link on a model craft. I've seen designs based on
>>discontinued Motorolla baby-monitor ICs, but simple varactor/tripler
>>designs seem less common. Weight/size are important, and I'd like
>>output around 1-2W. Duty cycle will be fairly low. There is 4.8V or
>>12V available already; 4.8V is likely to be noisier, as it drives the
>>servos. 12V is prefered.
>>
>>What I was thinking was ~48 Mhz crystal oscillator with varactor, fed
>>into a tripler, then a bandpass, then into an amplifier (RF
>>transistor?)?
>>
>>I've seen a number oscillator designs floating around (handbook and
>>otherwise), but I don't know how to find out what's most appropriate.
>>Any suggestions, designs I've missed, books to read, etc? Something
>>like the Ramsey FM6 (preraid)?
>>
>>Plan B is to find another HTX-200 or similar, pull out the guts, and
>>use that. :) But I'd rather have something I can lay out myself.
>>
>>Thanks,
>>R C
>>KG4MVB
>
>
>

182. Re: hp141t

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 00:06:46 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1057795776.563574@auth2.dns.griffin.net.uk>
Source record: 34297

thanks!!!!!!!

all sorted now. well i have the manual..
"zindazenda" <zen@lineisp.co.uk> wrote in message
news:1057703420.371322@auth2.dns.griffin.net.uk...
> has anyone got a copy (that can be downloaded) of the user manual for my
> old hp141t..cant seem to get the storage bity working..all else ok..i
> think...
> any repair mods whatso ever would be useful...
>
> as screen intensity seems to be fading, needs to be up 3/4 before visable,
> at full on is quite bright, but seems to be less after trying to get
storage
> to work!!just got a REALLY flooded bright screen when switching to
storage,
> but no trace, just like someone had thrown a bucket of luminous green
paint
> on the screen which slowly ran down the screen!!
> any ideas??
>
>
>
>
> thanks simon g0zen
>
>
>
>
>

183. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 01:12:23 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <X33Pa.22864$ye4.17136@sccrnsc01>
Source record: 34298

Yes sir,

In the early days of networking, I had to install and support a WIDE variety of networks and
physical media (and a few different file server OS - but largely Novell !!)

In addition to the original Token Ring 4 Mbps and Thick and Thin Ethernet (10-Base-5 and 10-Base-2)
Altos Server and original 3com Net (Thinnet based)
Novell's S-Net
Proteon's 4-Net and 10-Net (10 Mbps 10-Net was not adopted - later IBM 16 Mbps was)
G-Net (1 Mbps)
Omninet (for Apple II)
ARCnet Token-passing (PC and old Datapoint 8-bit processor version)
Sytek / IBM PC Network (used 75 ohm CATV cabling)
Appletalk for Macs
AT&T StarNet (another 1 Mbps)

and others from Novell lab classes when Ray Noorda showed up and signed your certificate!

Today, the company I work for is owned by the US patent holder for Token Ring

... who said the world is small?

w9gb

"bobinphx" <rbelisle1@cox.net> wrote in message news:3tsOa.120467$MJ5.114971@fed1read03...
> arrrrggg type 1!!!!!!!!!!! ever see type 2... (it also had phone cable in
> it!!)
>
> Both types were a B*^ch to manage correctly!!!!!
>
> Bob (who's fingers still hurt from type 1 terminations!!!)
>
>
>

184. Re: 70 cm PA

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 03:39:03 UTC
From: matthew.cook@tekelek.com.au
Message-ID: <rd5Pa.5325$oN.226295@newsfeeds.bigpond.com>
Source record: 34300

Luis,

This site has a 70cm Power Amp kit

http://www.minikits.com.au

By choosing the correct PA module you should be able to get up to 45W on SSB...

HTH

Matthew
VK5ZMC

185. help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 03:47:05 UTC
From: TC Dufresne <tdufresne@neb.rr.com>
Message-ID: <Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com>
Source record: 34299

Hi:
I am having a problem with a "Simple Receiver for Beginners". It is from a design that was featured in an old (1981) ARRL handbook. It is a DC receiver, looks like alot of fun, but it isn't fun now.
Here is the problem.

1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at all, or on my Radio Shack freq counter.
2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I am using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!

The VFO is REALLY simple, it has one transistor and about 7 other parts. I can't seem to see what is wrong, and I have tried.

I would sure appreciate some Elmer'ing here!
ANY help would be much appreciated. I have the above mentioned tools at my command, a multimeter, and an old Heathkit "scope. (which I really don't know how to use.

Any chance?
Thanks in advance,
Tom
KCGXX

186. Re: Headphone Repair Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 05:00:49 UTC
From: George Kinzer <horseflygk@worldnet.att.net>
Message-ID: <5q6Pa.47348$0v4.3234560@bgtnsc04-news.ops.worldnet.att.net>
Source record: 34301

go to electronics101.com

--

Those who want to be successful, will find a way,
those that don't, will find an excuse!

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.497 / Virus Database: 296 - Release Date: 7/4/03

187. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 05:23:24 UTC
From: donut <none@none.com>
Message-ID: <Xns93B3E35CECE93donut@216.102.43.227>
Source record: 34302

"TC Dufresne" <tdufresne@neb.rr.com> wrote in
news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com:

> Hi:
> I am having a problem with a "Simple Receiver for Beginners". It is
> from a design that was featured in an old (1981) ARRL handbook. It is
> a DC receiver, looks like alot of fun, but it isn't fun now.
> Here is the problem.
>
> 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
> all, or on my Radio Shack freq counter.
> 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt.
> I am using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
>
> The VFO is REALLY simple, it has one transistor and about 7 other
> parts. I can't seem to see what is wrong, and I have tried.
>
> I would sure appreciate some Elmer'ing here!
> ANY help would be much appreciated. I have the above mentioned tools
> at my command, a multimeter, and an old Heathkit "scope. (which I
> really don't know how to use.
>
> Any chance?
> Thanks in advance,
> Tom
> KCGXX
>
>
>
>
>

Gotta be a short somewhere. Filter caps ain't supposed to get hot, and
yours is over rated to begin with.

188. Microcontroller interface to TEA5757 Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 06:12:51 UTC
From: thushi@ee.pdn.ac.lk
Message-ID: <31d7fb96.0307092212.153d6785@posting.google.com>
Source record: 34304
Cross-posted to: sci.electronics.components,sci.electronics,rec.radio.amateur.homebrew

I have to interface Philips TEA5757 with any one of microcontroller.
It has three wire bus

1. Clock
2. Read/Write Enable
3. Data

I should send and receive 25 bits data. Please help me to configure
Serial port.

Thank you

Thushi.

thushi@ee.pdn.ac.lk

189. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 06:30:39 UTC
From: John Moriarity <k6qq@hdo.net>
Message-ID: <vgq20tfngtaj59@corp.supernews.com>
Source record: 34305

> 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I
am
> using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!

Check to be sure that you don't have the
electrolytic in backwards!

73, John - K6QQ

190. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 06:39:46 UTC
From: Roger Leone <arleone@inreach.com>
Message-ID: <5T7Pa.312$Yu3.199@news.inreach.com>
Source record: 34306

Tom:

The hot cap has two likely possibilities: either the cap is shorted internally (an ohmeter check will show leakage) or you have bad diode(s) so AC is being applied to the cap. An ohmeter will show the diodes as bad.

Of course a wiring error could also be involved, but I am assuming you have double checked that.

If the cap is running hot you probably don't have the correct voltage for the VFO, and correcting it may solve the other VFO problem.

Roger K6XQ

191. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 12:30:49 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bejm9p$aq8$2@titan.btinternet.com>
Source record: 34307

"TC Dufresne" <tdufresne@neb.rr.com> wrote in message
news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com...
> Hi:
> I am having a problem with a "Simple Receiver for Beginners". It is from a
> design that was featured in an old (1981) ARRL handbook. It is a DC
> receiver, looks like alot of fun, but it isn't fun now.
> Here is the problem.
>
> 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
all,
> or on my Radio Shack freq counter.
> 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I
am
> using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
>
> The VFO is REALLY simple, it has one transistor and about 7 other parts. I
> can't seem to see what is wrong, and I have tried.
>
> I would sure appreciate some Elmer'ing here!
> ANY help would be much appreciated. I have the above mentioned tools at my
> command, a multimeter, and an old Heathkit "scope. (which I really don't
> know how to use.

It's a good idea to build things in stages, testing each stage as you go.

Try disconnecting everything from the power supply and sort that out first.
The capacitor shouldn't get hot.

73, Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

192. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 13:00:25 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <JrdPa.5760$_k2.251848@nnrp1.ptd.net>
Source record: 34308

"TC Dufresne" <tdufresne@neb.rr.com> wrote in message
news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com...
> Hi:
> I am having a problem with a "Simple Receiver for Beginners". It is from a
> design that was featured in an old (1981) ARRL handbook. It is a DC
> receiver, looks like alot of fun, but it isn't fun now.
> Here is the problem.
>
> 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
all,
> or on my Radio Shack freq counter.
> 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I
am
> using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!

Are you using a tantalum capacitor? If they are inserted with the wrong
polarity they will get really hot ... sometime will actually burn.

73,
Carl - wk3c

193. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 13:04:56 UTC
From: "Master of the universe and supreme ruler of all living beings (but only when the wife is out)" <john.smith@micro$oft.com>
Message-ID: <bejo2o$985$1@newstree.wise.edt.ericsson.se>
Source record: 34309
Cross-posted to:
rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

> hi everyone.
>
> what i really want is the ability to broadcast to about a mile or two
> away, or if im really lucky...10 or 20 miles ...
>
> ... microwave seemed good until i head about the costs ...
> ... line-of-sight,

Now this will sound a bit strange, but there are several methods of communicating up to about 1 mile WITHOUT a licence. Radio Amateurs will try to tell you that you HAVE to get a licence to transmit. This is not so (and I am a radio ham!). Some methods below are omni-directional, but remember that most antennas are not omnidirectional. The only omnidirection antenna I know of is an "Isotropic" antenna, and that is entirely fictional, just like the square-root of -1, Father Christmas and DXing via a VHF repeater.

1 - Hammer two copper posts in the ground. Attach a wire to each and connect to them the output of an amplifier. Connect a modem tot he input of the amplifier. You will need to set the modem to "leased line" operation so it doesn't look for a dialling tone. The receiver station, 1 mile away, is two copper posts hammered intot he ground and connected to a small-signal amplifier input. The output of the amplifier is the input of the second modem. You should easily get 1-mile if both have the rods about 10 meters apart.

Disadvantages - It doesn't work too well in the dessert (I have tried it just outside Jeddah on the old Makkah road). It is not too brilliant in well built-up areas since you also pick up a load of mains hum. It may not be a problem for a modem, but it sounds bad on the ears. A filter?

Advantage - it DOES work well underground, if you can fid a place to hammer the electrodes. When experimenting in "Swildens Hole" in the Mendips there was a river following the cave (a stream, actually, but it seemed like a river when 1/2-way up an electronladder and it's pounding down on your helmet) and the electrodes can just be dropped in the water. Most caves just have rock.

2 - Modulated Laser transmitter and photocell receiver in torch / headlamp reflector, but this is quite directional. The laser can be modulated quite rapidly by bouncing it (reflecting) from one of the side electrodes of a Quartz crystal. They are plated with copper and allow you to modulate up to several 10's of MHz. The laser only needs to be a low-power 5mW or so visible-light laser. I used a 2mW to get over 100 feet this way.

When I tried a 25mW laser I had the police round (Grunty Fen, Cambridgeshire, 1988 - G8TGL). They said I had "crossed communication routes", but I was shining the thing on Ely Cathedral clock face (3 miles away), so I suppose I deserved what I got. Incidentally, I used this method to make a 4' square oscilloscope - HiFi driving speaker cones with mirrors mounted on them. Beam projected down garden and reflected by by mirror. HiFi channels driven from Apple IIe computer.

Disadvantage - not exactly omni-directional, or anywhere near it.

3 - Modulated infra-red LEDs. Can be made about as amni-directional as a 2-ele Yagi and you can modulate with a whole radio spectrum, up to about 10MHz. This means that instead of antennas you can transmit using your own private radio spectrum. Great for teaching boyscouts and newbies to hamradio how to operate a transmitter or training morse code. Use ordinary commercial/homebrew receivers and QRP transmitters. You can even add a part of the radio spectrum as background noise by connecting an antenna to wideband amplifier and modulating another IR LED. This method is great since the only radiation is modulated light for which you do NOT need a licence.

Disadvantage - if you shine each LED on the ceiling you can cover a whole church-hall using, sensitive receivers (mine was FRDX400) and each LED transmitter is a bank of LEDs - but it is crap outdoors, since you cannot see IR so you cannot focus or point the beam.

4 - Magnetic induction - If this were in reality "radio" then Mahlon Loomis would have been the father of radio in 1868, NOT the spaghetti-basher Maccaroni in 1904orsomethinglikethat. Basically, if you pass a DC current through a wire, you get a momentary DC current induced in a parallel wire, since the two are coils (transformer principle).

In 1970 (RAF Locking, and Tern Hill) I listened to my HiFi whilst in the bath in an RAF barrack block. The distance from my room to the "ablutions" (millitary talk for bathroom) was about 150 feet. I took a 20-foot length of 10-pair telephone cable and cross-connected the ends so I had a 20-turn coil of wire about 6-foot in diameter. I connected the two ends to the two speaker terminals of my HiFi and the ground to the centre-tap.

The receiver for this was a TV Line-Output transformer ferrite core (they come in 2 halves) stuck (glued) end-to-end with a rod of ordinary MW aerial coil between. In effect I had a 18-inch long ferrite rod; the middle bit thin. I wound about 600 turns of wire on the middle bit and connected that to a transistor amplifier. Voilla! I heard my stereo (now in Mono). Perhaps you can connect this system to modems? Dunno about the range, I had a VERY strong signal, but I never tried to exploit the range above the required 150 feet.

Dissadvantage - In those days ordinary hearing aids used valves and had a magnetic microphone. The corpral on the floor below me was megga pissed-off since he did not like Jethro Tull and "Groovin With Mr Bloe", but he never found out it was me, thank God! Today there are other magnetic thingies around. You may have other problems, but I am sure that the old corpral from Turn Hill is now dead. He was an "old codger" over 30-years ago.

Finally,
5 - Broadband - Get yourself a broadband connection from your local ISP and connect to your home computer. You should know the IP number. You could even try putting all your info on a single hard disk and taking that around with you. But these simple solutions are often not the most impressive when showing-off to visitors.

http://w1.859.telia.com/~u85920178/

Very best regards from Harry -
(Alias - Master of the ... oh, my fingers hurt!)

194. PS - Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 13:14:07 UTC
From: "Master of the universe and supreme ruler of all living beings (but only when the wife is out)" <john.smith@micro$oft.com>
Message-ID: <bejok0$9fs$1@newstree.wise.edt.ericsson.se>
Source record: 34310
Cross-posted to:
rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

```
> > hi everyone.
> >
> > what i really want is the ability to broadcast to about a mile or two
> > away, or if im really lucky...10 or 20 miles ...
>
> Now this will sound a bit strange, but there are several methods of
> communicating up to about 1 mile ...

I forgot something -

1 - Delete "Turn Hill" - insert - "Tern Hill"
2 - Correct all the other spellin errrors
3 - Forgot one last method: - telephone!
```

195. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 14:29:02 UTC
From: EdT <someone@shentel.com>
Message-ID: <vgqtuart8ekl65@corp.supernews.com>
Source record: 34311

Try contacting ARRL for corrections to the article. I built a DC rcvr from about that time frame and it did not work. The ARRL sent corrections to the schematic and there were a lot!!

196. Re: Microcontroller interface to TEA5757 Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 15:27:59 UTC
From: Pieter Hoeben <hoebenNOSPAM@bigfoot.com>
Message-ID: <bltqgv06jh551qdh0ktoqpj798k9nmh2vh@4ax.com>
Source record: 34312
Cross-posted to: sci.electronics.components,sci.electronics,rec.radio.amateur.homebrew

On 9 Jul 2003 23:12:51 -0700, thushi@ee.pdn.ac.lk (thushi) wrote:
>I have to interface Philips TEA5757 with any one of microcontroller.
>It has three wire bus
>I should send and receive 25 bits data. Please help me to configure
>Serial port.
>thushi@ee.pdn.ac.lk

Hi, You must clock it in/out using the digital i/o lines of your
processor (or i/o). |It is easy to build in formware, using any
processor. I think you must first look at what you want to do with
it. I have made many of those things, but not with
exactly this part. Contact me if you want more info,

Regards,

Pieter Hoeben
pieter@hoeben.com

197. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:21:43 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19775c9eaab6156698969b@news.earthlink.net>
Source record: 34313

In article <97f305da.0307082358.ba14faf@posting.google.com>,
n2cqr@clix.pt says...
> fmmck@aol.com (Fred McKenzie) wrote in message
> > Keeping the oscillator running and keying subsequent stages will usually
> > produce a more stable signal. However, it is not unusual for some of the
> > oscillator's signal to leak through and be radiated by the antenna. You can
> > probably imagine a CW tone that gets louder when keyed, but the pitch doesn't
> > change. When such a station is nearby, it is hard to discriminate between the
> > strength of the keyed and unkeyed signal. If you use this approach, you should
> > pay attention to keeping the oscillator from bleeding through. One method
> > might be to key all of the following stages, for example.
>
> I had a rig in which I kept the oscillator running on key up. "VXO 6 watter"
> from "QRP Classics". Great rig. The "backwave" never caused difficulty in
> copying. I got about 5 W out (keydown) and about 15 milliwatts out (keyup!)
> This provided some fun: If a station gave me a good report, I'd ask if they
> could hear the REALLY QRP oscillator on key up. Many could!
> 73 Bill CU2JL
> http://planeta.clix.pt/n2cqr
>
was there any shielding around the VXO or a terminator to keep the
leakage down?

mike c

198. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:23:41 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bek515$ke8@library2.airnews.net>
Source record: 34319

"TC Dufresne" <tdufresne@neb.rr.com> wrote in message
news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com...
> Hi:
> I am having a problem with a "Simple Receiver for Beginners". It is from a
> design that was featured in an old (1981) ARRL handbook. It is a DC
> receiver, looks like alot of fun, but it isn't fun now.
> Here is the problem.
>
> 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
all,
> or on my Radio Shack freq counter.
> 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I
am
> using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!

Electrolytic capacitors are polarized. Probably you reversed the cap and
smoked it.

> The VFO is REALLY simple, it has one transistor and about 7 other parts. I
> can't seem to see what is wrong, and I have tried.
>
> I would sure appreciate some Elmer'ing here!
> ANY help would be much appreciated. I have the above mentioned tools at my
> command, a multimeter, and an old Heathkit "scope. (which I really don't
> know how to use.

Start by looking at the voltage at the electrolytic cap, and see if you in
fact have voltage or not.

> Any chance?
> Thanks in advance,
> Tom
> KCGXX
>
>
>
>

199. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:25:08 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bek516$ke8@library2.airnews.net>
Source record: 34320

"Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
news:JrdPa.5760$_k2.251848@nnrp1.ptd.net...
>
> "TC Dufresne" <tdufresne@neb.rr.com> wrote in message
> news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com...
> > Hi:
> > I am having a problem with a "Simple Receiver for Beginners". It is from
a
> > design that was featured in an old (1981) ARRL handbook. It is a DC
> > receiver, looks like alot of fun, but it isn't fun now.
> > Here is the problem.
> >
> > 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
> all,
> > or on my Radio Shack freq counter.
> > 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I
> am
> > using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
>
> Are you using a tantalum capacitor? If they are inserted with the wrong
> polarity they will get really hot ... sometime will actually burn.

More likely explode, sending HARD ceramic fragments in ALL directions at
HIGH velocity.

200. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:27:08 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19775de0f3b7fe0698969c@news.earthlink.net>
Source record: 34314

In article <Xns93B3E35CECE93donut@216.102.43.227>, none@none.com says...
> "TC Dufresne" <tdufresne@neb.rr.com> wrote in
> news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com:
>
> > Hi:
> > I am having a problem with a "Simple Receiver for Beginners". It is
> > from a design that was featured in an old (1981) ARRL handbook. It is
> > a DC receiver, looks like alot of fun, but it isn't fun now.
> > Here is the problem.
> >
> > 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
> > all, or on my Radio Shack freq counter.
> > 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt.
> > I am using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
> >
> > The VFO is REALLY simple, it has one transistor and about 7 other
> > parts. I can't seem to see what is wrong, and I have tried.
> >
> > I would sure appreciate some Elmer'ing here!
> > ANY help would be much appreciated. I have the above mentioned tools
> > at my command, a multimeter, and an old Heathkit "scope. (which I
> > really don't know how to use.
> >
> > Any chance?
> > Thanks in advance,
> > Tom
> > KC�GXX
> >
> >
> >
> >
> >
>
> Gotta be a short somewhere. Filter caps ain't supposed to get hot, and
> yours is over rated to begin with.

and when you run an electrolytic at a different WVDC than it's rated at,
you can't be sure the capacitance is the same as marked on the can. but
it should still filter and not get hot. you'd think something else would
heat up if there was a short. should draw excessive current. unless it
blew something and is now an open, then the cap shouldn't get hot any
more.
>

201. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:28:13 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19775e29c582510498969d@news.earthlink.net>
Source record: 34315

In article <5T7Pa.312$Yu3.199@news.inreach.com>, arleone@inreach.com
says...
>
> Tom:
>
> The hot cap has two likely possibilities: either the cap is shorted
> internally (an ohmeter check will show leakage) or you have bad diode(s) so
> AC is being applied to the cap. An ohmeter will show the diodes as bad.

a backward diode will supply AC to the cap, also

>
> Of course a wiring error could also be involved, but I am assuming you have
> double checked that.
>
> If the cap is running hot you probably don't have the correct voltage for
> the VFO, and correcting it may solve the other VFO problem.
>
> Roger K6XQ
>
>
>

202. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:31:18 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19775ee187d0d95798969e@news.earthlink.net>
Source record: 34316

In article <vgqtuart8ekl65@corp.supernews.com>, someone@shentel.com
says...
> Try contacting ARRL for corrections to the article. I built a DC rcvr from
> about that time frame and it did not work. The ARRL sent corrections to the
> schematic and there were a lot!!
>
>
>
good idea. he (OP) said 500uF cap. never heard of one. some article!

the disconnect the load and shoot the supply idea is also good. then
check the load (circuit for shorts b4 reconnecting the supply.

203. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:40:27 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3F0D96EE.2000307@invalid.invalid>
Source record: 34317

Active8 wrote:
> In article <5T7Pa.312$Yu3.199@news.inreach.com>, arleone@inreach.com
> says...
>
>>Tom:
>>
>>The hot cap has two likely possibilities: either the cap is shorted
>>internally (an ohmeter check will show leakage) or you have bad diode(s) so
>>AC is being applied to the cap. An ohmeter will show the diodes as bad.
>
>
> a backward diode will supply AC to the cap, also

No, it won't.

It will however supply the wrong polarity of DC, which could indeed
cause these symptoms.

I would think some other semiconductors might be running rather hot too
if that were the case.
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

204. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:42:23 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19776174c39c7b4b98969f@news.earthlink.net>
Source record: 34318

In article <begd7j$c2a$1@hercules.btinternet.com>,
marcus.sleightholm@btinternet.com says...
> Motorola did a number of one chip FM TX ICs, - they are cheap and widely
> available

that must be why i have a hard time finding the MC3361 or maybe it was
the 3362 used in RC aircraft receivers. Motorola sold the Mosaic line
and it's hell trying to find 'em. yeah, i know. they're receivers. but
it's still from the Mosaic line.

what suppliers do you suggest? i used some parts search engines and the
number in stock varies from day to day.

mike

> and produce about 50mW output which can be use to drive something
> like a 2N3866 output stage (I only give that device number as I have one in
> the junk box!)
>
> 73 Marcus M3ChB
>
> "R C" <rpg@hotmail.com> wrote in message
> news:4ef33040.0307081456.36da045@posting.google.com...
> > Hi, I'm looking for a small, 2m FM fixed frequency TX design for a
> > backup telemetry link on a model craft. I've seen designs based on
> > discontinued Motorolla baby-monitor ICs, but simple varactor/tripler
> > designs seem less common. Weight/size are important, and I'd like
> > output around 1-2W. Duty cycle will be fairly low. There is 4.8V or
> > 12V available already; 4.8V is likely to be noisier, as it drives the
> > servos. 12V is prefered.
> >
> > What I was thinking was ~48 Mhz crystal oscillator with varactor, fed
> > into a tripler, then a bandpass, then into an amplifier (RF
> > transistor?)?
> >
> > I've seen a number oscillator designs floating around (handbook and
> > otherwise), but I don't know how to find out what's most appropriate.
> > Any suggestions, designs I've missed, books to read, etc? Something
> > like the Ramsey FM6 (preraid)?
> >
> > Plan B is to find another HTX-200 or similar, pull out the guts, and
> > use that. :) But I'd rather have something I can lay out myself.
> >
> > Thanks,
> > R C

> > KG4MVB
>
>
>

205. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 16:53:19 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.1977640a2d3954d49896a0@news.earthlink.net>
Source record: 34321

In article <3F0CA94D.7020503@hotmail.com>, ve3leg@hotmail.com says...
> Can anyone provide some part #'s for these one chip FM TX & RX IC's? I'm
> interested too.

MC2831A, MC2833, MC13175, MC13176. i got samples of one of 'em a long
time ago, but as i said in another post, motorola sold the Mosaic line
to either Micro-Semi or On Semi. either way, it's hard to pick a chip
for an app without the data sheet. before you ask me to scan and e-mail
them to you, tell me how to get my HP scanjet 3c to run on w2k and XP.
HP doesn't even know how to make work on win9x. the website has software
for 9x, but they fail to mention that you have to install DOS software
first. That doesn't work with NT systems like 2k/XP.

mike c
>
> Marcus Sleightholm wrote:
> > Motorola did a number of one chip FM TX ICs, - they are cheap and widely
> > available and produce about 50mW output which can be use to drive something
> > like a 2N3866 output stage (I only give that device number as I have one in
> > the junk box!)
> >
> > 73 Marcus M3ChB
> >
> > "R C" <rpg@hotmail.com> wrote in message
> > news:4ef33040.0307081456.36da045@posting.google.com...
> >
> >>Hi, I'm looking for a small, 2m FM fixed frequency TX design for a
> >>backup telemetry link on a model craft. I've seen designs based on
> >>discontinued Motorolla baby-monitor ICs, but simple varactor/tripler
> >>designs seem less common. Weight/size are important, and I'd like
> >>output around 1-2W. Duty cycle will be fairly low. There is 4.8V or
> >>12V available already; 4.8V is likely to be noisier, as it drives the
> >>servos. 12V is prefered.
> >>
> >>What I was thinking was ~48 Mhz crystal oscillator with varactor, fed
> >>into a tripler, then a bandpass, then into an amplifier (RF
> >>transistor?)?
> >>
> >>I've seen a number oscillator designs floating around (handbook and
> >>otherwise), but I don't know how to find out what's most appropriate.
> >>Any suggestions, designs I've missed, books to read, etc? Something
> >>like the Ramsey FM6 (preraid)?
> >>
> >>Plan B is to find another HTX-200 or similar, pull out the guts, and
> >>use that. :) But I'd rather have something I can lay out myself.

> >>
> >>Thanks,
> >>R C
> >>KG4MVB
> >
> >
> >
>
>

206. want: EF Johnson two-way radio mic for spare

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 17:04:39 UTC
From: Skipp <skippNOSPAMPLEASE@pilot.ucdavis.edu>
Message-ID: <bek6b7$c1g$2@woodrow.ucdavis.edu>
Source record: 34322
Cross-posted to: rec.radio.amateur.swap,rec.radio.swap,rec.radio.amateur.homebrew

re: Want EF Johnson Two-Way Radio Mic for spare(s)

Hello there,
-
I'm looking for at least one or more spare mics that work on the common EF Johnson two-way radios. We have a 483MHz band, Johnson Radio in service at a local Vol Fire Dept. I donated my last spare mic yesterday... let's just say they are a bit rough on them.
-
The older EF Johnson 8615 and similar type 800/900 trunking radio mics swap right in to this rig. It's uses the now standard modular plug/jack setup. Your old unused trunking radio seems to be a good source of mics for this vintage 483Mhz unit.

If you have a dead or spare radio around with a possible working mic, I'd love to try and beg/buy/swap you out of it. I'll pay a reasonable price for a mic and or trade you for some other mic I might have. I can also trade you for some other item or service I might have to offer.

Thank you for reading this post.
Please take the NOSPAMPLEASE out of my Email header and drop me a reply when you can.

cheers
skipp

skippNOSPAMPLEASE@pilot.ucdavis.edu

Please take the NOSPAMPLEASE of the Email address to contact me.

Please, no spam or unrelated unsolicited Emails.

207. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 17:31:37 UTC
From: Terry Judkins <suptjudnospam@comcast.net>
Message-ID: <ZphPa.23596$OZ2.2600@rwcrnsc54>
Source record: 34323
Cross-posted to:
rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

http://www.oreillynet.com/cs/weblog/view/wlg/448
"Master of the universe and supreme ruler of all living beings (but only
when the wife is out)" <john.smith@micro$oft.com> wrote in message
news:bejo2o$985$1@newstree.wise.edt.ericsson.se...
> > hi everyone.
> >
> > what i really want is the ability to broadcast to about a mile or two
> > away, or if im really lucky...10 or 20 miles ...
> >
> > ... microwave seemed good until i head about the costs ...
> > ... line-of-sight,
>
> Now this will sound a bit strange, but there are several methods of
> communicating up to about 1 mile WITHOUT a licence. Radio Amateurs will
try
> to tell you that you HAVE to get a licence to transmit. This is not so
(and
> I am a radio ham!). Some methods below are omni-directional, but remember
> that most antennas are not omnidirectional. The only omnidirection antenna
I
> know of is an "Isotropic" antenna, and that is entirely fictional, just
like
> the square-root of -1, Father Christmas and DXing via a VHF repeater.
>
> 1 - Hammer two copper posts in the ground. Attach a wire to each and
connect
> to them the output of an amplifier. Connect a modem tot he input of the
> amplifier. You will need to set the modem to "leased line" operation so it
> doesn't look for a dialling tone. The receiver station, 1 mile away, is
two
> copper posts hammered intot he ground and connected to a small-signal
> amplifier input. The output of the amplifier is the input of the second
> modem. You should easily get 1-mile if both have the rods about 10 meters
> apart.
>
> Disadvantages - It doesn't work too well in the dessert (I have tried it
> just outside Jeddah on the old Makkah road). It is not too brilliant in
well
> built-up areas since you also pick up a load of mains hum. It may not be a
> problem for a modem, but it sounds bad on the ears. A filter?
>

> Advantage - it DOES work well underground, if you can fid a place to
hammer
> the electrodes. When experimenting in "Swildens Hole" in the Mendips there
> was a river following the cave (a stream, actually, but it seemed like a
> river when 1/2-way up an electronladder and it's pounding down on your
> helmet) and the electrodes can just be dropped in the water. Most caves
just
> have rock.
>
> 2 - Modulated Laser transmitter and photocell receiver in torch / headlamp
> reflector, but this is quite directional. The laser can be modulated quite
> rapidly by bouncing it (reflecting) from one of the side electrodes of a
> Quartz crystal. They are plated with copper and allow you to modulate up
to
> several 10's of MHz. The laser only needs to be a low-power 5mW or so
> visible-light laser. I used a 2mW to get over 100 feet this way.
>
> When I tried a 25mW laser I had the police round (Grunty Fen,
> Cambridgeshire, 1988 - G8TGL). They said I had "crossed communication
> routes", but I was shining the thing on Ely Cathedral clock face (3 miles
> away), so I suppose I deserved what I got. Incidentally, I used this
method
> to make a 4' square oscilloscope - HiFi driving speaker cones with mirrors
> mounted on them. Beam projected down garden and reflected by by mirror.
HiFi
> channels driven from Apple IIe computer.
>
> Disadvantage - not exactly omni-directional, or anywhere near it.
>
> 3 - Modulated infra-red LEDs. Can be made about as amni-directional as a
> 2-ele Yagi and you can modulate with a whole radio spectrum, up to about
> 10MHz. This means that instead of antennas you can transmit using your own
> private radio spectrum. Great for teaching boyscouts and newbies to
hamradio
> how to operate a transmitter or training morse code. Use ordinary
> commercial/homebrew receivers and QRP transmitters. You can even add a
part
> of the radio spectrum as background noise by connecting an antenna to
> wideband amplifier and modulating another IR LED. This method is great
since
> the only radiation is modulated light for which you do NOT need a licence.
>
> Disadvantage - if you shine each LED on the ceiling you can cover a whole
> church-hall using, sensitive receivers (mine was FRDX400) and each LED
> transmitter is a bank of LEDs - but it is crap outdoors, since you cannot
> see IR so you cannot focus or point the beam.
>
> 4 - Magnetic induction - If this were in reality "radio" then Mahlon
Loomis
> would have been the father of radio in 1868, NOT the spaghetti-basher

> Maccaroni in 1904orsomethinglikethat. Basically, if you pass a DC current
> through a wire, you get a momentary DC current induced in a parallel wire,
> since the two are coils (transformer principle).
>
> In 1970 (RAF Locking, and Tern Hill) I listened to my HiFi whilst in the
> bath in an RAF barrack block. The distance from my room to the "ablutions"
> (millitary talk for bathroom) was about 150 feet. I took a 20-foot length
of
> 10-pair telephone cable and cross-connected the ends so I had a 20-turn
coil
> of wire about 6-foot in diameter. I connected the two ends to the two
> speaker terminals of my HiFi and the ground to the centre-tap.
>
> The receiver for this was a TV Line-Output transformer ferrite core (they
> come in 2 halves) stuck (glued) end-to-end with a rod of ordinary MW
aerial
> coil between. In effect I had a 18-inch long ferrite rod; the middle bit
> thin. I wound about 600 turns of wire on the middle bit and connected that
> to a transistor amplifier. Voilla! I heard my stereo (now in Mono).
Perhaps
> you can connect this system to modems? Dunno about the range, I had a VERY
> strong signal, but I never tried to exploit the range above the required
150
> feet.
>
> Dissadvantage - In those days ordinary hearing aids used valves and had a
> magnetic microphone. The corpral on the floor below me was megga
pissed-off
> since he did not like Jethro Tull and "Groovin With Mr Bloe", but he never
> found out it was me, thank God! Today there are other magnetic thingies
> around. You may have other problems, but I am sure that the old corpral
from
> Turn Hill is now dead. He was an "old codger" over 30-years ago.
>
> Finally,
> 5 - Broadband - Get yourself a broadband connection from your local ISP
and
> connect to your home computer. You should know the IP number. You could
even
> try putting all your info on a single hard disk and taking that around
with
> you. But these simple solutions are often not the most impressive when
> showing-off to visitors.
>
> http://w1.859.telia.com/~u85920178/
>
> Very best regards from Harry -
> (Alias - Master of the ... oh, my fingers hurt!)
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.495 / Virus Database: 294 - Release Date: 6/30/2003

208. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 18:28:10 UTC
From: Active8 <m_remove_colasono@earthlink.net>
Message-ID: <MPG.19777a46bf664efe9896a1@news.earthlink.net>
Source record: 34324

In article <3F0D96EE.2000307@invalid.invalid>, w9wi@invalid.invalid
says...
> Active8 wrote:
> > In article <5T7Pa.312$Yu3.199@news.inreach.com>, arleone@inreach.com
> > says...
> >
> >>Tom:
> >>
> >>The hot cap has two likely possibilities: either the cap is shorted
> >>internally (an ohmeter check will show leakage) or you have bad diode(s) so
> >>AC is being applied to the cap. An ohmeter will show the diodes as bad.
> >
> >
> > a backward diode will supply AC to the cap, also
>
> No, it won't.

oops. right. 1 diode backwards in a full wave (not a bridge) rectifier
would short the xfrmr.
>
> It will however supply the wrong polarity of DC, which could indeed
> cause these symptoms.
>
> I would think some other semiconductors might be running rather hot too
> if that were the case.
>

209. htx-252 compatible mic???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 18:52:57 UTC
From: bball@green.home.org
Message-ID: <slrnbgreil.7vv.bball@green.home.org>
Source record: 34325

- just a quick question:

how hard would it be to wire up a third-party mic to an htx-252?

the htx-252 pinouts are available... AFAIK, no audio is sent to
the 'standard' mic...

oh, and i don't care about DTMF, although i do have a spare
yaesu DTMF on hand...

if anyone has done this i'd appreciate a tip or two!

tia!

210. Problem with. Astron RS-50M Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 18:56:54 UTC
From: TLNixon@mchsi.com
Message-ID: <g0drgv8ohhu7celo0kg5gb8qfceecfqmo3@4ax.com>
Source record: 34326

With the gear hooked to the supply, even with it turned-off, when I turn on the supply, the voltage transient cleans or erases the programming in the radios. It's not the radio, as it does it with 2-3 different ones.

Does anyone have any idea how to solve this problem, or if a faulty component might be causing it?

I've worked on more than few of these supplies, and have never seen this problem before.

I've E-mailed Astron, and did not even reply.
WB0VQP

NoSpamTLNixon@mchsi.com

remove NoSpam to reply.

211. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 19:56:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vgrh7dh73tana9@corp.supernews.com>
Source record: 34327

If you're using a diode bridge like most people do these days, and the diode bridge output terminals (+ and -) are reversed, the filter capacitor would get hot and the receiver wouldn't work.

As others have pointed out, an electrolytic capacitor with reverse voltage applied can catch fire or explode. Be careful when troubleshooting while the capacitor is unhappy. When you do find the problem, it would be a good idea to replace the capacitor.

Roy Lewallen, W7EL

Active8 wrote:
> In article <3F0D96EE.2000307@invalid.invalid>, w9wi@invalid.invalid
> says...
>
>>Active8 wrote:
>>
>>>In article <5T7Pa.312$Yu3.199@news.inreach.com>, arleone@inreach.com
>>>says...
>>>
>>>
>>>>Tom:
>>>>
>>>>The hot cap has two likely possibilities: either the cap is shorted
>>>>internally (an ohmeter check will show leakage) or you have bad diode(s) so
>>>>AC is being applied to the cap. An ohmeter will show the diodes as bad.
>>>
>>>
>>>a backward diode will supply AC to the cap, also
>>
>>No, it won't.
>
>
> oops. right. 1 diode backwards in a full wave (not a bridge) rectifier
> would short the xfrmr.
>
>>It will however supply the wrong polarity of DC, which could indeed
>>cause these symptoms.
>>
>>I would think some other semiconductors might be running rather hot too
>>if that were the case.
>>

212. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 20:40:21 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197799e0ff7d71bb989690@news.earthlink.net>
Source record: 34328

In article <vgrh7dh73tana9@corp.supernews.com>, w7el@eznec.com says...
> If you're using a diode bridge like most people do these days, and the
> diode bridge output terminals (+ and -) are reversed, the filter
> capacitor would get hot and the receiver wouldn't work.
>
> As others have pointed out, an electrolytic capacitor with reverse
> voltage applied can catch fire or explode. Be careful when
> troubleshooting while the capacitor is unhappy. When you do find the
> problem, it would be a good idea to replace the capacitor.

i've had a couple explode, usually from overvoltage from a shorted
series pass reg, i think. nice thing about (some? most?) electrolytics
is that X that's scored into the top so it blows straight up. i'm glad
my face wasn't over top of it, though. even with safety glasses, it's
not something i'd like to experience.

mike c
>
> Roy Lewallen, W7EL
>
> Active8 wrote:
> > In article <3F0D96EE.2000307@invalid.invalid>, w9wi@invalid.invalid
> > says...
> >
> >>Active8 wrote:
> >>
> >>>In article <5T7Pa.312$Yu3.199@news.inreach.com>, arleone@inreach.com
> >>>says...
> >>>
> >>>
> >>>>Tom:
> >>>>
> >>>>The hot cap has two likely possibilities: either the cap is shorted
> >>>>internally (an ohmeter check will show leakage) or you have bad diode(s) so
> >>>>AC is being applied to the cap. An ohmeter will show the diodes as bad.
> >>>
> >>>
> >>>a backward diode will supply AC to the cap, also
> >>
> >>No, it won't.
> >
> >
> > oops. right. 1 diode backwards in a full wave (not a bridge) rectifier
> > would short the xfrmr.
> >

> >>It will however supply the wrong polarity of DC, which could indeed
> >>cause these symptoms.
> >>
> >>I would think some other semiconductors might be running rather hot too
> >>if that were the case.
> >>
>
>

213. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 23:01:36 UTC
From: msix@oldplato.nmia.com
Message-ID: <kfmPa.10055$fa3.371@fe01.atl2.webusenet.com>
Source record: 34330

>> Keeping the oscillator running and keying subsequent stages will usually
>> produce a more stable signal. However, it is not unusual for some of the
>> oscillator's signal to leak
The VFOs in all my old Txs stay on all the time. I use a simple RIT
circuit to move the VFO off freq on receive and key it with either
plus or minus depending on the way the rest of the Tx is keyed.
Works neet...
73 W7ZFB

214. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-10 23:09:24 UTC
From: ricknj101@hotmail.com
Message-ID: <3f0df043.378705062@news.optonline.net>
Source record: 34329

When you have a problem like this, and have done some good work so far (determining that a cap is hot) it's time to stop guessing like all the well meaning guys here are suggesting, and find out what is wrong.

First thing you do is get your voltmeter and set it on a dc scale, and measure the voltage and the polarity of the voltage at the top of the capacitor. If it isn't close to what it is supposed to be, snip off the wire to the load (the vfo) and verify that it is still not right (the vfo could have a short). Then snip out the cap and see if the voltage coming out of the diodes is what it is supposed to be, etc. etc. In other words, use good common sense and troubleshooting techniques - no guessing. There aren't many circuits that are easier to troubleshoot than a power supply.

I recently took a never used tiny little electrolytic out of my capacitor drawer for a project and soldered it across the vcc (+12 volt) line and my voltage went to zero. I went back to the glob of capacitors and tested about 5 more and all were ok, so it can happen.

Rick K2XT

215. Re: Problem with. Astron RS-50M Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 00:50:19 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <fRnPa.31090$H17.9524@sccrnsc02>
Source record: 34331

FIRST, check what you true voltage output (e.g. 12, 13.8, 15 volts) is from the Astron
RS-50M (may be visible on the front panel meters -- but double check with a good VOM or DVM
on the output (with an without load)

The crowbar circuit usually trips somewhere above 15 volts (as I remember)
Follow-up with the schematic and "how an Astron works"

A voltage transient tells me to check:

LM723 for proper operation (common problem)
Filter capacitor
Q2 transistor (for proper operation) driven from the LM723 that in turn drives the
base of the pass transistors
http://www.repeater-builder.com/rbtip/astronindex.html

http://www.seits.org/features/pwrsup.htm

W9GB
--
Do not use Reply
Only reply through the ARRL forwarding service to W9GB

<TLNixon@mchsi.com> wrote in message
news:g0drgv8ohhu7celo0kg5gb8qfceecfqmo3@4ax.com...
> With the gear hooked to the supply, even with it turned-off, when I
> turn on the supply, the voltage transient cleans or erases the
> programming in the radios. It's not the radio, as it does it with 2-3
> different ones.
>
> Does anyone have any idea how to solve this problem, or if a faulty
> component might be causing it?
>
> I've worked on more than few of these supplies, and have never seen
> this problem before.
>
> I've E-mailed Astron, and did not even reply.
> WB0VQP
>
> NoSpamTLNixon@mchsi.com
>
> remove NoSpam to reply.

216. FS: 8877's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 01:56:17 UTC
From: The Tube Man <thetubeman@earthlink.net>
Message-ID: <5PoPa.94708$lo.8143272@newsread2.prod.itd.earthlink.net>
Source record: 34332

FOR SALE

8877 EIMAC PULLS
TESTED
FULL OUTPUT
GUARANTEED
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+ MOST ANY OTHER TUBES YOU MAY NEED

PLEASE EMAIL ME WITH YOUR INQUIRIES

217. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 02:56:56 UTC
From: rpg@hotmail.com
Message-ID: <4ef33040.0307101856.71cb0e8c@posting.google.com>
Source record: 34333

Active8 <m_remove_colasono@earthlink.net> wrote in message
news:<MPG.1977640a2d3954d49896a0@news.earthlink.net>...
> In article <3F0CA94D.7020503@hotmail.com>, ve3leg@hotmail.com says...
> > Can anyone provide some part #'s for these one chip FM TX & RX IC's? I'm
> > interested too.
>
> MC2831A, MC2833, MC13175, MC13176. i got samples of one of 'em a long
> time ago, but as i said in another post, motorola sold the Mosaic line
> to either Micro-Semi or On Semi. either way, it's hard to pick a chip
> for an app without the data sheet. before you ask me to scan and e-mail
> them to you, tell me how to get my HP scanjet 3c to run on w2k and XP.
> HP doesn't even know how to make work on win9x. the website has software
> for 9x, but they fail to mention that you have to install DOS software
> first. That doesn't work with NT systems like 2k/XP.

Well, thanks for the part numbers. It does help since Motorola,
Microsemi and Onsemi all deny knowledge of these chips existence (at
least on their web sites). :) I'll note Ocean state electronics has
datasheets for most of those, and appears to stock some. I've never
dealt with them, but they came up on a google search. :)

I'll keep an eye out for these or similar at the BRATs hamfest later
this month, thanks.

The reason I asked for higher output is that this is to provide a
backup data link to a 1/2 Watt ATV transmitter.. it needs to have more
range than the ATV link, and use a small omni antenna. I know a 2m
TX's bandwidth is smaller, thus more efficient, but I do think I need
more than 50 mW.

R C
KG4MVB

Re: Scanner: Dunno if it helps.. if you have an older box, toss a
linux distro on there; SANE supports the 3c and the network scanning
worked pretty well last time I set it up. It'll take some setup time
(more if you've never used linux), think about it; USB scanners start
in the $50 range..

218. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 03:20:20 UTC
From: TC Dufresne <tdufresne@neb.rr.com>
Message-ID: <U1qPa.197529$Xl.3330252@twister.rdc-kc.rr.com>
Source record: 34334

Everyone:
Thank you all for some great ideas! I will have more time tomorrow and see if I can make 'er go.
This thing looks sooo easy, maybe that is why I am so frustrated with it!!
I DO have schematics at my work, if anyone wants I could post tomorrow night......if it would help.
best wishes
Tom

219. Re: Problem with. Astron RS-50M Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 04:51:42 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F0E427F.4D77B98B@bellatlantic.net>
Source record: 34335

TLNixon@mchsi.com wrote:
>
> With the gear hooked to the supply, even with it turned-off, when I
> turn on the supply, the voltage transient cleans or erases the
> programming in the radios. It's not the radio, as it does it with 2-3
> different ones.
>
> Does anyone have any idea how to solve this problem, or if a faulty
> component might be causing it?
>
> I've worked on more than few of these supplies, and have never seen
> this problem before.
>
> I've E-mailed Astron, and did not even reply.
> WB0VQP
>

First, verify the problem. To do that, connect a switch
between the Astron and the equipment. Turn the supply on,
wait one minute, then turn the switch on. If you still have
the problem, it's not in the supply. If it eliminates the
problem, you could try adding an automotive relay in place
of the switch. Energize the relay from the 13.8 volts -
it will give you roughly 8 milliseconds delay between the
time you switch the Astron on and the time power is available
to the equipment. That doesn't fix the transient problem, but
it does bypass it. Another solution that doesn't fix the
problem (at its source, assuming it is a supply generated
transient) but does bypass it is a transorb diode rated at
15 volts, connected across the supply 13.8 v DC.

If the supply is creating transients causing the problem,
and you want to fix it at the source, you could try bypassing
things to ground with a bunch of .01 caps.

> NoSpamTLNixon@mchsi.com
>
> remove NoSpam to reply.

220. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 05:10:31 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.1978116e1606aa2b989694@news.earthlink.net>
Source record: 34336

> R C
> KG4MVB
>
> Re: Scanner: Dunno if it helps.. if you have an older box, toss a
> linux distro on there; SANE supports the 3c and the network scanning
> worked pretty well last time I set it up. It'll take some setup time
> (more if you've never used linux), think about it; USB scanners start
> in the $50 range..
>
dude, thanks! i have an old 90MHz HP XU that still has a slot for the HP scanjet card. i use it for a Linux file server at home, just 'til i replace it with a better box. i imagine any box would work.

i know scanners are cheap, now but when i bought this big old flatbed, they were $1200 and i've hardly used it. can't just toss it.

mike c.

221. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 05:41:15 UTC
From: "Master of the universe and supreme ruler of all living beings (but only when the wife is out)" <john.smith@micro$oft.com>
Message-ID: <belier$s4q$1@newstree.wise.edt.ericsson.se>
Source record: 34337
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

> What kinda of amp and what are you connecting to the amp ? What kind of
> modem ? I can understand the principle of this but what equipment are we
> talking about? Might seem dumb but had to ask!

Not at all a dumb question, only politicians ald solicitors ask dumb
questions.
HiFi amplifier, perhaps around 50 watts RMS is about right for one or two
miles.
The modem would be an ordinary old-fashioned modem that is connected between
a computer serial port and a telephone line. In days of old, people used to
connect to bulitinboards (BBS) via a modem and anyonecould have a BBS by
just connecting a moden between the telephone line and computer, then
running BBS software. A bit like a packet repeater. Most modems had several
modes, such as "leased line". This facility allowed two modems to have a
permanent and dedicated landline betweent he two, for example a multichannel
(perhaps 960+)telephone MUX link. These lines have just 600 Ohm audio + E&M
signalling. The "modern" 56K PC internal modem may not be suitable, but a
9K6 or 28K external modem (using todays terminology) would be fine. Even a
"Baycom" modem or "Hammcom interface" would work, if the right software were
available to drive it.

> Is there such a thing as a reciver station for bi-directional
communication
> ?! Again i don't understand the term of 'modem' here.

Modem is short for MODulator / dEModulator and it is nothing more than a
data / audio interface for connecting together the serial ports of two
computers. Serial data -to- audio tones -to- serial data. With this you can
connect two computers together in such a manner that communications software
can be used to share services between them, for example:
- slow (modified) LAN connection
- FX (DOS based) file transfer software
- Laplink (Windoze based) file transfer software
That which I first used was written in GW-Basic and took me about 40 minutes
to work out the code. Gave me a "DOS" window tot he distant computer.

Hope that this helps. BR MOTUASROALB (Alias Harry)

222. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 05:47:18 UTC
From: "Master of the universe and supreme ruler of all living beings (but only when the wife is out)" <john.smith@micro$oft.com>
Message-ID: <beliq7$s7m$1@newstree.wise.edt.ericsson.se>
Source record: 34338
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

> PSTN uses a single twisted pair, how can you seperate I/O from these? I'd
> like to give it a go.

Use two split-secondary transformers. In that way you can build a "Hybrid"
to isolate TX from RX. Besides that, when I first experimented with this the
modem I used was a "MyCom" (Jap pirate copy from the ME) that used 300
bauds. The TX and RX FSK tones were different so a little breakthrough was
acceptable.

My experiments using 9K6 and 28K modems only used a "field telephone line"
so the problems were somewhat fewer. I presented the idea, if you want to
try it then you can grab the ball and run with it. I don't intend to do any
more experiments with this, but I and I am sure many others, would be
interested inthe results of your experiments.

BR Harry

223. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 06:00:19 UTC
From: "Master of the universe and supreme ruler of all living beings (but only when the wife is out)" <john.smith@micro$oft.com>
Message-ID: <beljiksjm1@newstree.wise.edt.ericsson.se>
Source record: 34339
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

> >> what i really want is the ability to broadcast to about a mile or two
> >> away, or if im really lucky...10 or 20 miles ...
> >>
> >> ... microwave seemed good until i head about the costs ...
> >> ... line-of-sight,
> >
>
> Mobile phone??

Bravo!

> >Now this will sound a bit strange, but there are several methods of
> >communicating up to about 1 mile WITHOUT a licence. Radio Amateurs will
try
> >to tell you that you HAVE to get a licence to transmit. This is not so
(and
> >I am a radio ham!). Some methods below are omni-directional, but remember
> >that most antennas are not omnidirectional. The only omnidirection
antenna I
> >know of is an "Isotropic" antenna, and that is entirely fictional, just
like
> >the square-root of -1, Father Christmas and DXing via a VHF repeater.
>
>
> An omnidirectional antenna transmits equally in all directions in one
> plane, an isotropic does it in two.

Ok, so this thread has now become a discussion about the meaning of the
prefix "OMNI". So if God is only OMNI-potent and OMNI-present, then in which
planes does she not have influence or presence?

Ok, I know my theory. According to the "official" definition, an
omni-directional radiates or receives equally in all directions in only one
azimuth. An isotropic antenna is a hypothetical antenna that radiates or
receives equally in all directions. Isotropic antennas do not exist in
reality but are meant to represent a convenient reference antenna for
expressing or comparing the directional properties of real-world antennas.
But you know exactly what I meant.

BR H

224. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 06:07:30 UTC
From: "Master of the universe and supreme ruler of all living beings (but only when the wife is out)" <john.smith@micro$oft.com>
Message-ID: <belk02sno1@newstree.wise.edt.ericsson.se>
Source record: 34340
Cross-posted to:
rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

"Terry Judkins" <suptjudnospam@comcast.net> wrote in message
news:ZphPa.23596$OZ2.2600@rwcrnsc54...
> http://www.oreillynet.com/cs/weblog/view/wlg/448
>
> > > copy my complete posting here < < <
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.495 / Virus Database: 294 - Release Date: 6/30/2003

Probably a very valid comment, but I am having a little trouble trying to
understand just what you actually mean. Could you try re-phrasing it,
perhaps by adding a few words? You don't appear to have written any.

BR H

225. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 11:59:50 UTC
From: Terry <suptjudno@comcast.net>
Message-ID: <WExPa.31302$wk6.7894@rwcrnsc52.ops.asp.att.net>
Source record: 34341
Cross-posted to:
rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

```
I only posted a link to a homemade microwave antenna. Here it is
again...http://www.oreillynet.com/cs/weblog/view/wlg/448
"Master of the universe and supreme ruler of all living beings (but only
when the wife is out)" <john.smith@micro$oft.com> wrote in message
news:belk02$sno$1@newstree.wise.edt.ericsson.se...
> "Terry Judkins" <suptjudnospam@comcast.net> wrote in message
> news:ZphPa.23596$OZ2.2600@rwcrnsc54...
> > http://www.oreillynet.com/cs/weblog/view/wlg/448
> >
> > > > copy my complete posting here < < <
> > ---
> > Outgoing mail is certified Virus Free.
> > Checked by AVG anti-virus system (http://www.grisoft.com).
> > Version: 6.0.495 / Virus Database: 294 - Release Date: 6/30/2003
>
>
> Probably a very valid comment, but I am having a little trouble trying to
> understand just what you actually mean. Could you try re-phrasing it,
> perhaps by adding a few words? You don't appear to have written any.
>
> BR H
>
>

---
Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.497 / Virus Database: 296 - Release Date: 7/4/2003
```

226. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 12:21:02 UTC
From: st599@ecs.soton.ac.uk
Message-ID: <8hatgvsi2gn9f2l4pp6usm164bvptq6gk4@4ax.com>
Source record: 34342
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

On Fri, 11 Jul 2003 08:00:19 +0200, "Master of the universe and
supreme ruler of all living beings \(but only when the wife is out\)"
<john.smith@micro$oft.com> wrote:

>> >> what i really want is the ability to broadcast to about a mile or two
>> >> away, or if im really lucky...10 or 20 miles ...
>> >>
>> >> ... microwave seemed good until i head about the costs ...
>> >> ... line-of-sight,
>> >
>>
>> Mobile phone??
>
>Bravo!
>

OK, if you don't like like those ideas about mobile phones,

1) Modify a ï¿½25 pair of PMR transceivers, should do 3km.

or

2) Buy a pair of ISM transceiver IC's, e.g Chipcon, I got about
400m at minimum power (0dBm) cost about ï¿½8, or look into low power
radio solutions 433MHz modules.

Simon

227. Re: ECC82 and ECC83 on E-bay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 15:32:57 UTC
From: la8ak.xnd@online.no
Message-ID: <3f0ed852.9543119@news.online.no>
Source record: 34343
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

On 9 Jul 2003 14:41:06 -0700, servis_za_elektroniku@yahoo.com
(=?ISO-8859-1?Q?Servis_za_elektroniku_=AE?=) wrote:

>5 pcs of ECC83 and
>2 pcs of ECC82
>
>http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3034698205&category=3284&rd=1
>
>http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544344860&category=14947&rd=1

Oh, dear! Rather exotic valves, or shall we say 12AU7 and 12AX7, hi
If they are made by Philips or Valvo, I would agree that they are
better than the average
--
remove ,xnd to reply (Spam precaution!)

228. question about 2SC2509 RF driver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 17:09:41 UTC
From: Joe LeKostaj <joe@falseaddress2003.net>
Message-ID: <joe-D52398.12094111072003@news.covad.net>
Source record: 34344
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Can someone please check something for me on a 2SC2509 transistor if you've got one lying around? This is the RF driver used in the Kenwood TS-120/130 and probably others. I'm repairing one of these PA assemblies and trying to determine if the two transistors I've got are good or not.

Using the diode-check function of a digital multimeter, all the junctions test OK except for one oddity: there's conduction with the + probe on the emitter and the - probe on the collector (and base open-circuit). Can someone tell me if a new, unused part exhibits this?

I would normally consider it a bad sign, except:
- All the other junctions show the normal expected operation.
- DC beta checks OK (around 65) with a Heathkit transistor tester.
- Both parts test exactly the same. (unlikely if they're damaged.)
- Seems I've heard somewhere that this type of transistor with the emitter connected to the mounting tab (as oppposed to the collector) required an extra metallization layer which might account for the emitter to collector conduction described above.

Would appreciate any help with this. Reply either to the newsgroup or to K9LY at arrl dot net

Tnx & 73,
Joe

229. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 18:48:58 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307111048.378f7337@posting.google.com>
Source record: 34345

"Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:<3F0C4579.6120ED41@clifto.com>...
> John R. Strohm wrote:
> > "Clifton T. Sharp Jr." <clifto@clifto.com> wrote...
> > > (<http://uweb.superlink.net/bhtongue/7diodeCv/7diodeCv.html>).
> > >
> > > In other words, the slope of the V/I curve
> > > must change as a function of applied Voltage. The slope must be
> > > steeper (or shallower) at higher voltages and shallower (or steeper)
> > > at lower voltages than at the quiescent operating point.
> > >
> > > I don't see how a changing slope
> > > during forward conduction could do anything other than distort the
> > > demodulated waveform, especially on tiny signals.
> >
> > Think about the V-I curve on an ideal diode. Observe that, if the diode is
> > reverse-biased, no conduction takes place. In principle, you can crank the
> > reverse voltage up as high as you like, and STILL no conduction takes place.
> > (In practice, you run into avalanche and zener breakdown.) If the diode is
> > forward-biased, the diode conducts like crazy. There is a CORNER in the
> > curve, i.e. a change in the slope of the V/I curve, at NOMINALLY V=0V.
> > (Actually, V=0.7V for silicon, V=0.3V for germanium, V=1.7V for red LEDs,
> > about 2.2V for yellow, about 2.4V for green, and so on and so forth...)
>
> I'm not sure I was clear on my question. The only nonlinearity I want in
> my detector diode is the noncontinuous function
>
> | Vin when Vin >= 0.000000 micronanofemtoattovolts
> Vout = |
> | 0 when Vin < 0.000000 micronanofemtoattovolts
>
> ...while the author seems to be saying that the nonlinearity which exists
> just above the barrier voltage is essential to detection. He does say,
>
> "The slope must be steeper (or shallower) at higher voltages and
> shallower (or steeper) at lower voltages than at the quiescent
> operating point."
>
> Given my perfect diode and (let's say) a 0.25V peak signal, I contend
> that my output envelope will be an exact reproduction of the input
> envelope; but (see his graph #2) his required nonlinearity will seriously
> distort the output envelope.
>
> He seems to be saying that without that, you can't demodulate the signal.

> I assert that without that, I demodulated it better than he did.

I think you and the author are saying the same thing. Consider that in your ideal diode case, the quiescent operating point is zero volts. Above that, the slope of your diode is infinte (zero ohms) and below that it's zero (infinite ohms). The author is suggesting that you do NOT need it to be so sharp, and in fact, I find that I can detect RF down to below 100 microvolts or so with a Schottky diode designed for zero-bias detector service, though the output voltage is very tiny down there. If I could buy one of your perfect diodes, 100uV (RMS) of RF would give me around 141uV of output, instead of the sub-microvolt I do get. The low output is the result, of course, of the fact that the diode dynamic resistance at -140uV is only very slightly different from its dynamic resistance at +140uV.

In a real diode, the change in slope is gradual with no sharp corners, but if you could find a diode which looked like, say, 1000 ohms in the reverse direction for all voltages and 1000.1 ohms in the forward direction, it would still work as a detector, albeit a poor one.

Cheers,
Tom

230. Re: Problem with. Astron RS-50M Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 19:09:56 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <ihidnQ1DZvENlpKiRTvUqg@cnmnetwork.com>
Source record: 34346

If the Astron overshoots, you can verify it with an oscilloscope. If indeed it does that, you can modify the circuit to reduce that.

Why are you using a 35 Ampere power supply for such a small load? It would be better to use a lower current rated unit. I use a 20 Ampere unit and have no such problem.

Looking at the diagram, you can put in a capacitor across the reference voltage at the IC to reduce the turn on speed.

On the other hand, it's possible the problem arises due to too slow a turn on of the supply. You can do things to improve that also. Also, the supply may be oscillating. Try connecting a dummy load of, say, a few amperes across the output. An automobile headlamp can work for that.

Best to verify the actual cause with an oscilloscope before starting to make modifications.

73, Bob K6DDX

231. Re: opportunity

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 20:04:40 UTC
From: Duncan Walters <pentode@ntlworld.com>
Message-ID: <wLEPa.16467$4O4.1853946@newsfep2-win.server.ntli.net>
Source record: 34247

Do you have a cure for hiccups?

232. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 20:29:28 UTC
From: Nathan Higgins <nathan@link9.net.no-spam>
Message-ID: <I6FPa.8867$qg.67335218@news-text.cableinet.net>
Source record: 34248
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

st599@ecs.soton.ac.uk wrote:
> 2) Buy a pair of ISM transceiver IC's, e.g Chipcon, I got about
> 400m at minimum power (0dBm) cost about ?8, or look into low power
> radio solutions 433MHz modules.

I asked a question about the decibel a few threads back, how can the power be 0dBm, where 0 is a reference to what power level ?

--
Nathan D Higgins

Website: http://nathan.link9.net/
Email: nathan[at]link9[dot]net
Hosting: http://www.link9.net
WAP: http://wap.link9.net
[dot]NET: nathan[at]link9[dot]net

233. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 20:38:52 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3F0F205C.4000701@mwci-news>
Source record: 34249

Clifton T. Sharp Jr. wrote:
>
> For RF diode detectors to work, one needs a device that has a
> non-linear V/I curve. In other words, the slope of the V/I curve
> must change as a function of applied Voltage. The slope must be
> steeper (or shallower) at higher voltages and shallower (or steeper)
> at lower voltages than at the quiescent operating point.
>

One kind of AM detector is the ideal diode, which is "piecewise linear". That is, a closed-switch for one polarity of the input signal, and an open-circuit for the opposite polarity. For large signals the ordinary diode approximates this ideal diode. For small signals the ordinary diode detector has some defects.

Another kind of AM detector is the square-law device. A real diode that is correctly biased approximates this for small signal levels. In some applications it is preferred. There are tube nd transistor circuits that are accurate square-law detectors. These circuits provide detection plus audio amplification.

A square law detector follows the rule:

i(out) = k [v(in)]^2

If an AM signal at RF frequency Wc and audio frequency Wm is applied:

v(in) = K [1 + m cos(Wm t)] cos(Wc t)

the output current i(out) contains the term cos(Wm t), the baseband modulating frequency. It also contains a second harmonic distortion term cos(2 Wm t), plus other terms that can be filtered out.

If m = 0.30 (30 percent modulation) then the second harmonic distortion is m^2 / 9 = 0.01. This is a percentage distortion

D = [0.01 / 0.3] x 100 = 3.3 percent.

For some applications this method is acceptable, sometimes even preferred. The square-law circuit can also be used as a frequency doubler.

Bill W0IYH

234. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 20:44:22 UTC
From: pgp <pgp@pgp.com>
Message-ID: <BB3499E6.827C%pgp@pgp.com>
Source record: 34250
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

On 7/11/03 4:29 PM, in article
I6FPa.8867$qg.67335218@news-text.cableinet.net, "Nathan Higgins"
<nathan@link9.net.no-spam> wrote:

> st599@ecs.soton.ac.uk wrote:
>> 2) Buy a pair of ISM transceiver IC's, e.g Chipcon, I got about
>> 400m at minimum power (0dBm) cost about ï¿½8, or look into low power
>> radio solutions 433MHz modules.
>
> I asked a question about the decibel a few threads back, how can the power
> be 0dBm, where 0 is a reference to what power level ?
Notice the "m" after "dB". It's a standard unit referenced to 1mW (to which
the "m" refers). 0dBm is simply 1mW.

235. Re: beginner question about broadcasting, and associated issues(long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 20:53:06 UTC
From: Nathan Higgins <nathan@link9.net.no-spam>
Message-ID: <SsFPa.8899$yy.67661917@news-text.cableinet.net>
Source record: 34251
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

pgp wrote:
>> I asked a question about the decibel a few threads back, how can the
>> power be 0dBm, where 0 is a reference to what power level ?

> Notice the "m" after "dB". It's a standard unit referenced to 1mW (to
> which the "m" refers). 0dBm is simply 1mW.

Cheers!

--
Nathan D Higgins

Website: http://nathan.link9.net/
Email: nathan[at]link9[dot]net
Hosting: http://www.link9.net
WAP: http://wap.link9.net
[dot]NET: nathan[at]link9[dot]net

236. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 23:33:51 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3F0F4950.2FE1F875@att.net>
Source record: 34252

TC Dufresne wrote:

> Hi:
> I am having a problem with a "Simple Receiver for Beginners". It is from a
> design that was featured in an old (1981) ARRL handbook. It is a DC
> receiver, looks like alot of fun, but it isn't fun now.
> Here is the problem.
>
> 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at all,
> or on my Radio Shack freq counter.
> 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I am
> using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
>
> The VFO is REALLY simple, it has one transistor and about 7 other parts. I
> can't seem to see what is wrong, and I have tried.
>
> I would sure appreciate some Elmer'ing here!
> ANY help would be much appreciated. I have the above mentioned tools at my
> command, a multimeter, and an old Heathkit "scope. (which I really don't
> know how to use.

If you happened to insert the diodes in the fullwave rectifier reversed, you will have negative voltage at the input of your filter instead of positive voltage, and the input filter cap will conduct, and get hot (in a fullwave rectifier supply). If that happens you hope the filter cap DID short the supply to ground instead of passing the reverse polarized voltage on to other solid state devices! In time this will be rough on your transformer, too.

You might want to recheck all the polarities of the diodes.

Dick

237. Re: question about 2SC2509 RF driver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-11 23:56:43 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <%8IPa.38079$ye4.29209@sccrnsc01>
Source record: 34253
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Joe LeKostaj" <joe@falseaddress2003.net> wrote in message
news:joe-D52398.12094111072003@news.covad.net...
> Can someone please check something for me on a 2SC2509 transistor if
> you've got one lying around? This is the RF driver used in the Kenwood
> TS-120/130 and probably others. I'm repairing one of these PA assemblies
> and trying to determine if the two transistors I've got are good or not.

The 2SC2509 is popular bipolar RF transistor used as a driver transistor for
amatuer transceivers
(Kenwood TS-440) OR as the final transistor for low power (Yaesu FT70) and
CB transceiver usage.
http://www.cbsite.nl/modif/onderdelen/power.htm

13 watt output, 14 dB gain, freq to 30 MHz, 12 volts and
TO-220 package [B,E,C layout]

Helge Granberg's AN779 Application Notes shoudl be helpful (MRF475
referenced close X-Ref)
http://e-www.motorola.com/brdata/PDFDB/RF_AND_IF/Application_Notes/AN779.pdf

w9gb

DO NOT use Reply.
Only reply through ARRL forwarding service to W9GB

>
> Using the diode-check function of a digital multimeter, all the
> junctions test OK except for one oddity: there's conduction with the +
> probe on the emitter and the - probe on the collector (and base
> open-circuit). Can someone tell me if a new, unused part exhibits this?
>
> I would normally consider it a bad sign, except:
> - All the other junctions show the normal expected operation.
> - DC beta checks OK (around 65) with a Heathkit transistor tester.
> - Both parts test exactly the same. (unlikely if they're damaged.)
> - Seems I've heard somewhere that this type of transistor with the
> emitter connected to the mounting tab (as oppposed to the collector)
> required an extra metallization layer which might account for the
> emitter to collector conduction described above.

--
Do not use Reply (spam logger & catcher).
Reply only through ARRL forwarding service to W9GB

238. Re: opportunity

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 00:49:05 UTC
From: "Martin, VK2UMJ" <vk2umj@REMOVEyahoo.com.au>
Message-ID: <benlmb$5dm$1@austar-news.austar.net.au>
Source record: 34254

"Duncan Walters" <pentode@ntlworld.com> wrote in message
news:wLEPa.16467$4O4.1853946@newsfep2-win.server.ntli.net...
> Do you have a cure for hiccups?
>
>
>

I thought he had a stutter........

239. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 02:25:18 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <ikKPa.50710$0v4.3430640@bgtnsc04-news.ops.worldnet.att.net>
Source record: 34255

The only time I have seen caps get hot is when they are in backwards. If there is too much ripple voltage, the cap can get warm. I would double check the wiring. I am not sure what method you used to make the VFO, so everything is up in the air.

Pete

Active8 <m_remove_colasono@earthlink.net> wrote in message news:MPG.19775de0f3b7fe0698969c@news.earthlink.net...
> In article <Xns93B3E35CECE93donut@216.102.43.227>, none@none.com says...
> > "TC Dufresne" <tdufresne@neb.rr.com> wrote in
> > news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com:
> >
> > > Hi:
> > > I am having a problem with a "Simple Receiver for Beginners". It is
> > > from a design that was featured in an old (1981) ARRL handbook. It is
> > > a DC receiver, looks like alot of fun, but it isn't fun now.
> > > Here is the problem.
> > >
> > > 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
> > > all, or on my Radio Shack freq counter.
> > > 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt.
> > > I am using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
> > >
> > > The VFO is REALLY simple, it has one transistor and about 7 other
> > > parts. I can't seem to see what is wrong, and I have tried.
> > >
> > > I would sure appreciate some Elmer'ing here!
> > > ANY help would be much appreciated. I have the above mentioned tools
> > > at my command, a multimeter, and an old Heathkit "scope. (which I
> > > really don't know how to use.
> > >
> > > Any chance?
> > > Thanks in advance,
> > > Tom
> > > KCGXX
> > >
> > >
> > >
> > >
> > >
> >
> > Gotta be a short somewhere. Filter caps ain't supposed to get hot, and
> > yours is over rated to begin with.

>
> and when you run an electrolytic at a different WVDC than it's rated at,
> you can't be sure the capacitance is the same as marked on the can. but
> it should still filter and not get hot. you'd think something else would
> heat up if there was a short. should draw excessive current. unless it
> blew something and is now an open, then the cap shouldn't get hot any
> more.
> >

240. Parts for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 03:19:18 UTC
From: Scrounger <brian@iquest.net>
Message-ID: <W6LPa.96171$Io.8286010@newsread2.prod.itd.earthlink.net>
Source record: 34256
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

```
Junkbox Surplus Parts for Sale as of 07/10/2003
===============================================

NEW ITEMS

I have 200 excess pcs of 5.000 Mhz crystals. These are the miniture
crystals like you see in the latest QRP Quarterly. Tiny round
crystals with two wire leads, I think I've seen these in watches.

20 for $2.50

I have 400 pcs of 102J (1000pf) Shinyei ceramic caps rated at 630
VDC. These are in bags of 200.
$5.50 for 200 including USA shipping.

I have surplus 50K 1 Turn linear taper pots, about 25 each. These
are chassis mount pots with the nut. About the size of a nickle, and
about 1/2 inch deep with a 1/4 inch shaft about 1/2 inch long.
5 for $5.00 including USA shipping.

2.5/5.5mm Coaxial Power Jacks for PCB insertion or Manhattan install
10 for $3.50

285pf Green Square Plastic Cap, PC Board Insertion 10%
100 for $4.00

220pf 5% 63V SMD Caps - Surface Mount size is 0806
50 for $1.00 PLUS you must send a SASE for return.

Odd Items
============
9.8304 Mhz Crystals, 1/4 in tall - 20 for $5.00
27mH inductors with radial leads - 25 for $3.50

Caps - All new, old stock. No pulls.
====================================
All caps now 50/$3 or 100/$5
====================================
8pf NPO Ceramic - Loose
11pf NPO Ceramic - Loose
12pf NPO ceramics on tape
22pf Kemet Ceramic Caps, 200v, 10%
150pf ceramics, 100v, 10%
470pf Ceramics on paper tape, rated 5% (NPO)
560pf Kemet Ceramic Caps, 200v, 10%
1000pf blue mono caps, 10% 100v
```

3300pf Kemet Ceramic Caps, 100v, 10%
.01 uF ceramic caps, 10% 100v brand new by Kyocera
and
.01 uF ceramic caps, 20% 50v, new old stock, not used
50/2.50 100/$4

Voltage Regulators
==========
L7805ACV voltage regulators TO220 case. 10/$5 or 15/$7 100/$30
LM7812 voltage regulators. TO220 case. 5/$4
LM317T Adjust. Positive Voltage Regulator TO220. 10/$5.00 or 15/$8.00
LM78L62ACZ Volt(6.2)regulators, TO92 format 5/$3.00

Transistors - New Parts - No Pulls
==========
TP2222 plastic TO92 NPN (House brand 2N2222)50/$4 100/$7
2N3904's plastic TO92. NPN - 50/$4 100/$7
2N3704's plastic TO92, NPN - 50/$4

Op AMPS
==========
LM386N-1 - Audio Amps 5 for $3.00

LM741CN - Single Op Amp, 8 Pin Dip, 6 for $3.00
http://www.hep.ph.ic.ac.uk/~hallg/Instrumentation/Data/LM741.pdf

Diodes
======
1N4148 - You always need these. 100 for $2.50

Let me know if you're interested. All prices are post paid to the
USA, unless otherwise noted. I will ship to non USA addresses but we
need to discuss the shipping charges first.

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.500 / Virus Database: 298 - Release Date: 2003-07-10

241. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 04:53:23 UTC
From: TC Dufresne <tdufresne@neb.rr.com>
Message-ID: <CINPa.205761$jT4.3907021@twister.rdc-kc.rr.com>
Source record: 34257

Everyone. I fixed the VFO. Its a good news/bad news thing.

Apparently my MPF102, the heart of the VFO, was either shorted out or not working. I removed it and replaced it with another.

Good news..Cool! Now I have a good VFO in my receiver, I can hear it in my trusty DX-398. I adjust the RF coil so its low end (with maximum capacitance on my Hammerland 1-10pF variable capacitor-fully meshed) is around 7.00mHz. When I go to minimum capacitance (no meshed), I hear it only around 7.060mHz. According to specs, I should get a range from 7.00 to 7.2mHz.

Why do I not get more range? As far as I know, all caps are up to spec as called for.
Do I need to add/subtract capacitance somewhere?
Thanks again,
Tom

242. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 06:20:09 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F0FA899.B69D0152@ob-wan.com>
Source record: 34260

Tom Bruhns wrote:
> In a real diode, the change in slope is gradual with no sharp corners,
> but if you could find a diode which looked like, say, 1000 ohms in the
> reverse direction for all voltages and 1000.1 ohms in the forward
> direction, it would still work as a detector, albeit a poor one.

Son, that's called a Selenium rectifier.

Goddam newbies. :)

Rob

243. FS: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 06:59:55 UTC
From: servis_za_elektroniku@yahoo.com
Message-ID: <71725543.0307112259.46ebba66@posting.google.com>
Source record: 34258
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

on E-bay:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544919738&category=14947&rd=1

244. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 08:07:13 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <beofjh$l9l$1@hercules.btinternet.com>
Source record: 34259
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

"Nathan Higgins" <nathan@link9.net.no-spam> wrote in message
news:I6FPa.8867$qg.67335218@news-text.cableinet.net...
> st599@ecs.soton.ac.uk wrote:
> > 2) Buy a pair of ISM transceiver IC's, e.g Chipcon, I got about
> > 400m at minimum power (0dBm) cost about £8, or look into low power
> > radio solutions 433MHz modules.
>
> I asked a question about the decibel a few threads back, how can the power
> be 0dBm, where 0 is a reference to what power level ?

Decibels are a logarithmic unit.
Any number raised to the power zero is 1

therefore the log of 1 is zero.
decibels are tenths of a Bel
a Bel is the log to the base ten of a power ratio

in the case of dBm the reference power is taken to be 1 mW one milliwatt.

Therefore the ratio of any measured power to 1 mW is the thing that we want.
You have 1 mW of power so the ratio is 1mW/ the reference power 1 mW = 1

the log of 1 is 0
ten times the log of 1 is also 0
therefore 1mW = 0 dBm (the ratio to the reference power is 1)

that is: the power in which you are interested is equal to the reference
power of 1 milliwatt.

I hope that confuses you, :)

73
Gary7SLL

245. Re: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 11:05:20 UTC
From: Ronald <ln.maps.emoh@tip.r>
Message-ID: <beopvvajg1@news2.tilbu1.nb.home.nl>
Source record: 34261
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

"Servis za elektroniku &#65533;" <servis_za_elektroniku@yahoo.com> schreef in
bericht news:71725543.0307112259.46ebba66@posting.google.com...
> on E-bay:
>
>
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544919738&category=14947
&rd=1

```
Quote from eBay :
Made in Germany, original box, never open, NOS, NIB. Diamond <> sign on
bottom.

How do you know for shure ??
Lots of Tele's out there without <> .........
```

246. Re: Astron RS-50M Power Supply - troubleshooting

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 14:32:40 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <c_UPa.42046$GL4.10683@rwcrnsc53>
Source record: 34262

<TLNixon@mchsi.com> wrote in message
news:g0drgv8ohhu7celo0kg5gb8qfceecfqmo3@4ax.com...
> With the gear hooked to the supply, even with it turned-off, when I
> turn on the supply, the voltage transient cleans or erases the
> programming in the radios. It's not the radio, as it does it with 2-3
> different ones.
>
> Does anyone have any idea how to solve this problem, or if a faulty
> component might be causing it?

Theory of LM723 operation (courtesy David Metz):
[An Astron schematic, when reading, is helpful]

The LM723 is a twenty some year old IC designed to be a universal voltage
regulator.
Being cheap and well understood it found in most of our bench supplies and
is the core of the popular Astron series.

Any bench supply consists of a transformer with a secondary of about 18
volts AC,
a rectifier block and a filter capacitor. With no load, the DC voltage
across the terminals
of the filter are going to be 18 to 30 volts.

Under load the voltage will sag due to the impedance of the secondary of
the power transformer. If it sags too far, the supply will loose regulation
and it will pass 120 Hertz ripple (hum) to whatever you are powering with
it.

Since the voltage across the filter capacitor can vary wildly as the load
changes
we need a method of regulating the voltage. The work of regulation is done
by
the pass transistors (Q2 to Q5). They in turn are controlled by the 723
regulator.

Lets look at the 723 in a little more detail now. Note that it has its own
filter power
supply made up from diodes D1-D4 and filter capacitor C2.

The 723 has its own internal highly regulated voltage reference supply (pin
6).
Internally the 723 compares this reference voltage to the output of the
power supply.

Voltage adjustment pot RV1 sets the "ratio" of the reference voltage to the
output of the supply.

This sets the output voltage from the supply.

The output of the 723 is pin 10. This voltage drives the base of Q1. Q1 acts as a simple amplifier to increase the current available to drive the current hungry bases of the pass transistors.

As the load increases on our power supply, the voltage from the wiper of RV1 drops as well.
When this occurs the 723 increases the voltage from pin 10 driving the pass transistors harder through Q1.
The more base current through the pass transistors, the higher the output voltage.

Thus we have regulation, the 723 continuously changing its output voltage to meet the minute changes in load on the
supply. Remember, the 723 does the thinking, the pass transistors do the work!

THE PASSING LANE
Let's look a bit at what the pass transistors do. The key thing here is current carrying capacity and heat dissipation.
In our example, lets say your power supply uses the common 2N3055 NPN power transistor.

This transistor can pass up to 15 amps of collector current. Note that it is not wise to
run any device at its maximum rating. Thus for a 25 amp power supply you would want to have more than
two 2N3055's in parallel. For the last supply I built, I used four.

If you used higher current rated transistors, you could get by with less of them.
If you simply placed the multiple pass transistors in parallel,
slight differences in gain between them would cause unbalanced current flow.

The highest gain transistors would hog most of the current flow and most likely fail.
To balance the current small value resistors called "Emitter Ballast Resistors" are
added in series with the emitter lead of each transistor.
These can be between .01 to .1 ohms and should be of at least a five watt dissipation.

247. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 15:36:28 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bep9ts$f50$1@titan.btinternet.com>
Source record: 34263

"TC Dufresne" <tdufresne@neb.rr.com> wrote in message
news:ClNPa.205761$jT4.3907021@twister.rdc-kc.rr.com...
> Everyone. I fixed the VFO. Its a good news/bad news thing.
>
> Apparently my MPF102, the heart of the VFO, was either shorted out or not
> working. I removed it and replaced it with another.
>
> Good news..Cool! Now I have a good VFO in my receiver, I can hear it in my
> trusty DX-398. I adjust the RF coil so its low end (with maximum
capacitance
> on my Hammerland 1-10pF variable capacitor-fully meshed) is around
7.00mHz.
> When I go to minimum capacitance (no meshed), I hear it only around
> 7.060mHz. According to specs, I should get a range from 7.00 to 7.2mHz.
>
> Why do I not get more range? As far as I know, all caps are up to spec as
> called for.
> Do I need to add/subtract capacitance somewhere?

Tolerances.

Try removing a turn from the coil (if it is one you wound) and/or adding
some capacitance.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

248. FS: Nice Radio Books w/pics, RSGB, ORR Handbooks, '46 '41 '68 '70 '72

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 15:45:39 UTC
From: rlucch2098@aol.com
Message-ID: <20030712114539.28146.00000221@mb-m06.aol.com>
Source record: 34264

Hi All;
I got some great books for sale at reasonable prices.
If Prices seem High, remember, shipping for these heavy books is included. Or
Offers?
1)- Radio Handbook 10th ed., 1946, 704 pages, good condition, no loose pages.
Price is $22.00ppd!
http://www.myradioroom.com/radiohandbook1946-1.jpg
http://www.myradioroom.com/radiohandbook1946-2.jpg
2)- Radio Handbook, Bill Orr, 18th. ed.,889 pages, 1970, $22.00ppd
http://www.myradioroom.com/radiohandbook1970.jpg
3)- Radio Handbook, Bill Orr, 19th. ed.,974 pages, 1972, $22.00ppd
http://www.myradioroom.com/radiohandbook1972.jpg
4)- Radio Communications Handbook, RSGB, 4th. Ed., 1968, $23.00ppd
http://www.myradioroom.com/rsgbhandbook1968-1.jpg
http://www.myradioroom.com/rsgbhandbook1968-2.jpg
5)- Radio Engineering Handbook, Henny, 3rd. ed., McGraw-Hill, 1941
945 pages, No Loose pages, Nice for its age. $25.00ppd
http://www.myradioroom.com/radioengineering1941-1.jpg
http://www.myradioroom.com/radioengineering1941-2.jpg
Tnx & 73...Rich WA2RQY

249. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 18:45:42 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <beplcf$im6@library2.airnews.net>
Source record: 34265

"TC Dufresne" <tdufresne@neb.rr.com> wrote in message
news:ClNPa.205761$jT4.3907021@twister.rdc-kc.rr.com...
> Everyone. I fixed the VFO. Its a good news/bad news thing.
>
> Apparently my MPF102, the heart of the VFO, was either shorted out or not
> working. I removed it and replaced it with another.
>
> Good news..Cool! Now I have a good VFO in my receiver, I can hear it in my
> trusty DX-398. I adjust the RF coil so its low end (with maximum
capacitance
> on my Hammerland 1-10pF variable capacitor-fully meshed) is around
7.00mHz.
> When I go to minimum capacitance (no meshed), I hear it only around
> 7.060mHz. According to specs, I should get a range from 7.00 to 7.2mHz.
>
> Why do I not get more range? As far as I know, all caps are up to spec as
> called for.
> Do I need to add/subtract capacitance somewhere?

How much did you allow for stray circuit capacitance?

250. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 18:58:58 UTC
From: Gary Peach <garypeach@btinternet.com>
Message-ID: <beplpiqad1@hercules.btinternet.com>
Source record: 34266
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

"RVMJ" <me@privacy.net> wrote in message
news:vbpvgvk81rav8j3de0ukjh9pfgg7ug89v9@4ax.com...
> Gary Peach wrote:
>
> >decibels are tenths of a Bel
>
> 'Radio Ham' and sock puppets to note......

Is a desiccate a tenth of a cat?

Gary7SLL

251. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 19:03:30 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F105B82.3DA5F6B1@clifto.com>
Source record: 34267

TC Dufresne wrote:
> Good news..Cool! Now I have a good VFO in my receiver, I can hear it in my
> trusty DX-398. I adjust the RF coil so its low end (with maximum capacitance
> on my Hammerland 1-10pF variable capacitor-fully meshed) is around 7.00mHz.
> When I go to minimum capacitance (no meshed), I hear it only around
> 7.060mHz. According to specs, I should get a range from 7.00 to 7.2mHz.

You've probably got more parasitic capacitance in the circuit than that
10 pF represents. That means your capacitance range is more like 41-50
pF (figure picked out of the air) than 1-10 pF. Did the article suggest
any special construction techniques to minimize this?

--
The function of an asshole is to emit quantities of crap. Spammers do
a very good job of that. However, I do object to my inbox being a
spammer's toilet bowl. -- Walter Dnes

252. Re: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 19:10:25 UTC
From: Choky <choky*remove*@eunet.yu>
Message-ID: <beprbb$6ro$3@news.eunet.yu>
Source record: 34269
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

Ron,"Servis za elektroniku" (hehe) is one good and knowledgeable guy.
lay off a little,let him bread;
if he sez tht diamond is below,be sure that is-he always have enough boxes
from same lot-opening few of them tell ya everything about lot.

--
Choky
Prodanovic Aleksandar
YU

ps.even if I'm on his side (;)) I can say few words for massive xpost!

"Ronald" <ln.maps.emoh@tip.r> wrote in message
news:beopvvajg1@news2.tilbu1.nb.home.nl...
> "Servis za elektroniku " <servis_za_elektroniku@yahoo.com> schreef in
> bericht news:71725543.0307112259.46ebba66@posting.google.com...
> > on E-bay:
> >
> >
>
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544919738&category=14947
> &rd=1
>
> Quote from eBay :
> Made in Germany, original box, never open, NOS, NIB. Diamond <> sign on
> bottom.
>
> How do you know for shure ??
> Lots of Tele's out there without <> .....
>
>

253. Re: beginner question about broadcasting, and associated issues (long range wireless-networking)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 20:09:24 UTC
From: Jim Menning <jmenning@new.rr.com>
Message-ID: <UVZPa.207892$XI.3475659@twister.rdc-kc.rr.com>
Source record: 34268
Cross-posted to: uk.radio.amateur,rec.radio.amateur,alt.comp.hardware.pc-homebuilt,rec.radio.amateur.homebrew,rec.antiques.radio+phono,alt.radio.pirate

"Gary Peach" <garypeach@btinternet.com> wrote in message
news:beplpiqad1@hercules.btinternet.com...
>
>
> Is a desiccate a tenth of a cat?
>
> Gary7SLL
>
>
No, but a desiccated cat would be about 1/10th of a normal cat.

jim menning

254. Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 20:43:07 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <Kh_Pa.11679$ru2.1257416@news20.bellglobal.com>
Source record: 34270

I've been tinkering with an add-on project for a RS DX-394 receiver based on Stirling Olberg's (W1SNN) "Reciprocating Detector" design(s) published in Ham Radio in 1972 to 1978. Has anybody had any experience with this design. Is it fundamentally any different from a synchronous detector such as the NE602 design by OH2GF in the current ARRL Handbook?

Tom

255. Re: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 21:00:14 UTC
From: Tim Williams <tmoranwms@charter.net>
Message-ID: <vh0tnlb5u75ta3@corp.supernews.com>
Source record: 34271
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

"Ronald" <ln.maps.emoh@tip.r> wrote in message
news:beopvvajg1@news2.tilbu1.nb.home.nl...
> How do you know for shure ??
> Lots of Tele's out there without <> ....

No no no, it's the diamond, for we all know which without it sounds like
horse manure in the heat of July...

Tim

--
In the immortal words of Ned Flanders: "No foot longs!"
Website @ http://webpages.charter.net/dawill/tmoranwms

256. Re: Parts for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 21:46:25 UTC
From: The2x4 <the2x4@bellsouth.net>
Message-ID: <MV_Pa.742$R8.275@fe04.atl2.webusenet.com>
Source record: 34272
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Your prices seem to be current. I use some of the items you list.
Still I buy mine from those that I know have recent products...fresh supply.
You might lower your prices and sell more. Like the 7812 5/$4 7805 10/$5
These should be cheaper for surplus stuff.

The2x4
"Scrounger" <brian@iquest.net> wrote in message
news:W6LPa.96171$Io.8286010@newsread2.prod.itd.earthlink.net...
> Junkbox Surplus Parts for Sale as of 07/10/2003
> ==
>
> NEW ITEMS
>
> I have 200 excess pcs of 5.000 Mhz crystals. These are the miniture
> crystals like you see in the latest QRP Quarterly. Tiny round
> crystals with two wire leads, I think I've seen these in watches.
>
> 20 for $2.50
>
> I have 400 pcs of 102J (1000pf) Shinyei ceramic caps rated at 630
> VDC. These are in bags of 200.
> $5.50 for 200 including USA shipping.
>
> I have surplus 50K 1 Turn linear taper pots, about 25 each. These
> are chassis mount pots with the nut. About the size of a nickle, and
> about 1/2 inch deep with a 1/4 inch shaft about 1/2 inch long.
> 5 for $5.00 including USA shipping.
>
> 2.5/5.5mm Coaxial Power Jacks for PCB insertion or Manhattan install
> 10 for $3.50
>
> 285pf Green Square Plastic Cap, PC Board Insertion 10%
> 100 for $4.00
>
> 220pf 5% 63V SMD Caps - Surface Mount size is 0806
> 50 for $1.00 PLUS you must send a SASE for return.
>
>
> Odd Items
> ============
> 9.8304 Mhz Crystals, 1/4 in tall - 20 for $5.00
> 27mH inductors with radial leads - 25 for $3.50
>

> Caps - All new, old stock. No pulls.
> ====================================
> All caps now 50/$3 or 100/$5
> ====================================
> 8pf NPO Ceramic - Loose
> 11pf NPO Ceramic - Loose
> 12pf NPO ceramics on tape
> 22pf Kemet Ceramic Caps, 200v, 10%
> 150pf ceramics, 100v, 10%
> 470pf Ceramics on paper tape, rated 5% (NPO)
> 560pf Kemet Ceramic Caps, 200v, 10%
> 1000pf blue mono caps, 10% 100v
> 3300pf Kemet Ceramic Caps, 100v, 10%
> .01 uF ceramic caps, 10% 100v brand new by Kyocera
> and
> .01 uF ceramic caps, 20% 50v, new old stock, not used
> 50/2.50 100/$4
>
> Voltage Regulators
> ==================
> L7805ACV voltage regulators TO220 case. 10/$5 or 15/$7 100/$30
> LM7812 voltage regulators. TO220 case. 5/$4
> LM317T Adjust. Positive Voltage Regulator TO220. 10/$5.00 or 15/$8.00
> LM78L62ACZ Volt(6.2)regulators, TO92 format 5/$3.00
>
> Transistors - New Parts - No Pulls
> ===========
> TP2222 plastic TO92 NPN (House brand 2N2222)50/$4 100/$7
> 2N3904's plastic TO92. NPN - 50/$4 100/$7
> 2N3704's plastic TO92, NPN - 50/$4
>
> Op AMPS
> ====================
> LM386N-1 - Audio Amps 5 for $3.00
>
> LM741CN - Single Op Amp, 8 Pin Dip, 6 for $3.00
> http://www.hep.ph.ic.ac.uk/~hallg/Instrumentation/Data/LM741.pdf
>
> Diodes
> ======
> 1N4148 - You always need these. 100 for $2.50
>
>
> Let me know if you're interested. All prices are post paid to the
> USA, unless otherwise noted. I will ship to non USA addresses but we
> need to discuss the shipping charges first.
>
>
>
>

> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.500 / Virus Database: 298 - Release Date: 2003-07-10
>
>

257. Re: DDS/PLL Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 22:14:28 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F108844.7040601@bellsouth.net>
Source record: 34273

JLB wrote:
> Typically the DDS is used as the reference oscillator for the PLL, resulting
> in the VCO being at a multiple of the DDS output frequency. The idea being
> that the VCO output will have decent phase noise performance with the fine
> frequency resolution of the DDS, and resaonably fast stepping times---"the
> best of both worlds", you might say.
>
> I discovered an interesting alternative at :
> http://lea.hamradio.si/~s57nan/ham_radio/dds_9851/dds_9851.html
>
>
>
> This idea has the DDS acting as a programmable divider inside the PLL
> feedback loop. Ok, what are the advantages or disadvantages of doing this?
> What does it do to the phase noise and lock-up time? And what about the
> spurs?
>
>
>
> Jim
>
> N8EE
>

There are several ways to combine the dds and pll.
If you do it this way, by using the dds as the divider in a pll circuit
your dds must accept the clock rate of the pll output frequency. DDS
circuits that operate at clock rates as high as 400mhz are now common.
The software to calculate the divisor constant for the dds given the
desired pll output frequency might involve floating point math, I briefly
looked at it and didn't see a clear way to do it with integers using an
8051.

Another circuit uses the dds to provide the reference (R) for the phase
comparater of the PLL and setting the output frequency is now a matter of
selecting the PLL divisor ratio and the reference frequency. The DDS
provides
the fine tuning, and the PLL the course adjustment. I worked up a
design where
the reference for the PLL was nominally around 100khz (actually 64 or 128khz
so it would be an even power of two). Then the software was an integer math
problem, though it did require either integer multiplication or
division. I was
able to invert the problem so only integer multiplication was required, and
a table driven routine will work fine on the 8051. In fact, I was able

to insert the
IF offset into the tables, and all the routines are in binary, NOT BCD.
A binary
to bcd conversion is required to display the frequency, and bcd to binary is
needed for keypad entry, but the rotary shaft encoder could drive in binary.

If anyone has build a radio using a dds/pll vfo, I'd like to know how
they handled
the user interface in software, which micros they used and how they
handled the
math to calculate the divisor constants.

258. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-12 22:17:35 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <beq1dv$f35$1@freenet9.carleton.ca>
Source record: 34274

"Tom Holden" (holden_family@sympatico.ca) writes:
> I've been tinkering with an add-on project for a RS DX-394 receiver based on
> Stirling Olberg's (W1SNN) "Reciprocating Detector" design(s) published in
> Ham Radio in 1972 to 1978. Has anybody had any experience with this design.
> Is it fundamentally any different from a synchronous detector such as the
> NE602 design by OH2GF in the current ARRL Handbook?
>
> Tom
>
>
I've read those articles, and specifically reread them last year, and
for the life of me I really not sure how it's supposed to work. The way
he explains it, it sure seems like there is some specific little bit that
is happening in there. If I'm remembering, he claims it works for FM
too, and I don't see how it could demodulate FM if it was just a synchronous
detector.

He references some professional article or paper as the source of
scheme, and one would hope if someone could get ahold of that, what
is going on might be clearer.

When I did some searches on the internet last year, I sure didn't find
anything more about it. A handful of Usenet posts, none of which added
to the scheme or even an understanding of it.

Michael VE2BVW

259. 2 news items

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 00:02:21 UTC
From: Alfred Lorona <w6wqc@dslextreme.com>
Message-ID: <beq7j1$8016k$1@ID-49117.news.uni-berlin.de>
Source record: 34275

Fred, two recent news items:

1. A guy went into a liquor store to hold it up. After the proprietor gave him all the money in the cash register, the guy wanted a bottle of liquor off the shelf. The proprietor told him: "You look too young. I need some ID."

The guy pulled out his driver license and showed him he was of age.

Guess who was waiting for him at his house when he arrived?!

2. A guy ripped off some clothes items in a department store by cutting off the anti-theft sensors. He didn't know what the hell to do with them so he stuffed them in his pocket.

Store security nabbed his ass when he walked out the door!

260. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 00:02:49 UTC
From: "M.S. Bob" <msbob@hotmail.com-edy>
Message-ID: <c681hv461stgiu4oh65of9gujab1gered4@4ax.com>
Source record: 34276

On 04 Jul 2003 08:19:50 -0700, Harry George <hgg9140@seanet.com>
wrote:

>> Don't forget to look on e-bay for some items. I have bought large ammounts
>> of components for a few dollars.
>
>What category is used for components? I see Radio Equipment, and
>specific big ticket items.

All Categories > Business & Industrial > Electronic Components
http://listings.ebay.com/pool1/plistings/list/all/category4659/

note the sub-categories on left (semiconductors, passives, wire, ...)

And for the international readers:
Canada:
http://listings.ebay.ca/pool1/plistings/list/all/category4659/
UK:
http://listings.ebay.co.uk/pool1/plistings/list/all/category40000/
...

261. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 00:17:51 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197a6fcfc0f2d6f98969d@news.earthlink.net>
Source record: 34277

In article <ikKPa.50710$0v4.3430640@bgtnsc04-news.ops.worldnet.att.net>,
n.gianakopoulos@worldnet.att.net says...
> The only time I have seen caps get hot is when they are in backwards. If
> there is too much ripple voltage, the cap can get warm. I would double
> check the wiring. I am not sure what method you used to make the VFO, so
> everything is up in the air.
>
> Pete

please reply to the person you are answering. it makes the discussion
easier to follow and in this case, had you done so, i wouldn't have
checked your reply to see if you had something to say to me.

mike

262. Re: 8877's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 00:21:50 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <yC1Qa.44274$GL4.12055@rwcrnsc53>
Source record: 34278

"The Tube Man" <thetubeman@earthlink.net> wrote in message
news:5PoPa.94708$Io.8143272@newsread2.prod.itd.earthlink.net...
> FOR SALE
>
> 8877 EIMAC PULLS
> TESTED
> FULL OUTPUT
> GUARANTEED
> $340+SHIPPING
>
> + MOST ANY OTHER TUBES YOU MAY NEED
>
> PLEASE EMAIL ME WITH YOUR INQUIRIES

.... and here is a nice 6 meter 1 kW design for
that DXpedition using the Eimac 8877 !

http://www.gare.co.uk/amplifier/

w9gb
--
DO NOT use Reply.
Only reply through ARRL forwarding service to W9GB

263. MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 00:51:14 UTC
From: Joel <joel@cyberbest.com>
Message-ID: <s22Qa.3601$rw1.1279157357@twister2.starband.net>
Source record: 34279

I'm looking for a source to buy MMIC's. Mostly looking for MAR-1's and MAR-3's..

Digikey and Mouser don't seem to carry them. Any ideas?

Joel - AG4QC

264. Superheterodyne AM to SW conversion info

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 01:19:20 UTC
From: Liam Ness <working@the.factory>
Message-ID: <sfc1hvo5c287qlib9jam8s85k3pm1pf5mr@4ax.com>
Source record: 34280

I was wondering if anyone has an info about converting an AM radio to a SW one without down converting the signal? I have a defunct old valve superheterodyne SW reciever and an old transister AM/FM superheterodyne. Is it possible to replace the AM radio's tuning variable capacitors with the SW ones and get SW, or is it more involved than that? Any info will be greatly apppreciated.

Liam Ness

265. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 01:27:37 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197a7f8317bcaf6098969f@news.earthlink.net>
Source record: 34281

In article <ikKPa.50710$0v4.3430640@bgtnsc04-news.ops.worldnet.att.net>,
n.gianakopoulos@worldnet.att.net says...
> The only time I have seen caps get hot is when they are in backwards. If
> there is too much ripple voltage, the cap can get warm. I would double
> check the wiring. I am not sure what method you used to make the VFO, so
> everything is up in the air.
>
please reply to the person you are answering. it makes the discussion
easier to follow.

mike

266. OT (sort of) GPS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 01:30:13 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197a80277c097ada9896a0@news.earthlink.net>
Source record: 34282

Hi:

tried this in the magellan gps group and got nada. so here goes.

i have a Magellan MAP 10 which is discontinued. The PC data / power
cable is only used with one other unit which is also discontinued.

can anyone supply the info needed to roll my own cable?

thanks in advance.
mike c

267. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 01:33:09 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <Ix2Qa.22522$Tx.1192561@news20.bellglobal.com>
Source record: 34283

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:beq1dv$f35$1@freenet9.carleton.ca...
> "Tom Holden" (holden_family@sympatico.ca) writes:
> > I've been tinkering with an add-on project for a RS DX-394 receiver
based on
> > Stirling Olberg's (W1SNN) "Reciprocating Detector" design(s) published
in
> > Ham Radio in 1972 to 1978. Has anybody had any experience with this
design.
> > Is it fundamentally any different from a synchronous detector such as
the
> > NE602 design by OH2GF in the current ARRL Handbook?
> >
> > Tom
> >
> >
> I've read those articles, and specifically reread them last year, and
> for the life of me I really not sure how it's supposed to work. The way
> he explains it, it sure seems like there is some specific little bit that
> is happening in there. If I'm remembering, he claims it works for FM
> too, and I don't see how it could demodulate FM if it was just a
synchronous
> detector.

I got started on this from a schematic sent to me by a Czech ham/swl who
also has a DX-394. He derived his schematic from a translation of one or
more of the articles. I'm not sure he understands it because he can't
explain well in English and my is Czech non-existent.

The design uses discrete transistors, not many parts and is cheap. I have a
breadboard version working, after a fashion. It does lock when within 200 Hz
or so and sounds pretty good. I was initially puzzled by an apparent null or
minimum audio in the centre of lock on DSB signals. It is fundamentally a
product detector with a synchronised BFO, so the difference products of the
two sidebands are anti-phase. I would assume that all synchronous demods use
product detectors and would behave similarly in that regard. It definitely
does better than the DX-394's envelope detector on DSB with selective fading
and fades out very gracefully and cleanly on weak signals, although lock may
be lost before signal is completely unreadable. At the moment my LO is very
unstable with temperature.

> He references some professional article or paper as the source of
> scheme, and one would hope if someone could get ahold of that, what
> is going on might be clearer.

I found most of Olberg's HR articles at the Metro Toronto Reference Library but did not look for the IEEE Comm paper by Badessa, who I think was a colleague. I don't know if synchronous detectors were in vogue in 1971 and were known as such. Did Badessa and Olberg coin the name "Reciprocating Detector" because it was truly pioneeering work uninfluenced by the name that eventually dominated or were they trying to get a patent by tinkering with the fundamentals and giving it a different name. The only obvious thing I can see that may be different is the 500 hz filter between the local oscillator and the product detector (that's the part I haven't got working yet - a straight wire is the minimum requirement).

> When I did some searches on the internet last year, I sure didn't find
> anything more about it. A handful of Usenet posts, none of which added
> to the scheme or even an understanding of it.

Hence my posting. HR accepted 4 or 5 articles on the RD or receivers using the RD by Olberg and there appears to have been considerable response. I daresay that, if this Usenet group had been around then, there would have been some hot and heavy debates about the Reciprocating Detector!

>
> Michael VE2BVW
>

268. Re: Superheterodyne AM to SW conversion info

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 01:56:43 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <v%2Qa.44695$GL4.12126@rwcrnsc53>
Source record: 34284

"Liam Ness" <working@the.factory> wrote in message
news:sfc1hvo5c287qlib9jam8s85k3pm1pf5mr@4ax.com...
> I was wondering if anyone has an info about converting an AM radio to
> a SW one without down converting the signal? I have a defunct old
> valve superheterodyne SW reciever and an old transister AM/FM
> superheterodyne. Is it possible to replace the AM radio's tuning
> variable capacitors with the SW ones and get SW, or is it more
> involved than that? Any info will be greatly apppreciated.
>
> Liam Ness

Liam -

Very vague description of what you are trying to accomplish. NO.

Your real question appears to be "I would like to get my old tube SW
receiver working"
OK, what is the radio manufacturer and model number? - if known

All American 5 tube receivers
http://pw1.netcom.com/~wa2ise/radios/aa5h.html

A very popular shortwave receiver (Hallicrafters S-38)
using a AA5 style approach
http://www.arsmachina.com/halli38.htm

http://www.dxing.com/rx/s38.htm

Here is a repair and rebuild !
http://www.schmitzhouse.com/Johns_Electronics_08.htm

gb

269. Re: OT (sort of) GPS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 02:00:21 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <o6f1hvkujmv0f6aq4s8m7v4ft5if7j0ll2@4ax.com>
Source record: 34285

On Sun, 13 Jul 2003 01:30:13 GMT, Active8 <mcolasono@earthlink.net>
wrote:

>tried this in the magellan gps group and got nada. so here goes.
>
>i have a Magellan MAP 10 which is discontinued. The PC data / power
>cable is only used with one other unit which is also discontinued.
>
>can anyone supply the info needed to roll my own cable?
>
The newsgroup sci.geo.satellite-nav might be a better place to ask.

Also, look at www.gpsinformation.net

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

270. Opinions on Marconi 2955 Service Monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 02:31:26 UTC
From: Andy Brinkley <andy@brinkleyelectronics.com>
Message-ID: <2w3Qa.222520$nr.9097625@twister.southeast.rr.com>
Source record: 34286

Sort of of, or maybe on topic. I have been offered a Marconi 2955 Service monitor for an attractive price.
I understand that IFR bought Marconi, and will try to contact them next week as far as support.

Any body use the 2955? Comments???

TNX

Andy NC4AB

271. Re: Superheterodyne AM to SW conversion info

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 03:25:09 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <mrj1hvg6c7uuonh6q9729l13esi6pbu1fj@4ax.com>
Source record: 34287

In <sfc1hvo5c287qlib9jam8s85k3pm1pf5mr@4ax.com>, Liam Ness <working@the.factory>
wrote:

>I was wondering if anyone has an info about converting an AM radio to
>a SW one without down converting the signal? I have a defunct old
>valve superheterodyne SW reciever and an old transister AM/FM
>superheterodyne. Is it possible to replace the AM radio's tuning
>variable capacitors with the SW ones and get SW, or is it more
>involved than that?

It's much, much easier to build a converter for the band you want. But if you
are really ambitious....

Ok, it's not THAT hard, provided you don't plan on tuning a wide bandwidth.
First you need to replace the original RF tuning section with a new front-end, a
bandpass filter with steep slopes that covers the band you want to tune. Toss
the RF coil and disconnect the appropriate section on the tuning capacitor, both
of which will not be needed anymore. Then you must add a padder cap in series
with the local oscillator section of the tuning cap; and depending on how high
in frequency you want to go, you will need to either remove turns from the
oscillator coil or replace it completely. That's the fundamentals, but as always
there is going to be some fine tuning involved, like changing the values of
bypass or coupling caps, or modifying the wiring of the local oscillator to
handle the higher frequencies. Oh, and don't expect spectacular performance.

It's much more involved if you want to keep that tuned RF front-end. First you
need to determine what kind of tuning capacitor you have -- if it is designed
for AM BC superhet (one section smaller than the other) then you need to replace
it with one where both sections are the same. Then you will need to add some
padder caps in both series and parallel with the local oscillator section, and
modify or replace both the RF and local oscillator coils. All the values need to
be calculated depending upon what band you wish to tune -- a job not for the
timid as it takes numerous iterations to match the curves so the RF section will
track with the local oscillator to get a constant IF. Assuming you manage to get
all that done, you then need to align the padder caps so the two sections track.

BTW, I wouldn't even TRY this with the transistor radio, but with the tube radio
it might make an interesting project. You might also consider building a new
tuner (RF section, local oscillator and mixer) on a seperate chassis, then send
the output to the IF and AF sections of the original radio. That's how I did a
couple projects. Modification to the original radio involved only the addition
of a switch and a phono jack to the input of the 1st IF section. Just flip the
switch and the radio still works as before.

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!

------== Over 80,000 Newsgroups - 16 Different Servers! =-----

272. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 04:15:35 UTC
From: "Bob G. Mahrenholz" <bobm@edge.net>
Message-ID: <3F10DD64.2E66BD8F@edge.net>
Source record: 34288

I have a Reciprocating Detector that I built from a kit of parts that I purchased from W1SNN back in 1972. I use it at 455kHz in an AM broadcast receiver to eliminate selective fading.

The IEEE Comm paper by Badessa lists the patent on the RD that you can look up. Also if you get a null in the center of the lock range you may be locking 90 degrees out of phase with the carrier.

Bob K4QQK

Michael Black wrote:

> "Tom Holden" (holden_family@sympatico.ca) writes:
> > I've been tinkering with an add-on project for a RS DX-394 receiver based on
> > Stirling Olberg's (W1SNN) "Reciprocating Detector" design(s) published in
> > Ham Radio in 1972 to 1978. Has anybody had any experience with this design.
> > Is it fundamentally any different from a synchronous detector such as the
> > NE602 design by OH2GF in the current ARRL Handbook?
> >
> > Tom
> >
> >
> I've read those articles, and specifically reread them last year, and
> for the life of me I really not sure how it's supposed to work. The way
> he explains it, it sure seems like there is some specific little bit that
> is happening in there. If I'm remembering, he claims it works for FM
> too, and I don't see how it could demodulate FM if it was just a synchronous
> detector.
>
> He references some professional article or paper as the source of
> scheme, and one would hope if someone could get ahold of that, what
> is going on might be clearer.
>
> When I did some searches on the internet last year, I sure didn't find
> anything more about it. A handful of Usenet posts, none of which added
> to the scheme or even an understanding of it.
>
> Michael VE2BVW

273. Re: Superheterodyne AM to SW conversion info

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 05:31:32 UTC
From: donut <none@none.com>
Message-ID: <Xns93B6E4B8E38E1donut@216.102.43.227>
Source record: 34289

Liam Ness <working@the.factory> wrote in
news:sfc1hvo5c287qlib9jam8s85k3pm1pf5mr@4ax.com:

> I was wondering if anyone has an info about converting an AM radio to
> a SW one without down converting the signal? I have a defunct old
> valve superheterodyne SW reciever and an old transister AM/FM
> superheterodyne. Is it possible to replace the AM radio's tuning
> variable capacitors with the SW ones and get SW, or is it more
> involved than that? Any info will be greatly appppreciated.
>
> Liam Ness

It ain't worth it. You wouldn't replace the tuning capacitor, anyway. You'd
replace the RF and oscillator coils.

274. Re: MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 05:38:02 UTC
From: artie <silli_artie@hotmail.com>
Message-ID: <120720032238013700%silli_artie@hotmail.com>
Source record: 34290

In article <s22Qa.3601$rw1.1279157357@twister2.starband.net>, Joel
<joel@cyberbest.com> wrote:

> I'm looking for a source to buy MMIC's. Mostly looking for MAR-1's and
> MAR-3's..
>
> Digikey and Mouser don't seem to carry them. Any ideas?
>
> Joel - AG4QC
>
>

They show up on eBay aperiodically -- currently I see some MAR-6 parts
available. Similar Agilent/HP parts also show up.

275. Re: MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 06:12:34 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <beqtqj$hpl@library2.airnews.net>
Source record: 34291

Those are Mini-Circuits parts. The MAR-x series appears to have been
discontinued, but are still available as MAR-xSM (surface mount) parts.
You might look here http://www.minicircuits.com/dg03-168.pdf and see if any
of these will do what you want.

I think Mini-Circuits does small quantities with individuals.

"Joel" <joel@cyberbest.com> wrote in message
news:s22Qa.3601$rw1.1279157357@twister2.starband.net...
> I'm looking for a source to buy MMIC's. Mostly looking for MAR-1's and
> MAR-3's..
>
> Digikey and Mouser don't seem to carry them. Any ideas?
>
> Joel - AG4QC
>
>

276. Re: OT (sort of) GPS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 06:36:29 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <N57Qa.45496$OZ2.8094@rwcrnsc54>
Source record: 34292

"Active8" <mcolasono@earthlink.net> wrote in message
news:MPG.197a80277c097ada9896a0@news.earthlink.net...
> Hi:
>
> tried this in the magellan gps group and got nada. so here goes.
>
> i have a Magellan MAP 10 which is discontinued. The PC data / power
> cable is only used with one other unit which is also discontinued.
>
> can anyone supply the info needed to roll my own cable?
>
> thanks in advance.
> mike c

Mike -

Do you mean the MAP 410 ?
http://www.magellangps.com/assets/manuals/oldprod/manual_MAP410.pdf

Start with the Purple Open Project
(which was originally for discontinued Garmin GPS connectors)
http://pfranc.com/

Standard sites
http://www.blue-hills-innovations.com/blmstr.htm

http://pc-mobile.net/conn.htm

http://ucables.com/board/list.php3?f=10

Good luck

w9gb
--
DO NOT use Reply.
Only reply through ARRL forwarding service to W9GB

277. Re: OT (sort of) GPS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 09:02:11 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197aea1099fc172c9896af@news.earthlink.net>
Source record: 34293

In article <N57Qa.45496$OZ2.8094@rwcrnsc54>, now9spamgb@spam.comcast.net
says...
> "Active8" <mcolasono@earthlink.net> wrote in message
> news:MPG.197a80277c097ada9896a0@news.earthlink.net...
> > Hi:
> >
> > tried this in the magellan gps group and got nada. so here goes.
> >
> > i have a Magellan MAP 10 which is discontinued. The PC data / power
> > cable is only used with one other unit which is also discontinued.
> >
> > can anyone supply the info needed to roll my own cable?
> >
> > thanks in advance.
> > mike c
>
> Mike -
>
> Do you mean the MAP 410 ?
> http://www.magellangps.com/assets/manuals/oldprod/manual_MAP410.pdf
>
> Start with the Purple Open Project
> (which was originally for discontinued Garmin GPS connectors)
> http://pfranc.com/
>
> Standard sites
> http://www.blue-hills-innovations.com/blmstr.htm
>
> http://pc-mobile.net/conn.htm
>
> http://ucables.com/board/list.php3?f=10
>
> Good luck

that's an understatement. nobody seems to carry the 410 stuff.

thanks anyway. those links will come in handy in the future.

mike
>
> w9gb
>

278. Re: DDS/PLL Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 09:11:29 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <ap72hvcrl5qpab5vlt2ls6o6oe1erdgsal@4ax.com>
Source record: 34294

```
>If anyone has build a radio using a dds/pll vfo, I'd like to know how
>they handled
>the user interface in software, which micros they used and how they
>handled the
>math to calculate the divisor constants.

Heres the way I do a simple integer division ...

j = i / 0.66 ... that's what we want, both i & j are int's

The same as ..

j = i * (1 / 0.66)

The same as ..

j = i * 1.5151

Have the 1.5151 as a look up in rom but scaled up by *256 (388 in int terms)

So you have ..

j = i * 388

Then you divide the result by 256 (a simple shift right by 8 bits)

eg ..

i = 54
i = i * 388
j = i asr 8 .... this gets rid of the scale up

or

j = i shr 8 .... for unsigned calcs

..

j now equals 82 (as near as you can get to 81.84375)

If the divisor is variable then you prolly have no choice but to do a proper
division at some point, but still use scaled up int's to get your result.

Clive
```

279. Re: OT (sort of) GPS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 09:49:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vh2aqap5r03rcb@corp.supernews.com>
Source record: 34295

You might try the sci.geo.satellite-nav newsgroup if you haven't already.

Roy Lewallen, W7EL

Active8 wrote:
> Hi:
>
> tried this in the magellan gps group and got nada. so here goes.
>
> i have a Magellan MAP 10 which is discontinued. The PC data / power
> cable is only used with one other unit which is also discontinued.
>
> can anyone supply the info needed to roll my own cable?
>
> thanks in advance.
> mike c

280. pin diode attenuators and switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 10:27:33 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197afe11435dc8779896b1@news.earthlink.net>
Source record: 34296

Hi:

i've found out from my reading that pin diodes are only used as attns and switches down to about 10MHz. i'm wondering if i can use another type of diode as an attn or switch at lower freqs. i don't recall ever hearing that.

i think i've seen common diodes (maybe gen purpose signal diodes) as RF switches and the passive DBM can be used as an attn, though i'm not sure about the freq range for the DBM attn.

BTW i've got the HP app notes on pin diodes, but there's no info there pertaining to my question.

out of all the circuits i've seen, i'm beginning to think i'm stuck with things like dual gate MOSFETs for attnuation. or bipolars driven into the non-linear region. maybe JFETs or MOSFETS as analog switches.

i'll need to go down to 3MHz for now, but i'm interested in going lower and what the practical solution is for different freq ranges.

any suggestions would be greatly appreciated.

thanks
mike c

281. Re: pin diode attenuators and switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 12:54:42 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <mEcQa.320$lL.40492@nnrp1.ptd.net>
Source record: 34197

"Active8" <mcolasono@earthlink.net> wrote in message
news:MPG.197afe11435dc8779896b1@news.earthlink.net...
> Hi:
>
> i've found out from my reading that pin diodes are only used as attns
> and switches down to about 10MHz.

Where'd you get that idea? Back in 1975 I was using PIN diode T/R
switching and a bridged T PIN diode voltage variable attenuator in a
military HF transceiver (100W TX 2-30 MHx frequency coverage).

Both the T/R switching and the RX attenuator (in front of the 1st mixer
at RF) worked fine. In fact, the RX would take 2 tones 3 kHz apart
at 300,000 uV each and the 3rd order IM products were down 55dB
or better.

The key to using PIN diodes at HF is to select PIN diodes with a long
(say 2usec) "minority carrier lifetime" (necessary to minimize distortion
on lower freq signals. At the time "Unitrode" made the diodes I was
using ... but they may have been acquired by someone else, I can't
recall for sure because I haven't been in the market for such diodes
for some time.

>i'm wondering if i can use another
> type of diode as an attn or switch at lower freqs. i don't recall ever
> hearing that.
>
> i think i've seen common diodes (maybe gen purpose signal diodes) as RF
> switches and the passive DBM can be used as an attn, though i'm not sure
> about the freq range for the DBM attn.

PIN diodes are the best for RF switching ... other diodes will switch, but
don't have the same distortion characteristics.

BTW .. the common 1N4007 rectifier diode has a PIN structure and
has been used by many with some success in switching HF signals, but
I don't know offhand what maximum RF power level that particular
part will handle. (though I suspect it should be fairly respectable, since
the part is rated as a 1 Amp rectifier, IIRC.) Also note that AFAIK,
the 1N4007 is the ONLY part in the 1N400x series that has a PIN
structure.
>
> BTW i've got the HP app notes on pin diodes, but there's no info there
> pertaining to my question.

HP makes some very nice parts for lower powers and also for higher frequency use, but I'm not sure that they make a part that's capable of handling something like 100W of RF at 2-30 MHz.

One thing to keep in mind ... the more switching (forward bias) current used to make the PIN diode conduct, and the higher the reverse voltage used to reverse bias it to turn it off HARD, the lower the distortion created (within the current and reverse voltage ratings of the diode, of course).

IIRC, in 1975 I was using something like 10mA of forward bias for the diodes in the RX leg and about 500mA for the diodes in the TX leg of the T/R switch and the reverse bias was the full supply voltage of 12 or 28 volts, depending on which primary voltage the particular model of the radio was intended for ...

I hope this information is of some help.

73,
Carl - wk3c

282. HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 14:09:53 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f11685c$0$23600$5a62ac22@freenews.iinet.net.au>
Source record: 34198

Dear all
I have seen posts in the past about this issue
My friend has acquired a unit with the output stage defunct.
Any ideas about what the problem is likely to be and the solution?

Thanks
Richard

283. HF SSB Backpack portable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 14:16:10 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f1169d7$0$23584$5a62ac22@freenews.iinet.net.au>
Source record: 34201

I am interested in acquiring a unit (or building a kit if such is available)
for backpacking with the following specs

Output around 5W SSB/CW
Tunable
Digital readout freq
All (or most) amateur HF bands
Light <1-2kg
Battery drain low on Rx (?< 100mA)
Rugged

Does such a unit exist at reasonable cost or is this the realm of military
style radios?
I would appreciate any pointers

Thanks
Richard

284. Re: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 14:18:33 UTC
From: Ronald <ln.maps.emoh@tip.r>
Message-ID: <berpm7$u36$1@news2.tilbu1.nb.home.nl>
Source record: 34199
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

OK , I'll let him bread .

But since I don't know the guy I think my question wasn't that weird ...
I just saw the 2 sealed boxes .....

Ronald .

"Choky" <choky*remove*@eunet.yu> schreef in bericht
news:beprbb$6ro$3@news.eunet.yu...
> Ron,"Servis za elektroniku" (hehe) is one good and knowledgeable guy.
> lay off a little,let him bread;
> if he sez tht diamond is below,be sure that is-he always have enough boxes
> from same lot-opening few of them tell ya everything about lot.
>
> --
> Choky
> Prodanovic Aleksandar
> YU
>
> ps.even if I'm on his side (;)) I can say few words for massive xpost!
>
> "Ronald" <ln.maps.emoh@tip.r> wrote in message
> news:beopvvajg1@news2.tilbu1.nb.home.nl...
> > "Servis za elektroniku ?" <servis_za_elektroniku@yahoo.com> schreef in
> > bericht news:71725543.0307112259.46ebba66@posting.google.com...
> > > on E-bay:
> > >
> > >
> >
> >
> http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544919738&category=14947
> > &rd=1
> >
> > Quote from eBay :
> > Made in Germany, original box, never open, NOS, NIB. Diamond <> sign on
> > bottom.
> >
> > How do you know for shure ??
> > Lots of Tele's out there without <> .....
> >
> >
> >
> >

285. Re: pin diode attenuators and switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 14:18:36 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3F116A3C.2050204@mwci-news>
Source record: 34200

Active8 wrote:
>
> i've found out from my reading that pin diodes are only used as attns
> and switches down to about 10MHz. i'm wondering if i can use another
> type of diode as an attn or switch at lower freqs. i don't recall ever
> hearing that.
>
> i think i've seen common diodes (maybe gen purpose signal diodes) as RF
> switches and the passive DBM can be used as an attn, though i'm not sure
> about the freq range for the DBM attn.

I use 1N4007 (PIN) AGC diodes in a 1.8 to 29.7 MHz
homebrew ham-band receiver at IF frequencies of
8.5 MHz and 3.4 MHz. They are in shunt with an
impedance level of 50 ohms.

PIN diodes have an intermodulation problem when
the forward bias is right at the threshold of
conduction. Ordinary diodes are much worse. At
higher/lower forward bias levels this effect
quickly goes away.

In order to assure that the 20 dBm third-order
intercept point of the receiver is not degraded by
this effect at the critical diode bias point, I
use three 1N4007s in series at each of the three
locations (verified by measurement).

A picture of this receiver is at QRZ.COM (W0IYH)

Bill W0IYH

286. Re: htx-252 compatible mic???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 14:35:51 UTC
From: gmz79@aol.comnospam
Message-ID: <20030713103551.07548.00000310@mb-m11.aol.com>
Source record: 34202

>ow hard would it be to wire up a third-party mic to an htx-252?

>tia!

Uses the common condenser mic / 2k to ground ptt circuit.
I use mine as a NCS station and wanted to use a headset so I
drilled a hole in the rear of the mic in installed a 3/32'' jack.
this allows me to use the regular mic and when I want to use my headset i just
plug the headset into the mic and the plug for the earphone into the extspk
jack(optional). I use the RS headset 19-312
which can be had at RS on closeout for $10.00. These headset are nice because
the plugs aren't siamesed and fit many different handhelds and do vox also.The
ptt is mounted on my clipboard so I can key with my left hand and log with my
right (sitting in my easyboy).I get many comments on the great quality of my
audio.
I have a link to the schematic for the htx-252 available on request.
73
KC*VIF
Greg Z
to thine own sound be true

287. Re: Opinions on Marconi 2955 Service Monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 16:26:38 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.197b281c1bd6cb5b98994d@192.168.42.131>
Source record: 34203

In article <2w3Qa.222520$nr.9097625@twister.southeast.rr.com>, Andy
Brinkley says...

> Sort of of, or maybe on topic. I have been offered a Marconi 2955 Service
> monitor for an attractive price.
> I understand that IFR bought Marconi, and will try to contact them next week
> as far as support.
>
> Any body use the 2955? Comments???

I've been using one here for nearly a year. They're good, solid,
basic units. Don't expect spectrum analyzer or tracking generator
functions (get an HP 8920B for that), but I've been pleased with mine.

Fair warning: Yes, IFR will support them, but they want $500 for
the service manual if you're self-maintained.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

288. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 16:59:47 UTC
From: wa44nbi@aol.com
Message-ID: <20030713125947.05990.00000358@mb-m04.aol.com>
Source record: 34204

You have good advice from Fred K4DLL.
I have built a lot of gear and would not even think of keying an oscillator.
73s
Bob WA4NBI

289. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 18:20:28 UTC
From: Bob Stein <w6nbi@earthlink.net>
Message-ID: <3F11A2EC.6070804@earthlink.net>
Source record: 34205

Richard Hosking wrote:

> Dear all
> I have seen posts in the past about this issue
> My friend has acquired a unit with the output stage defunct.
> Any ideas about what the problem is likely to be and the solution?
>
> Thanks
> Richard
>
>
Try the test-equipment reflector at qth.net

Bob, W6NBI

290. Re: HF SSB Backpack portable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 18:40:50 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vh39u8c6lrfo6e@corp.supernews.com>
Source record: 34206

There are several that are fairly close to your specs.

The Elecraft K2 is a kit, does all you ask except the battery drain is about 120mA on receive as I recall. It can include a nice built-in wide range antenna tuner. It's not physically as rugged as some of the others but it should be fine as long as you don't throw it around unprotected.

The Elecraft K1 is a kit, does 4-bands, includes an antenna tuner, exceeds your current requirements but it is CW only. It's very well suited for back packing if you are willing to give up SSB. Makes a nice small package when the internal battery option is included.

The SGC SG-2020 is quite rugged but draws about 500 mA on receive.

Another possibility is the FT-817.

291. Re: MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 18:41:30 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <bes952cql1@slb6.atl.mindspring.net>
Source record: 34207

Generally, the MAR-x series is being replaced by the GALI-x series parts... Both by Mimicircuits, but the GALI parts are in a different physical package.

MAR-x parts are sill being made, but you may have better luck looking for the GALI-x.
The GALI parts usually go to higher frequencies. They also have better heat transfer from the internal junctions to the external ground so they run a little cooler and have more reliability.

MAR-x parts are sill being made, but you may have better luck looking for the GALI-x.

Jim Pennell
N6BIU

292. Re: VFO stability question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 19:02:09 UTC
From: TeeAye <noway@nohow.com>
Message-ID: <1ao4yeo09fgz9.1l2ipmj1ly21m.dlg@40tude.net>
Source record: 34208

On 13 Jul 2003 16:59:47 GMT, WA44NBI wrote:

> You have good advice from Fred K4DLL.
> I have built a lot of gear and would not even think of keying an oscillator.
> 73s
> Bob WA4NBI

Sissy! :-)

The trick is to make the oscillator run at essentially the same power level whether it is oscillating or not. This means class A operation and you key the feedback loop instead of the oscillator itself. That way the tube or transistor has the same dissipation at all times.

It's a bunch of work to design and probably not worth it, but it *can* be done. (Just kidding about the sissy part).

--
73, Bill W7TI

293. Re: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 19:25:31 UTC
From: Choky <choky*remove*@eunet.yu>
Message-ID: <beskiq$82r$1@news.eunet.yu>
Source record: 34213
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

hehe,that's why we share informations here
;)

--
Choky
Prodanovic Aleksandar
YU

(wow,what xpost!)

"Ronald" <ln.maps.emoh@tip.r> wrote in message
news:berpm7$u36$1@news2.tilbu1.nb.home.nl...
> OK , I'll let him bread .
>
> But since I don't know the guy I think my question wasn't that weird ...
> I just saw the 2 sealed boxes .....
>
> Ronald .
>
> "Choky" <choky*remove*@eunet.yu> schreef in bericht
> news:beprbb$6ro$3@news.eunet.yu...
> > Ron,"Servis za elektroniku" (hehe) is one good and knowledgeable guy.
> > lay off a little,let him bread;
> > if he sez tht diamond is below,be sure that is-he always have enough
boxes
> > from same lot-opening few of them tell ya everything about lot.
> >
> > --
> > Choky
> > Prodanovic Aleksandar
> > YU
> >
> > ps.even if I'm on his side (;)) I can say few words for massive xpost!
> >
> > "Ronald" <ln.maps.emoh@tip.r> wrote in message
> > news:beopvvajg1@news2.tilbu1.nb.home.nl...
> > > "Servis za elektroniku ?" <servis_za_elektroniku@yahoo.com> schreef in
> > > bericht news:71725543.0307112259.46ebba66@posting.google.com...
> > > > on E-bay:
> > > >
> > > >
> > > >
> > >
> >

>
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544919738&category=14947
> > > &rd=1
> > >
> > > Quote from eBay :
> > > Made in Germany, original box, never open, NOS, NIB. Diamond <> sign
on
> > > bottom.
> > >
> > > How do you know for shure ??
> > > Lots of Tele's out there without <> .....
> > >
> > >
> >
> >
>
>

294. Re: pin diode attenuators and switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 19:32:38 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197b7dd554f50f6c9896b2@news.earthlink.net>
Source record: 34209

In article <mEcQa.320$lL.40492@nnrp1.ptd.net>, wk3cqth@wk3c.com says...
>
> "Active8" <mcolasono@earthlink.net> wrote in message
> news:MPG.197afe11435dc8779896b1@news.earthlink.net...
> > Hi:
> >
> > i've found out from my reading that pin diodes are only used as attns
> > and switches down to about 10MHz.
>
> Where'd you get that idea?

as i said, from my reading (i'll let the author know when i come across
the article again). i know better than to believe everything i read.
that's why i'm getting a second (or better) opinion.

> Back in 1975 I was using PIN diode T/R
> switching and a bridged T PIN diode voltage variable attenuator in a
> military HF transceiver (100W TX 2-30 MHx frequency coverage).
>
> Both the T/R switching and the RX attenuator (in front of the 1st mixer
> at RF) worked fine. In fact, the RX would take 2 tones 3 kHz apart
> at 300,000 uV each and the 3rd order IM products were down 55dB
> or better.
>
> The key to using PIN diodes at HF is to select PIN diodes with a long
> (say 2usec) "minority carrier lifetime" (necessary to minimize distortion
> on lower freq signals.

that would have been my guess from what i read in the HP app note #922.
that note was dealing with a diode where Fc was 10MHz, below which, it
acted as a regular diode. elsewhere they give Fc=1/2pi*t and mention
that t typically ranges from 3uS to .005uS so 3uS corresponds to
something like 35kHz. O'Tay, that's range i can easily live with. once
i've found some good specs i can do a cost/performance study.

> At the time "Unitrode" made the diodes I was
> using ... but they may have been acquired by someone else, I can't
> recall for sure because I haven't been in the market for such diodes
> for some time.
>
> >i'm wondering if i can use another
> > type of diode as an attn or switch at lower freqs. i don't recall ever
> > hearing that.
> >
> > i think i've seen common diodes (maybe gen purpose signal diodes) as RF

> > switches and the passive DBM can be used as an attn, though i'm not sure
> > about the freq range for the DBM attn.
>
> PIN diodes are the best for RF switching ... other diodes will switch, but
> don't have the same distortion characteristics.
>
> BTW .. the common 1N4007 rectifier diode has a PIN structure and
> has been used by many with some success in switching HF signals, but
> I don't know offhand what maximum RF power level that particular
> part will handle. (though I suspect it should be fairly respectable, since
> the part is rated as a 1 Amp rectifier, IIRC.) Also note that AFAIK,
> the 1N4007 is the ONLY part in the 1N400x series that has a PIN
> structure.

i've noticed they're used for something other than rectifiers. i think
i've seen some of the ones like 1N4148 used also, thought i know not of
their structure. i'll keep my eyes open. i think they were used as
varactors, though.

> >
> > BTW i've got the HP app notes on pin diodes, but there's no info there
> > pertaining to my question.
>
> HP makes some very nice parts for lower powers and also for higher
> frequency use, but I'm not sure that they make a part that's capable
> of handling something like 100W of RF at 2-30 MHz.
>
> One thing to keep in mind ... the more switching (forward bias)
> current used to make the PIN diode conduct, and the higher the
> reverse voltage used to reverse bias it to turn it off HARD, the
> lower the distortion created (within the current and reverse voltage
> ratings of the diode, of course).

just like the DBMs ring diodes need an LO drive that switches them fully
on and off. they (Mini-Circuits) even say a pulse (which i take also
includes a square wave) used for the LO drive can lower distortion.

>
> IIRC, in 1975 I was using something like 10mA of forward bias for
> the diodes in the RX leg and about 500mA for the diodes in the TX
> leg of the T/R switch and the reverse bias was the full supply voltage
> of 12 or 28 volts, depending on which primary voltage the particular
> model of the radio was intended for ...
>
> I hope this information is of some help.

damn right it is, thanks.

mike
>
> 73,
> Carl - wk3c

>
>

295. Re: MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 19:33:56 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f11b402$0$48902$edfadb0f@dtext02.news.tele.dk>
Source record: 34210

Hello

> Those are Mini-Circuits parts. The MAR-x series appears to have been
> discontinued, but are still available as MAR-xSM (surface mount) parts.

No, the MAR is a HP component, now known as Agillent.

Regards Max

296. Re: pin diode attenuators and switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 19:34:37 UTC
From: Active8 <mcolasono@earthlink.net>
Message-ID: <MPG.197b7e4f1170121298 96b3@news.earthlink.net>
Source record: 34211

> PIN diodes have an intermodulation problem when
> the forward bias is right at the threshold of
> conduction. Ordinary diodes are much worse. At
> higher/lower forward bias levels this effect
> quickly goes away.
>
> In order to assure that the 20 dBm third-order
> intercept point of the receiver is not degraded by
> this effect at the critical diode bias point, I
> use three 1N4007s in series at each of the three
> locations (verified by measurement).

you mean by doing that, the chances of all the diodes switching at the threshold is reduced?

>
> A picture of this receiver is at QRZ.COM (W0IYH)

looks brand new. you must take care of it well. i think i'll give this keyboard a good cleaning :-)

mike

>
> Bill W0IYH
>
>

297. Re: pin diode attenuators and switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 19:49:09 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <3F11B7B5.5000403@mwci-news>
Source record: 34212

Active8 wrote:
>>PIN diodes have an intermodulation problem when
>>the forward bias is right at the threshold of
>>conduction. Ordinary diodes are much worse. At
>>higher/lower forward bias levels this effect
>>quickly goes away.
>>
>>In order to assure that the 20 dBm third-order
>>intercept point of the receiver is not degraded by
>>this effect at the critical diode bias point, I
>>use three 1N4007s in series at each of the three
>>locations (verified by measurement).
>
>
> you mean by doing that, the chances of all the diodes switching at the
> threshold is reduced?

The diodes are pretty much uniform, as compared to
many years ago. The reason for three diodes in
series is to divide the RF/IF signal voltage into
three approximately equal segments. This greatly
reduces the intermodulation in each diode,
therefore in the set of three. I verified this
with a spectrum analyzer plus tracking generator
equipment. Also verified many (33) years ago.

Bill W0IYH

298. Source for CEM-1 PCB?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-13 23:42:31 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F11ED46.CC02833@gte.net>
Source record: 34214

Anyone have a commercial source for epoxy composite circuit board (not FR-4)?
Kepro is out of business.

Dale W4OP

299. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 01:44:18 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <4OnQa.383$ym.157539@news20.bellglobal.com>
Source record: 34215

Bob, thanks forcoming back. I'm delighted to connect with someone who has a RD.

Do you not get null or minimal audio at zero beat in the centre of the passband with your authentic RD? I thought that this would be the normal response of a product detector on symmetrical sidebands - the negative frequency product would be antiphase of the positive frequency product. There is no such null on a SSB with carrier signal such as CHU.

What lock range do you get? Without the 455kHz filter in the feedback loop, I get about 400Hz. With a ceramic resonator of unknown interelectrode capacitance, I have been trying different values of parallel inductors and getting lock range of 100 Hz or less.

Do you find that the RD suppresses impulse noise and static crashes?

73, Tom VE3MEO

"Bob G. Mahrenholz" <bobm@edge.net> wrote in message
news:3F10DD64.2E66BD8F@edge.net...
> I have a Reciprocating Detector that I built from a kit of parts that I
purchased
> from W1SNN back in 1972. I use it at 455kHz in an AM broadcast receiver to
> eliminate selective fading.
>
> The IEEE Comm paper by Badessa lists the patent on the RD that you can
look up.
> Also if you get a null in the center of the lock range you may be locking
90
> degrees out of phase with the carrier.
>
> Bob K4QQK
>

300. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 02:04:58 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <4u34hvg6so8dveri7jnmbmi9d0a6ooa6en@4ax.com>
Source record: 34216

Hi Tom,

I haven't built any of the detectors but read some on them awhile ago.
I believe that if you get a null that the lock up is happening at 90
degrees out of phase. That cancels the audio. I remember reading
something about that in one of the articles and that there was a way
to adjust it but the rest is foggy.

There is an article on the Costa system in the old CQ SSB handbook.

73
Gary K4FMX

On Sun, 13 Jul 2003 21:44:18 -0400, "Tom Holden"
<holden_family@sympatico.ca> wrote:

>Bob, thanks forcoming back. I'm delighted to connect with someone who has a
>RD.
>
>Do you not get null or minimal audio at zero beat in the centre of the
>passband with your authentic RD? I thought that this would be the normal
>response of a product detector on symmetrical sidebands - the negative
>frequency product would be antiphase of the positive frequency product.
>There is no such null on a SSB with carrier signal such as CHU.
>
>What lock range do you get? Without the 455kHz filter in the feedback loop,
>I get about 400Hz. With a ceramic resonator of unknown interelectrode
>capacitance, I have been trying different values of parallel inductors and
>getting lock range of 100 Hz or less.
>
>Do you find that the RD suppresses impulse noise and static crashes?
>
>73, Tom VE3MEO
>
>"Bob G. Mahrenholz" <bobm@edge.net> wrote in message
>news:3F10DD64.2E66BD8F@edge.net...
>> I have a Reciprocating Detector that I built from a kit of parts that I
>purchased
>> from W1SNN back in 1972. I use it at 455kHz in an AM broadcast receiver to
>> eliminate selective fading.
>>
>> The IEEE Comm paper by Badessa lists the patent on the RD that you can
>look up.
>> Also if you get a null in the center of the lock range you may be locking
>90
>> degrees out of phase with the carrier.

>>
>> Bob K4QQK
>>
>

301. Re: Problem with. Astron RS-50M Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 02:05:09 UTC
From: TLNixon@mchsi.com
Message-ID: <sp34hvsqvjd03ea8dcjbc0l5b7ume2sef9@4ax.com>
Source record: 34217

Well let's see, the size of the supply has nothing to do with the
problem I am experiencing!

The reason I am using an Astron 50 is because it also runs the HF rig,
and all the otehr 13.8 volt equipment in the shact with much reserve
current.

When I bought the supply (New) from AES to go with a brand new
TS-450S, I figured you only want to di this once, so I bought all I
thought I'd ever need.

Terry

On Fri, 11 Jul 2003 12:09:56 -0700, "Bob" <balbert@cnmnetwork.com>
wrote:

>If the Astron overshoots, you can verify it with an oscilloscope. If indeed
>it does that, you can modify the circuit to reduce that.
>
>Why are you using a 35 Ampere power supply for such a small load? It would
>be better to use a lower current rated unit. I use a 20 Ampere unit and
>have no such problem.
>
>Looking at the diagram, you can put in a capacitor across the reference
>voltage at the IC to reduce the turn on speed.
>
>On the other hand, it's possible the problem arises due to too slow a turn
>on of the supply. You can do things to improve that also. Also, the supply
>may be oscillating. Try connecting a dummy load of, say, a few amperes
>across the output. An automobile headlamp can work for that.
>
>Best to verify the actual cause with an oscilloscope before starting to make
>modifications.
>
>73, Bob K6DDX
>

302. Re: Source for CEM-1 PCB?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 03:47:07 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bet93q$6gv$1@titan.btinternet.com>
Source record: 34218

"Dale Parfitt" <parinc@gte.net> wrote in message
news:3F11ED46.CC02833@gte.net...
> Anyone have a commercial source for epoxy composite circuit board (not
> FR-4)?
> Kepro is out of business.
>

Do you mean FPC - fibreglass-paper composite?

Farnell stocks it.

73, Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

303. please ignore

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 13:47:49 UTC
From: Peter No Spam-Ski Email <dedigitalestedenservice@xs4all.nl>
Message-ID: <3f12b663$0$49109$e4fe514c@news.xs4all.nl>
Source record: 34219

[No readable article body recovered]

304. FA: 20 GHZ Spectrum Analyzer No Reserve

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 16:58:04 UTC
From: mike <k6zsr@cox.net>
Message-ID: <AiBQa.15650$zy.5619@fed1read06>
Source record: 34221

Minimum Bid of $400 see it at:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3035636226&ssPageName=ADME:B:LC:US:1

305. Re: ECC82 and ECC83 on E-bay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 17:33:15 UTC
From: Ronald <ln.maps.emoh@tip.r>
Message-ID: <beupfbqgk1@news2.tilbu1.nb.home.nl>
Source record: 34222
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

Hard to see but the left ECC82 looks to be made in Heerlen (NL) .....
On all the others I can't see the code .....

"J M Noeding" <la8ak.xnd@online.no> schreef in bericht
news:3f0ed852.9543119@news.online.no...
> On 9 Jul 2003 14:41:06 -0700, servis_za_elektroniku@yahoo.com
> (=?ISO-8859-1?Q?Servis_za_elektroniku_=AE?=) wrote:
>
> >5 pcs of ECC83 and
> >2 pcs of ECC82
> >
>
>http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3034698205&category=3284
&rd=1
> >
>
>http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544344860&category=1494
7&rd=1
>
> Oh, dear! Rather exotic valves, or shall we say 12AU7 and 12AX7, hi
> If they are made by Philips or Valvo, I would agree that they are
> better than the average
> --
> remove ,xnd to reply (Spam precaution!)

306. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 17:33:44 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307140933.7c7bb567@posting.google.com>
Source record: 34223

Harry George <hgg9140@seanet.com> wrote in message news:<m3smpmmike.fsf@wilma.local>...
...
>
> Thanks, I'll check them out. I used to go to Vetco and Radar a lot.
> I went to the old Vetco place (just off 520 past 405) last weekend and
> found nothing (I see from the qsl webpage that it has moved, I'll try
> to find it). Also, I went down to Radar on Western, saw their sign
> saying moved to Bothel, went there, and found as you said that it is
> no longer a surplus shop.
>
> I go to Boeing Surplus sometimes for sheet aluminum, and to Everett
> Steel and Pipe for mild steel. Hadn't thought of UW Surplus (I used
> to work for UW Equipment Inventory Accounting -- wonder if any of the
> old gang is still there).

Try Whitesides on SR9 in the Clearview area for scrap steel and
aluminum. Lots of steel angle, etc. A few other metal and plastic
material scraps.

Vetco is now E. of where it used to be by maybe 3/4 of a mile or
so...if you go to Fred Meyer there, you will be VERY close; it's in
the FM complex, I think it's on the W. side. I guess Active is still
there next to where Vetco used to be.

I'm trying to talk myself into downsizing some, and might be able to
fix you up with some interesting things, depending on just what it is
you want to play with. There's also the possibility of loans of
equipment sometimes. I live nearby...

Cheers,
Tom

307. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 17:41:26 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307140941.40efe2c3@posting.google.com>
Source record: 34224

Rob Judd <judd@ob-wan.com> wrote in message news:<3F0FA899.B69D0152@ob-wan.com>...
> Tom Bruhns wrote:
> > In a real diode, the change in slope is gradual with no sharp corners,
> > but if you could find a diode which looked like, say, 1000 ohms in the
> > reverse direction for all voltages and 1000.1 ohms in the forward
> > direction, it would still work as a detector, albeit a poor one.
>
> Son, that's called a Selenium rectifier.
>
> Goddam newbies. :)

Now if you'd mentioned copper oxide, I might have been mildly
impressed... ;-) Seems like there were some iron based ones, too.
And then there's the coherer...

Not all early detectors were insensitive, however. Have a look at the
Marconi detector which uses a moving magnetic band. Seems like we had
a thread here about it a few years ago, and there was a nice article
about it in EW+WW.

All the seleniums I ever used ('cept for the shorted ones) worked a
whole lot better than 10001:10000!

Cheers,
Tom

308. Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-14 18:14:18 UTC
From: Troy <troyml@nospam.yahoo.com>
Message-ID: <Xns93B886AA7604Btroymlnospamyahoocom@207.217.77.101>
Source record: 34225

I am JUST starting to get interested in homebrewing things, and I don't know where to start! I have reasonable good solder skills, etc, have done some minor projects, rig interface kit, electronic kits in HS, some cables etc... But I'd like to do more, like build a regenerative, eventually a little transceiver, all the while learning what to do with tubes, transistors and all the rest.

What I'd like to find is an Elmer in the Mpls area who would be willing to show me some of the stuff they've built, let me know where they procure their parts, maybe let me raid their junk box every once in a while.

Feel free to reply off the list, or on if you have information about the homebrew scene in Mpls/St Paul of interest to everyone else.

73,
Troy Lubbers KC0EJO

(remove "nospam" to reply)

309. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 00:05:30 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <ezHQa.62481$Ph3.6630@sccrnsc04>
Source record: 34226

"Troy" <troyml@nospam.yahoo.com> wrote in message
news:Xns93B886AA7604Btroymlnospamyahoocom@207.217.77.101...
> I am JUST starting to get interested in homebrewing things, and I don't
> know where to start! I have reasonable good solder skills, etc, have
> done some minor projects, rig interface kit, electronic kits in HS, some
> cables etc... But I'd like to do more, like build a regenerative,
> eventually a little transceiver, all the while learning what to do with
> tubes, transistors and all the rest.
>
> What I'd like to find is an Elmer in the Mpls area who would be willing
> to show me some of the stuff they've built, let me know where they
> procure their parts, maybe let me raid their junk box every once in a
> while.
>
> Feel free to reply off the list, or on if you have information about the
> homebrew scene in Mpls/St Paul of interest to everyone else.
>
> 73,
> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

Troy -

Send John Seboldt an e-mail (he use to live in Twin Cities - before move)
http://www.seboldt.net/k0jd/

Here are some web links (what I refer to as "Homebrew 101")

Basic Soldering & Desoldering (how to do it right)
http://www.epemag.wimborne.co.uk/solderfaq.htm

The Art of Kit Building
http://ww2.netnitco.net/users/wt9w/kit%20building.html

Heaven for parts (Thief River Fall, MN -- so close to your QTH)
http://digikey.com

George's Place - K9GDT (Barrington, IL)
http://www.qsl.net/k9gdt/radio/comments.html

w9gb
--
DO NOT use Reply.
Only reply through ARRL forwarding service to W9GB

310. Re: htx-252 compatible mic???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 00:59:13 UTC
From: dont@yankmychain.com
Message-ID: <slrnbh6ke9.vnj.dont@worthless.olypen.com>
Source record: 34227

In article <20030713103551.07548.00000310@mb-m11.aol.com>, greg z wrote:

> I have a link to the schematic for the htx-252 available on request.

I'd be interested in taking a look at that schematic if you'd be so
kind as to post the link.

Thanks,
don t

311. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 02:51:40 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.197d0c18266c2c15989691@news-central.giganews.com>
Source record: 34228

In article <3f11685c$0$23600$5a62ac22@freenews.iinet.net.au>,
richardh@iinet.net.au says...
> Dear all
> I have seen posts in the past about this issue
> My friend has acquired a unit with the output stage defunct.
> Any ideas about what the problem is likely to be and the solution?
>
> Thanks
> Richard

They tend to get fried by reverse power application. Best solution
would be to replace it with a part from a donor unit. Next bet thing
would probably be a 50-ohm MMIC like a GALI-5 that's capable of similar
gain and output power. I don't remember if the 8640B's output-power
sampler is built into its output stage, though; if it is, then some
careful hacking might be necessary.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

312. Re: MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 03:11:33 UTC
From: Steve Ratzlaff <steveratz@eoni.com>
Message-ID: <3F1370E5.17334D90@eoni.com>
Source record: 34229

Dan's Small Parts has the MAR-3--MAR-6 (these are indeed MiniCircuits
parts, not HP).
http://www.danssmallpartsandkits.net/
Steve AA7U

Joel wrote:
>
> I'm looking for a source to buy MMIC's. Mostly looking for MAR-1's and
> MAR-3's..
>
> Digikey and Mouser don't seem to carry them. Any ideas?
>
> Joel - AG4QC

313. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 03:28:40 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bevsd8mhf1@freenet9.carleton.ca>
Source record: 34230

Alex (ve3leg@hotmail.com) writes:
> Can anyone provide some part #'s for these one chip FM TX & RX IC's? I'm
> interested too.
>
Those Motorola FM transmitter ICs aren't particularly useful. By the
time you add the needed external components, you aren't really saving much.
And, for most amateur applications, you'll need some sort of multiplier
to get up to frequency, and most will want an amplifier. You might as
well start with discrete components, because you can get them easily,
you will get the design you want, and you would be saving very little
space with the IC.

The transmitter ICs are designed for 49MHz operation, yet the cordless phones
I've taken apart don't use them, and the 49MHz FM walkie talkies that I've
looked at don't use them. Instead, they use discrete components.

Doug DeMaw did write about the MC2831 in the March 1990 issue of QST,
though it was more an idea article. Looking in old Motorola databooks
will also turn up information about the ICs.

The receiver ICs are more useful, because they fit in more. Motorola
had a few generations of such ICs, starting with one that took 10.7MHz
and converted down to 455KHz and you'd get the audio out the other end.
There were various part numbers, again look in old Motorola databooks.
You do see these quite frquently in older cordless phones. Buying
such phones at garage sales has the advantage that you get the 10.7MHz
and 455KHz filters and the crystal to convert from the first IF to the
second. (Note, some of those phones use these ICs in a single conversion
configuration, going from 49MHz down to 455KHz directly.) If you're careful,
you could just extract the whole circuit from the phone (and indeed, you
get two such circuits, one in the base and one in the remote).

I found similar ICs in Radio Shack 49MHz superhet walkie talkies. I've
yet to check baby monitors to see if they use the ICs (or indeed
if they are even superhet receivers). These are pretty useful because
the boards are small, and either a bit of conversion of the front
end will put it on a useful frequency, or strip off the front end
and add your own.

Older cellphones, the bulky kind, will offer up lot so useful parts
including some sort of IF strip. I don't think I've found a recognizable
IF strip IC number yet. And they too will include the filters and conversion
oscillator.

Of course, at this point I've pulled in a number of FM two-way receiver
boards that have such things, or could even be used without conversion.

I've found these at the local hamfest, and they were going for a couple
of dollars each.

Motorola came out with a second generation of FM receiver ICs, that
were double conversion receivers in a package. So you wouldn't need
an external front end in front of the IC. I haven't seen these in
consumer equipment, and I'm not sure how available they were as
parts.

They even came out with a third generation of receiver ICs, not really
adding much in ways of features or integration, but did have higher frequency
performance. There were an article or two in the old COmmunications Quarterly
magazine.

Michael VE2BVW

> Marcus Sleightholm wrote:
>> Motorola did a number of one chip FM TX ICs, - they are cheap and widely
>> available and produce about 50mW output which can be use to drive something
>> like a 2N3866 output stage (I only give that device number as I have one in
>> the junk box!)
>>
>> 73 Marcus M3ChB
>>
>> "R C" <rpg@hotmail.com> wrote in message
>> news:4ef33040.0307081456.36da045@posting.google.com...
>>
>>>Hi, I'm looking for a small, 2m FM fixed frequency TX design for a
>>>backup telemetry link on a model craft. I've seen designs based on
>>>discontinued Motorolla baby-monitor ICs, but simple varactor/tripler
>>>designs seem less common. Weight/size are important, and I'd like
>>>output around 1-2W. Duty cycle will be fairly low. There is 4.8V or
>>>12V available already; 4.8V is likely to be noisier, as it drives the
>>>servos. 12V is prefered.
>>>
>>>What I was thinking was ~48 Mhz crystal oscillator with varactor, fed
>>>into a tripler, then a bandpass, then into an amplifier (RF
>>>transistor?)?
>>>
>>>I've seen a number oscillator designs floating around (handbook and
>>>otherwise), but I don't know how to find out what's most appropriate.
>>>Any suggestions, designs I've missed, books to read, etc? Something
>>>like the Ramsey FM6 (preraid)?
>>>
>>>Plan B is to find another HTX-200 or similar, pull out the guts, and
>>>use that. :) But I'd rather have something I can lay out myself.
>>>
>>>Thanks,
>>>R C
>>>KG4MVB
>>

>>
>>
>

314. Re: Small 2M crystal FM design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 03:31:47 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bevsj3$n0o$1@freenet9.carleton.ca>
Source record: 34231

R C (rpg@hotmail.com) writes:
> Hi, I'm looking for a small, 2m FM fixed frequency TX design for a
> backup telemetry link on a model craft. I've seen designs based on
> discontinued Motorolla baby-monitor ICs, but simple varactor/tripler
> designs seem less common. Weight/size are important, and I'd like
> output around 1-2W. Duty cycle will be fairly low. There is 4.8V or
> 12V available already; 4.8V is likely to be noisier, as it drives the
> servos. 12V is prefered.
>
Look in older books or magazines. Thirty years ago, such FM transmitters
were common in the ham literature. There isn't much sense in using
ICs for such transmitters, and synthesizers hadn't come into play,
so the transmitters were nothing but a crystal oscillator followed
by multipliers. Of course, for compactness you'd want to find something
that started with a relatively high frequency oscillator, say 48MHz,
so you wouldn't need all the multipliers.

There is bound to be something in the ARRL handbooks from that period,
at the very least.

Michael VE2BVW

315. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 04:20:04 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bevvdk$12$1@freenet9.carleton.ca>
Source record: 34232

"Tom Holden" (holden_family@sympatico.ca) writes:
> "Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
> news:beq1dv$f35$1@freenet9.carleton.ca...
>
> I got started on this from a schematic sent to me by a Czech ham/swl who
> also has a DX-394. He derived his schematic from a translation of one or
> more of the articles. I'm not sure he understands it because he can't
> explain well in English and my is Czech non-existent.
>
Olberg's original article, in Ham Radio for March 1972, doesn't really
explain what is happening. I know I have the full set of his articles,
but the only other one I could put my hands on relatively easily was
the WWV receiver one, in Ham Radio for November 1972. It doesn't really
add to the explanation. He described a whole VHF receiver using the
detector, from an online index I think that must be the March 1973
issue of Ham Radio; I thought he made the claim that the detector worked
on FM in that article, but that might be a false memory. And he had
at least another one, in Ham Radio for October 1978; that one must be
the one where he uses an IC, and he seemed to go into great detail of
what the specific transistors in the IC did, but not much about the
overall picture. By way of explanation, I think he even shows a BFO
somewhere, which memory tells me was misleading. Maybe a bit more
digging and I can find the other two articles.

>[stuff deleted]
> I found most of Olberg's HR articles at the Metro Toronto Reference Library
> but did not look for the IEEE Comm paper by Badessa, who I think was a
> colleague. I don't know if synchronous detectors were in vogue in 1971 and
> were known as such. Did Badessa and Olberg coin the name "Reciprocating
> Detector" because it was truly pioneeering work uninfluenced by the name
> that eventually dominated or were they trying to get a patent by tinkering
> with the fundamentals and giving it a different name. The only obvious thing
> I can see that may be different is the 500 hz filter between the local
> oscillator and the product detector (that's the part I haven't got working
> yet - a straight wire is the minimum requirement).
>
You do realize there is no oscillator in the reciprocating detector? That's
the odd part, at least in terms of SSB and CW.

Synchronous detectors had been around for quite a time, though I'm not sure
exactly when they came into play. Obviously, when tubes were all that was
available, it was too bulky to be common. Webb described a phasing type
synchronous detector in the June 1957 issue of CQ. The more traditional
type of synchronous detector (ie just an extra product detector added
to a PLL) had to be around before that, but Ralph Burhans had an article

about such an adaptor in QST in 1964. By the time of Olberg's first article, they were pretty common in the magazines, because ICs had made the simple synchronous detectors really available. By or around 1972, Ham Radio had a number of articles about synchronous detectors, using various schemes.

There was even an article in the mid-fifties in QST about a two IF chain receiver. One was voice-bandwidth, the other CW bandwidth. But the real trick was that one could feed the narrow IF output into a the bfo input of the product detector at the output of the "wide" IF, and use it to beat against the incoming signal. A form of a synchronous detector.

You can lock to a carrier, just filter and amplify the weak carrier or extract the beat between two sidebands, and all will generate a "carrier" where it's needed. But with an SSB signal, you don't know where to place the carrier.

What doesn't make sense (or which makes the reciprocating detector different from all these) is that there is no BFO. You could imagine that it's just a variation on some of these previous schemes, ie regenerating a carrier, except that it claims to work on SSB (and CW for that matter). Yes, it's filtering something from the incoming signal, but in the case of SSB and CW what is it extracting to beat against the incoming signal? The only real hint at something is that the filter is at the output of the switched differential amplifier.

There is some hope, and after all these years I can add a bit to the documentation. No, I don't have the IEEE Conference. But going to the US Patent Office website at http://patft.uspto.gov and entering Badessa's name, I did find a later patent that referenced one of his. So either US Patent #3,430,151, "Amplitude modulation detector for single sideband or suppressed carrier input" filed in September 1966 and issued in February 1969 is an earlier development, or is indeed the patent for the "reciprocating detector".

I can only see a bit of the page at a time, so I haven't bothered reading it yet, but maybe that patent has some of the answers. Certainly when I did some searching last year, nobody had bothered connecting a patent number to the scheme.

>> When I did some searches on the internet last year, I sure didn't find
>> anything more about it. A handful of Usenet posts, none of which added
>> to the scheme or even an understanding of it.
>
> Hence my posting. HR accepted 4 or 5 articles on the RD or receivers using
> the RD by Olberg and there appears to have been considerable response. I
> daresay that, if this Usenet group had been around then, there would have
> been some hot and heavy debates about the Reciprocating Detector!
>
I didn't see much response. The whole thing seemed to be propelled by Stirling Olberg, and I never saw anyone else use the circuit in

a ham magazine article. Indeed, other than any followup letters, there were no references to his articles. And nobody really seems to know what's going on in the circuit.

Michael VE2BVW

316. Re: MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 04:45:58 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <bf00ua$ov4$1@slb0.atl.mindspring.net>
Source record: 34233

Regarding MiniCircuits Vs HP and so on, the same chips are used by several manufacturers in their own packages so you will see virtually the identical part appear to be made by a couple of companies.

In this case, the MAR series equivalent is made by at least three companies to my knowledge and MiniCircuits is one of them.

Jim Pennell
N6BIU

317. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 06:32:49 UTC
From: jo <rhaub@itctel.com>
Message-ID: <vh780h3ob76g37@corp.supernews.com>
Source record: 34234

Hi Troy,

I recon someone else may have sent you this but

http://www2.arrl.org/tis/info/pdf/0009061.pdf

This is, I think, one of the best examples of a good beginners regen radio.
Most of the parts except the variable cap and the 1N34A can be had from
Radio Shack. You can go to

http://www.danssmallpartsandkits.net/

to get those parts and more.You might also try

http://www.midnightscience.com

They have a lot of good stuff on crystal radios.

Crystal radios are a good way to learn basic theory if you follow along with
the why for's of each stage.

Rick KC0GIX

"Troy" <troyml@nospam.yahoo.com> wrote in message
news:Xns93B886AA7604Btroymlnospamyahoocom@207.217.77.101...
> I am JUST starting to get interested in homebrewing things, and I don't
> know where to start! I have reasonable good solder skills, etc, have
> done some minor projects, rig interface kit, electronic kits in HS, some
> cables etc... But I'd like to do more, like build a regenerative,
> eventually a little transceiver, all the while learning what to do with
> tubes, transistors and all the rest.
>
> What I'd like to find is an Elmer in the Mpls area who would be willing
> to show me some of the stuff they've built, let me know where they
> procure their parts, maybe let me raid their junk box every once in a
> while.
>
> Feel free to reply off the list, or on if you have information about the
> homebrew scene in Mpls/St Paul of interest to everyone else.
>
> 73,
> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

318. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 12:26:21 UTC
From: "Master of the universe and supreme ruler of all living beings (but only when the wife is out)" <john.smith@micro$oft.com>
Message-ID: <bf0rmb$17v$1@newstree.wise.edt.ericsson.se>
Source record: 34235

Try http://w1.859.telia.com/~u85920178/ for information.

319. Re: MMIC's - MAR-3..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 12:57:39 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0307150457.43a1af47@posting.google.com>
Source record: 34236

"Joel" <joel@cyberbest.com> wrote in message
news:<s22Qa.3601$rw1.1279157357@twister2.starband.net>...
> I'm looking for a source to buy MMIC's. Mostly looking for MAR-1's and
> MAR-3's..
>
> Digikey and Mouser don't seem to carry them. Any ideas?

If you aren't particular about brand or package, both Digikey and Mouser
sell NEC/CEL MMIC's. The Digikey parts are only in SOT-363 packages
(6 pin, 0.65 mm lead pitch) and Mouser has some in the older pill packages
(but they cost several times more than the more modern packages).

Both Digi-Key and Mouser have a good selection of NEC/CEL bipolar microwave
transistors.

I recently used some NEC uPC2712's from Digi-Key and was very satisfied
with the results. Digi-Key also has NEC GaAsFET's.

Tim.

320. FS: ARRL HANDBOOK 1976 w/pic $10ppd

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 15:31:07 UTC
From: rlucch2098@aol.com
Message-ID: <20030715113107.23331.00000520@mb-m23.aol.com>
Source record: 34237

Hi All;
An extra book for sale,
Nice condition 1976 ARRL Handbook, no loose pages.
Much Reading here, a big, thick book with good, useful info thats dateless:-)
$10.00ppd Conus.
Pic>>
http://www.myradioroom.com/arrlhandbook1976.jpg
Tnx and 73........
Rich WA2RQY

321. help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 16:54:38 UTC
From: Jock Cooper <jockc@mail.com>
Message-ID: <m365m3wx0x.fsf@jcooper02.sagepub.com>
Source record: 34238

Hi everyone,

I've been interested in radios and how they work since I was a kid -- I had a crystal radio kit and a RF-2200. Recently I started building radios and have been having a blast. Please keep in mind that I am very newbie.

After scouring the web for am radio circuit schematics I found quite a few and successfully built several of them (I'm using breadboards). Then I wanted to get a little more sophisticated so I got some NE602s and started to work on a superhet ish type design -- basically cobbling together bits from other circuits. I had some decent success using the NE602 internal oscillator (although getting the oscillator to track the rf input is tricky), then I wanted to use an external oscillator.

I tried numerous circuits and numerous types (Hartley, Colpitts etc) I had found but I couldn't get any of them to start up. Finally somehow I got one working reliably: it was a JFET Clapp with a JFET buffer amp. I hooked up my Elenco LCR to it to measure the frequency. I was using a 3 gang 10-500pf air cap and a coil I wound onto a pill bottle. The oscillator was running from 980 khz to 2050 or so. I fed it into the NE602 pin 6. Only problem was (again) I had a hard time getting the main tuning (also on the 3 gang cap) to track the same range (well the same minus 455). I guess I had plenty of stray capacitance or something that was mucking up my calculations. So at say 540 they would line up but tuning to the other end they'd be off by a few 100 (!) khz.

So I decided to build a second oscillator to help align the antenna tuning tank. I pulled out one of those little 'mini' breadboards and basically dupicated the working oscillator circuit on it. Only this time no startup. I also moved it to a second breadboard but still no good.

Now I'm at a loss as to how to proceed. How do you diagnose a bad oscillator circuit? I thought about measuring the voltages all various points on the working osc while it was running and comparing those, not sure how much that will tell me.

Also, a related question. I tried winding a toroid with the same inductance as my pill bottle coil, and hooking it in place of the pill bottle coil in the working oscillator. But it wouldn't start then. Any clue why this might be the case?? Also I have seen some circuits that call for a 1mH RF choke.. Can I wind a toroid for this? I don't have any chokes that high.

thanks for any help and apologies for any dumb questions,
Jock Cooper
---
http://www.fractal-recursions.com

322. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 18:50:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vh8j8pfucump5d@corp.supernews.com>
Source record: 34239

I don't know of any good way to troubleshoot an oscillator without an oscilloscope and signal generator, except to measure all the voltages. However, the voltages can be right and the oscillator still not oscillate. Or you can find that some voltages are different simply because it's not oscillating. Perhaps someone else has some tips that can help.

Your problems with oscillators are possibly caused by poor component choices. Capacitors should be low loss types, like mica, NPO ceramic, or polystyrene plastic, and should be physically small so they don't have much inductance. NPO ceramic has the lowest temperature coefficient so is the best choice for stability. If you have a poorly made inductor, the temperature drift of a polystyrene capacitor might more-or-less cancel it, but that's a poor way to get stability.

Inductors also have to be low loss, and that's probably the answer to your question about the toroid. There are just one or two types of ferrite that might be usable for an oscillator inductor, but they're uncommon so you're unlikely to have them in your junk box. All other kinds of ferrite cores are too lossy for this use. You should use only powdered iron cores. In my experience, the best is type 6, which is colored yellow and typically with a glossy finish. Type 7, colored white, should be similar, although it's much less common. I wouldn't use any other type of toroid core except these two types of powdered iron.

Ferrite is a good core choice for the RF choke, although you might have trouble with core saturation if you're putting a fair amount of current through it. Chances are you don't really need a choke with a value this high, although you might in some applications.

Don't apologize for the questions! We all had to start somewhere, and are glad to see you learning. And you never learn much from circuits that work -- it's the ones that don't which are educational.

Roy Lewallen, W7EL

Jock Cooper wrote:
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>
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> I had a crystal radio kit and a RF-2200. Recently I started building
> radios and have been having a blast. Please keep in mind that I
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>
> After scouring the web for am radio circuit schematics I found quite a
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> thanks for any help and apologies for any dumb questions,
> Jock Cooper
> ---
> http://www.fractal-recursions.com

323. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 19:39:10 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F14585E.6066A9B3@clifto.com>
Source record: 34240

Tom Bruhns wrote:
> All the seleniums I ever used ('cept for the shorted ones) worked a
> whole lot better than 10001:10000!

All the seleniums I noticed (in TV service, that is) didn't... which leads us to that unforgettable smell from a failed one. Ghufph.

--
The function of an asshole is to emit quantities of crap. Spammers do a very good job of that. However, I do object to my inbox being a spammer's toilet bowl. -- Walter Dnes

324. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 19:53:04 UTC
From: averyfineman@aol.com
Message-ID: <20030715155304.01315.00000898@mb-m18.aol.com>
Source record: 34241

In article <bevvdk$12$1@freenet9.carleton.ca>, et472@FreeNet.Carleton.CA
(Michael Black) writes:

>"Tom Holden" (holden_family@sympatico.ca) writes:
>> "Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
>> news:beq1dv$f35$1@freenet9.carleton.ca...

<snip>

>>> When I did some searches on the internet last year, I sure didn't find
>>> anything more about it. A handful of Usenet posts, none of which added
>>> to the scheme or even an understanding of it.
>>
>> Hence my posting. HR accepted 4 or 5 articles on the RD or receivers using
>> the RD by Olberg and there appears to have been considerable response. I
>> daresay that, if this Usenet group had been around then, there would have
>> been some hot and heavy debates about the Reciprocating Detector!
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>I didn't see much response. The whole thing seemed to be propelled
>by Stirling Olberg, and I never saw anyone else use the circuit in
>a ham magazine article. Indeed, other than any followup letters,
>there were no references to his articles. And nobody really seems
>to know what's going on in the circuit.

I have bound volumes of HR going only to 1973 and did look up the '74
article to refresh my memory.

Stirling's description isn't quite good enough in the '74 article covering
the included "reciprocating detector." The principle is that of simply
filtering out the carrier, amplifying it, and mixing it back with the
incoming carrier-plus-sidebands. At the output the carrier, mixed with
itself, becomes a DC level. The sidebands mix with the amplified-and-
limited/filtered carrier to result in the original audio.

Motorola used the same principle in the MC1330P video detector chip
introduced in the early 1970s (1972?). The 1330 had what amounted to
a limiter ahead of the mixing stage. The so-called "capture effect" of
the limiter will output the stronger signal which, in this case, is the AM
carrier. For the "filtering" (as Olberg called it), the 1330 used a simple
resonant circuit tuned to the carrier frequency.

Analog TV, both in North America and elsewhere, sends video sidebands
as mostly one of them with just part of the other sideband, and with the
carrier reduced to roughly half of what it would normally be with AM.
[so-called "vestigal sideband" with just a vestige of the lower one in US
NTSC standards] The resultant reduced carrier level is still good enough

to grab, limit-filter, and reapply in a mixer to recover just the video of the
TV sideband. In the MC1330 application with TV carriers in the 50 MHz range, balanced internal mixing and assorted internal capacitances allow about 6 to 8 MHz video bandwidth detected with hardly any of the carrier leaking through. Slight lowpass filtering can get rid of the carrier.

Olberg claimed that (in the '74 article) the "reciprocating detector" did not handle overloads well. While I've not examined that in detail, nor did I read HR in that year, I used the MC1330P in 8 simultaneous RF pulse detectors in an airborne receiver for an R&D project at RCA. Those RF pulses were all 1 uSec wide at different RF carriers between 55 and 64 MHz and there was very little pulse distortion at the output of any one detector without its input SAW filter. In the RF environment the RF pulses would have up to 30 db variation in peak envelope power. The MC1330 detector circuit wound up as a rather linear detector of RF input amplitude versus video output amplitude over that 30 db range. I was quite pleased with the results considering an impossibly small space allowed for 8 detectors (non-optimized hand layout PCB was about 1" x 1 3/4" for each detector). :-)

Offhand, after a long and thoughtful 20 minutes after reading Olberg's '74 HR article, a narrowband (IF) filter could pass the carrier through to any FM-style limiter IC, its output to a balanced mixer (differential, double-balanced bipolar or FET) which could then output just the side-band content of an AM unsuppressed-carrier signal. If the limiter gain was high (that is, limiting threshold low), front end noise would get through and appear at the demodulated output...but that noise band-width would be only as high as the narrowband IF filter bandwidth. Once a carrier was there, it would take over in the limiter and demodulation would become essentially linear. Impulse noise received could be reduced depending on the relative peak IF power of noise pulse versus carrier...the limiter stage would take over and pass the higher input level while suppressing the lower input level.

I doubt that this "reciprocating detector" would be good for any FM except quite narrowband FM...due to the bandwidth of the filter. That was another claim by Stirling Olberg in the 1974 article. FM carrier level would vary with modulation (although entire carrier plus sidebands would remain constant) and that would mess up the carrier reinsertion part of the "RD." Might be okay for PM. Have to do the numbers to see if that is feasible and my 20 minutes was up. :-)

All in all, interesting stuff to see and consider!

Len Anderson
retired (from regular hours) electronic engineer person

325. Re: Reciprocating vs Synchronous Detector?

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Date: 2003-07-15 19:54:07 UTC
From: averyfineman@aol.com
Message-ID: <20030715155407.01315.00000899@mb-m18.aol.com>
Source record: 34242

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All in all, interesting stuff to see and consider!

Len Anderson
retired (from regular hours) electronic engineer person

326. Re: Detector/diode question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 20:14:10 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F14605D.2050302@attbi.com>
Source record: 34243

Clifton T. Sharp Jr. wrote:
> Tom Bruhns wrote:
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>>All the seleniums I ever used ('cept for the shorted ones) worked a
>>whole lot better than 10001:10000!
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>
> All the seleniums I noticed (in TV service, that is) didn't... which
> leads us to that unforgettable smell from a failed one. Ghufph.
>

Ah yes, that "bad" Garlic smell, great trouble shooting aid.
Bill Higdon

327. FA: Regency Programmer, Manuals & Vintage Dials

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 20:19:00 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <3tZQa.1356$tJ4.138949@read1.cgocable.net>
Source record: 34246
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Hope some of these items may be of interest
Tnx for looking

http://cgi6.ebay.ca/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=radioguy10
1&include=0&since=-1&sort=3&rows=50

328. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 21:34:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vh8sr19k798g09@corp.supernews.com>
Source record: 34244

I should also mention that your problem with oscillators could be related to layout techniques. There are some rather staggering currents circulating in the tank of a well designed oscillator. You don't want these straying to other circuits, encountering much loss, or the fields they create coupling to other circuits or lossy objects. So here are a few rules, most of them also applicable to RF circuits in general:

1. You don't impart magical properties on a group of connections by calling them "ground". If two "grounds" are separated by a current-carrying conductor, they'll be at different potentials. This can cause a whole lot of problems, so

2. Choose one physical point in your circuit (not necessarily a whole receiver, but say an oscillator) to be "ground". Connect all "grounded" components directly to that point. This includes, especially, bypass capacitors and, in the case of the oscillator, the bottom side of the inductor (if grounded) and the bulk of the tank capacitance. This might not always be possible or practical, but always strive for this. Then connect the invividual circuit ground points together, following the general route of the signal flow. (You'll come to learn that "ground" is just one of the two signal conductors.) For example, if the LO connects directly to the mixer, the LO ground should connect directly to the mixer ground.

3. I highly recommend "ugly" construction, where components are built over a solid ground plane. High value resistors can be used where necessary as physical supports where natural supports like bypass capacitors and other grounded components aren't available. If you use this construction method, you should still follow the single-point ground rule as closely as possible, but it becomes less critical than when "grounds" are connected by wires or PCB runs. There are variations on "ugly" construction, involving cutting pads or islands in the ground plane (not a good idea), or gluing little PCB pads on top of the ground plane (harmless unless the PCB pad dielectric becomes significant -- it makes a crappy capacitor). Each has its adherents -- zealots, even -- but in my opinion they just add a lot of unnecessary work. At best, they don't improve performance a bit, and at worst they can degrade it.

4. In an oscillator, connect the inductor and bulk of the tank capacitance directly together, then connect the combination to the remainder of the circuitry from their junction. For example, if the L and C are in parallel as they are in many oscillators, first connect the L and C directly in parallel, then connect one wire to the top junction and run it to the rest of the circuitry. The bottom junction is grounded in many oscillators. If it is, connect it to the single oscillator

ground point. The object here is to keep the large current which is sloshing back and forth between the L and C from traveling around and about. Give it a short, direct path to flow, and don't make it flow around, under, or through the rest of your circuit. In a ham-band VFO, the tuning capacitor is often only a fraction of the total tank capacitance, the rest being a fixed C. In that case, the larger amount of fixed C is most important.

There are a bunch of other factors to consider when building RF circuits, but following these rules will give you a good start, and a good chance of having things work like you intend them to.

Roy Lewallen, W7EL

329. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 21:44:12 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <MA_Qa.56067$0v4.3821976@bgtnsc04-news.ops.worldnet.att.net>
Source record: 34245

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vh8j8pfucump5d@corp.supernews.com...
> I don't know of any good way to troubleshoot an oscillator without an
> oscilloscope and signal generator, except to measure all the voltages.
> However, the voltages can be right and the oscillator still not
> oscillate. Or you can find that some voltages are different simply
> because it's not oscillating. Perhaps someone else has some tips that
> can help.
>
> Your problems with oscillators are possibly caused by poor component
> choices. Capacitors should be low loss types, like mica, NPO ceramic, or
> polystyrene plastic, and should be physically small so they don't have
> much inductance. NPO ceramic has the lowest temperature coefficient so
> is the best choice for stability. If you have a poorly made inductor,
> the temperature drift of a polystyrene capacitor might more-or-less
> cancel it, but that's a poor way to get stability.
>
> Inductors also have to be low loss, and that's probably the answer to
> your question about the toroid. There are just one or two types of
> ferrite that might be usable for an oscillator inductor, but they're
> uncommon so you're unlikely to have them in your junk box. All other
> kinds of ferrite cores are too lossy for this use. You should use only
> powdered iron cores. In my experience, the best is type 6, which is
> colored yellow and typically with a glossy finish. Type 7, colored
> white, should be similar, although it's much less common. I wouldn't use
> any other type of toroid core except these two types of powdered iron.
>
> Ferrite is a good core choice for the RF choke, although you might have
> trouble with core saturation if you're putting a fair amount of current
> through it. Chances are you don't really need a choke with a value this
> high, although you might in some applications.
>
> Don't apologize for the questions! We all had to start somewhere, and
> are glad to see you learning. And you never learn much from circuits
> that work -- it's the ones that don't which are educational.
>
> Roy Lewallen, W7EL
>
> Jock Cooper wrote:
> > Hi everyone,
> >
> > I've been interested in radios and how they work since I was a kid --
> > I had a crystal radio kit and a RF-2200. Recently I started building
> > radios and have been having a blast. Please keep in mind that I

> > am very newbie.
> >
> > After scouring the web for am radio circuit schematics I found quite a
> > few and successfully built several of them (I'm using breadboards).
> > Then I wanted to get a little more sophisticated so I got some NE602s
> > and started to work on a superhet ish type design -- basically
> > cobbling together bits from other circuits. I had some decent success
> > using the NE602 internal oscillator (although getting the oscillator
> > to track the rf input is tricky), then I wanted to use an external
> > oscillator.
> >
> > I tried numerous circuits and numerous types (Hartley, Colpitts etc) I
> > had found but I couldn't get any of them to start up. Finally somehow
> > I got one working reliably: it was a JFET Clapp with a JFET buffer
> > amp. I hooked up my Elenco LCR to it to measure the frequency. I was
> > using a 3 gang 10-500pf air cap and a coil I wound onto a pill bottle.
> > The oscillator was running from 980 khz to 2050 or so. I fed it into
> > the NE602 pin 6. Only problem was (again) I had a hard time getting
> > the main tuning (also on the 3 gang cap) to track the same range (well
> > the same minus 455). I guess I had plenty of stray capacitance or
> > something that was mucking up my calculations. So at say 540 they
> > would line up but tuning to the other end they'd be off by a few 100 (!)
> > khz.
> >
> > So I decided to build a second oscillator to help align the antenna
> > tuning tank. I pulled out one of those little 'mini' breadboards and
> > basically dupicated the working oscillator circuit on it. Only this
> > time no startup. I also moved it to a second breadboard but still
> > no good.
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> > Now I'm at a loss as to how to proceed. How do you diagnose a bad
> > oscillator circuit? I thought about measuring the voltages all various
> > points on the working osc while it was running and comparing those,
> > not sure how much that will tell me.
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> > Also, a related question. I tried winding a toroid with the same
> > inductance as my pill bottle coil, and hooking it in place of the
> > pill bottle coil in the working oscillator. But it wouldn't start
> > then. Any clue why this might be the case?? Also I have seen some
> > circuits that call for a 1mH RF choke.. Can I wind a toroid for this?
> > I don't have any chokes that high.
> >
> > thanks for any help and apologies for any dumb questions,
> > Jock Cooper
> > ---
> > http://www.fractal-recursions.com

Yup to everything that Roy said, and I'll add a couple comments of my own.
Depending on the type of breadboard that you're using, the capacitance
between the rows of contacts can upset RF tuning. At the relatively low

frequencies that you're using, that shouldn't be having that much of an effect,but you can't rule it out entirely.
I assume, that since you're trying to build a superhet radio, that you're tuning the oscillator and RF with a multi-section variable capacitor. I'll bet that you're using a variable with equal capacitance on each section.
Wrong!! Since the frequencies that the oscillator needs to tune is different from the RF tuning, then you need to select a variable with a high capacity section for the RF side, and a lower capacity section for tuning the oscillator. Take a look inside an old tube superhet radio and look at the tuning capacitor. Notice that one section has very large plates on the rotor and the other section has plates that are about 1/2 to 2/3 the size of the large (high capacity) section. That's probably why the oscillator isn't tracking the RF tuning.
Now, to get the oscillator to run reliably, you may need to separate the connections on the breadboard a little more. Instead of connecting somponents to adjacent rows, separate them by two rows. That will reduce the capacitance somewhat. Are you using a suggested circuit from the data sheet of the NE602? If so, be sure you use suggested types of components, especially capacitors. They can be notoriously problematic if they are the wrong type for the application.

--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Time is what keeps everything from happening all at once.

330. Re: Regency Programmer, Manuals & Vintage Dials

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 23:01:15 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <dM%Qa.1503$N17.147255@read2.cgocable.net>
Source record: 34097
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

[Sorry...hope the URL comes through properly this time!]

Hope some of these items may be of interest
Tnx for looking

http://cgi6.ebay.ca/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=radioguy10
1

331. FA: tubes, chokes, scope...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-15 23:47:04 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <Yn0Ra.56775$3o3.3784227@bgtnsc05-news.ops.worldnet.att.net>
Source record: 34098

```
Ebay Ham Stuff:
811A's
2A3's
ceramic standoffs
Filter chokes
Antique resistors capacitors
Plate chokes
B&K scope
tube sockets

see under seller: heytubeguy
```

332. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 00:23:55 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vh96pb35tldvd4@corp.supernews.com>
Source record: 34099

A general coverage receiver is a good piece of test eqpt. Tune the rx to
the approx frequency of one that works to get a good idea of how to couple
and how loud it should be. CW or SSB is easier to use than AM. You can
also couple the LO of a receiver to use it as a test LO or signal gen.
good luck
hank wd5jfr
"Tweetldee" <dgmason99@att99.net> wrote in message
news:MA_Qa.56067$0v4.3821976@bgtnsc04-news.ops.worldnet.att.net...
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vh8j8pfucump5d@corp.supernews.com...
> > I don't know of any good way to troubleshoot an oscillator without an
> > oscilloscope and signal generator, except to measure all the voltages.
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> > Roy Lewallen, W7EL
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> > Jock Cooper wrote:
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>
> --
> Tweetldee
> Tweetldee at att dot net (Just subsitute the appropriate characters in
the
> address)
>
> Time is what keeps everything from happening all at once.
>
>

333. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 00:26:45 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307151626.5a864e3a@posting.google.com>
Source record: 34100

Jock Cooper <jockc@mail.com> wrote in message
news:<m365m3wx0x.fsf@jcooper02.sagepub.com>...
> Hi everyone,
>...
> How do you diagnose a bad
> oscillator circuit?

Roy offered some good advice. No need for me to try to duplicate it!
But I know there can be a lot of times you just don't see something
that would be obvious to someone else who has more experience. If you
can find someone locally to have a look at things, the answers might
come a lot quicker. Failing that, if there's a place you could put up
some pictures on the web, that might help.

Are you using known-good circuits? Sounds like you probably are,
given that you understand the differences among the various types of
circuits. But it might be good to get your hands on a book with a
bunch of circuit ideas in it, if you don't already have one (or more).

Cheers,
Tom

334. NEED- Coil Forms

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 00:53:24 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vh98fv8ephua5@corp.supernews.com>
Source record: 34101

Hello-
I need a quantity of these coil forms : plastic, slug tuned, 20 - 200 Mhz. core. Form is simple plastic about .16 to .22 OD, about 1" tall, with tiny base flange. No terminals needed, the form simply pushes up thru tight fitting hole from bottom of PC board and is wound in place.These are the same coils as found in Microwave Modules transverters.Thanks, Byron WA5THJ.

335. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 01:40:21 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vh9b8i1832tmd2@corp.supernews.com>
Source record: 34102

I highly recommend _Experimental Methods in RF Design_, by Hayward, Campbell, and Larkin, available from the ARRL or your favorite book seller. All the circuits in the book have actually been built with the component values shown, and have been designed by people who know what they're doing. My personal favorite oscillator is the one shown in fig. 4.4 on p. 4.3. It's a dead-simple Hartley, is very stable, and just about bulletproof. I've made versions from 2 to over 100 MHz, and they always oscillate. The authors say in the book that they've made versions from 1 MHz to 3 GHz. You'll also find equations so you can calculate the capacitors you need for a given tuning range, and a wealth of other information.

Although it's a terrific bargain at the price, some people balk at spending the money for it. If you're one of those, check your local library. They might not have it yet -- if not, ask them to order it if they haven't already.

Roy Lewallen, W7EL

Tom Bruhns wrote:
> . . .
> Are you using known-good circuits? Sounds like you probably are,
> given that you understand the differences among the various types of
> circuits. But it might be good to get your hands on a book with a
> bunch of circuit ideas in it, if you don't already have one (or more).

336. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 01:58:44 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bf2bgk$3cq$1@sparta.btinternet.com>
Source record: 34103

"Jock Cooper" <jockc@mail.com> wrote in message
news:m365m3wx0x.fsf@jcooper02.sagepub.com...
> Hi everyone,
>
> I've been interested in radios and how they work since I was a kid --
> I had a crystal radio kit and a RF-2200. Recently I started building
> radios and have been having a blast. Please keep in mind that I
> am very newbie.
>

[tale of woe deleted]

I'd start again with a simple Hartley oscillator using a tapped toroid (you don't need a choke). Get the basic oscillator working (a scope helps) then add a buffer stage.

Forget about getting the oscillator and front end tuning to track properly at this stage, use separate capacitors. When you get the thing working properly you can sort out the tracking.

73, Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

337. Crystal controlled super regen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 03:21:09 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F14C470.1090706@attbi.com>
Source record: 34104

I need some references on crystal controlled super regens, I know they have been replaced in most new designs. But I have a idea that would be easier to do with a super regen as opposed to the new studd.
Thanks,
bILL hIGDON

338. more old transformer catalogs online

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 04:12:02 UTC
From: opcom <unsolisitedmail_eccm@swbell.net>
Message-ID: <3F14EC4F.79BA0766@swbell.net>
Source record: 34105
Cross-posted to:
rec.radio.amateur.boatanchors,rec.audio.tubes,alt.ham.radio.mods,rec.antiques.radio+phono,rec.radio.amateur.homebrew

just put up.

unless you want to download huge files, choose the "WEB SIZE" links to view the catalog pages

main page http://208.190.133.201/

see "Vintage Transformer Catalogs and Information" to get to the catalogs.

regards,
OPCOM

339. here's another oscillator problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 04:38:38 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F14D6CE.2010401@hotmail.com>
Source record: 34106

I'm trying to make a simple Hartley VFO. I've made one before no problem, but this one won't start, period. The only difference between this one and the last one is that I used a T50-2 core instead of an air core inductor. Is that likely to kill it?

Also, last VFO I made, I tested it by feeding it and a signal generator into a product detector to listen for a tone, this one I'm trying to use a frequency counter to make things simpler. It reads crystal oscillators no problem, and I've even used it to read a VFO in another receiver, no problems.

340. Re: FS: ARRL HANDBOOK 1976 w/pic $10ppd

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 05:01:38 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F14DC32.F573F309@ob-wan.com>
Source record: 34110

Rich,

I'm glad you didn't say "dated info that's useless", which is how I
first read this. :)

I still have the 1993 edition sitting here, they do have some great
stuff in them.

Rob

RLucch2098 wrote:
>
> Hi All;
> An extra book for sale,
> Nice condition 1976 ARRL Handbook, no loose pages.
> Much Reading here, a big, thick book with good, useful info thats dateless:-)
> $10.00ppd Conus.
> Pic>>
> http://www.myradioroom.com/arrlhandbook1976.jpg
> Tnx and 73........
> Rich WA2RQY

341. Re: here's another oscillator problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 05:05:18 UTC
From: TeeAye <noway@nohow.com>
Message-ID: <1jb1nvdhoju7t$.2sarzqxa2313$.dlg@40tude.net>
Source record: 34107

On Wed, 16 Jul 2003 00:38:38 -0400, Alex wrote:

> I'm trying to make a simple Hartley VFO. I've made one before no
> problem, but this one won't start, period. The only difference between
> this one and the last one is that I used a T50-2 core instead of an air
> core inductor. Is that likely to kill it?
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> Also, last VFO I made, I tested it by feeding it and a signal generator
> into a product detector to listen for a tone, this one I'm trying to use
> a frequency counter to make things simpler. It reads crystal oscillators
> no problem, and I've even used it to read a VFO in another receiver, no
> problems.

What type of Hartley is it? If it's one with a separate coil for feedback,
you may have the phasing reversed. Just swap the connections on either the
mail tank coil or the feedback coil, but not both.

--
73, Bill W7TI

342. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 06:56:33 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0307152256.736e106f@posting.google.com>
Source record: 34108

Hi Jock,
there is nothing you should apologize for. My recommendations:
1/ Do not use breadboards for RF. They are perfect for AF, good for digital citcuits, but RF circuits sometimes work, more often not. And keep the groundplane as big as possible. The "ugly", "rats-nest", "dead bug" or "manhattan" style really seem to be far the best for RF prototyping. Look at http://w1.859.telia.com/~u85920178/blocks/deadbug_0.htm for more info.
2/ Get an oscilloscope covering at least three times your frequency range. An add-on unit for your PC can turn it into an oscillscope and spectrum analyzer for a fair price.
3/ Use the necessary tuning capacitors and their configuration to keep the oscillator and input frequency near to each other at more than one point. The configuration and formulae can be found in many books.
4/ Try the oscillator from http://w1.859.telia.com/~u85920178/blocks/osc7m00.htm ,it should work reliably in a wide frequency band.

BR from Ivan OK1SIP

343. Re: here's another oscillator problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 06:58:53 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F14F8DD.5F7CE12F@rica.net>
Source record: 34109

Alex wrote:
>
> I'm trying to make a simple Hartley VFO. I've made one before no
> problem, but this one won't start, period. The only difference between
> this one and the last one is that I used a T50-2 core instead of an air
> core inductor. Is that likely to kill it?
>
> Also, last VFO I made, I tested it by feeding it and a signal generator
> into a product detector to listen for a tone, this one I'm trying to use
> a frequency counter to make things simpler. It reads crystal oscillators
> no problem, and I've even used it to read a VFO in another receiver, no
> problems.

Most likely answer is that you have the phase of the feedback reversed
(negative instead of positive feedback). You should be getting better
coupling with the toroid core, so the optimum turns ration may be one
with fewer turns on the feedback winding, but this would show up as a
very distorted output, not lack of oscillation.

--
John Popelish

344. FA: Kenwood TS-711E 144Mhz Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 08:47:02 UTC
From: Tom <Tom@sbrs.org.uk>
Message-ID: <3f151106$0$45179$65c69314@mercury.nildram.net>
Source record: 34111
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3035934113&category=1502&rd=1

345. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 12:05:57 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3f13ee31_1@newsfeed>
Source record: 34112

Hmmmm. Been a long time since I thought about the r-d.

IIRC #1: It (the reciprocating detector) would detect SSB and c-w, and it was silent between SSB bursts and c-w characters.

IIRC #2: It was best preceded by mode-suited, steeply-sloped filtering.

I recall speculating, back then, that its operating principle was to generate the bfo signal by ringing a bfo tank, offset from the incoming signal, with the bursts of incoming signal. When the tank ceased oscillating, the r-d output was silent.

A mode-suited, steeply-sloped filter ahead of the r-d would help keep its bfo tank from being rung by unwanted (off-frequency) signals.

The bfo offset required for these modes, and thus non-synchronousness of the bfo with the incoming signals, I think, might help to support, to some degree, the speculation above, as well as to explain the use of "reciprocating", rather than "synchronous", as part of the name.

Thinking about it now, I simply can't recall any attraction other than novelty ;o)

73, Dave, N3HE

SNIP of a bunch of interesting stuff to conserve .. well, what ever

346. Re: here's another oscillator problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 15:04:09 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F156969.1010307@hotmail.com>
Source record: 34113

John Popelish wrote:
> Alex wrote:
>
>>I'm trying to make a simple Hartley VFO. I've made one before no
>>problem, but this one won't start, period. The only difference between
>>this one and the last one is that I used a T50-2 core instead of an air
>>core inductor. Is that likely to kill it?
>>
>>Also, last VFO I made, I tested it by feeding it and a signal generator
>>into a product detector to listen for a tone, this one I'm trying to use
>>a frequency counter to make things simpler. It reads crystal oscillators
>>no problem, and I've even used it to read a VFO in another receiver, no
>>problems.
>
>
> Most likely answer is that you have the phase of the feedback reversed
> (negative instead of positive feedback). You should be getting better
> coupling with the toroid core, so the optimum turns ration may be one
> with fewer turns on the feedback winding, but this would show up as a
> very distorted output, not lack of oscillation.
>

?? I attached the feedback wire about 25% up from the ground as the book
said. See my other posting for a schematic.

347. Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 15:27:26 UTC
From: pbreed@NoSpam.com
Message-ID: <ljrahvo3j8nc2hsasv0i9j66unqnkda0qb@4ax.com>
Source record: 34114

Can anyone reccomend a good small surface mount FM receiver chip that is currently availible?

Is it possible to do FM reception with a Direct conversion RX and some simple DSP?

Paul (Kl7JG)

348. Fast T/R switching at 70cm and 33cm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 15:30:02 UTC
From: pbreed@NoSpam.com
Message-ID: <pnrahvo76f00rcqfnem4ien47u7fufkdrb@4ax.com>
Source record: 34115

I would like to build a two way telemetry radio with very fast turnarround times.

Can anyone reccomend a TX/RX antenna switch that is good for 1W, relativly quiet and can swith from TX to RX in ~ 2msec?

Paul (Kl7JG)

349. Re: more old transformer catalogs online

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 15:57:47 UTC
From: Claudia & Reed Park <reedpark@nbnet.nb.ca>
Message-ID: <3F15761A.2CA78B98@nbnet.nb.ca>
Source record: 34117
Cross-posted to:
rec.radio.amateur.boatanchors,rec.audio.tubes,alt.ham.radio.mods,rec.antiques.radio+phono,rec.radio.amateur.homebrew

Rats, unable to connect from here.

Regards
Reed - VE1NU

opcom wrote:

> just put up.
>
> unless you want to download huge files, choose the "WEB SIZE" links to view the catalog pages
>
> main page http://208.190.133.201/
>
> see "Vintage Transformer Catalogs and Information" to get to the catalogs.
>
> regards,
> OPCOM

350. Re: Fast T/R switching at 70cm and 33cm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 16:00:25 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <tEeRa.788$IL.85850@nnrp1.ptd.net>
Source record: 34116

<pbreed@NoSpam.com> wrote in message
news:pnrahvo76f00rcqfnem4ien47u7fufkdrb@4ax.com...
>
> I would like to build a two way telemetry radio with very fast turnarround
times.
>
> Can anyone reccomend a TX/RX antenna switch that is good for 1W, relativly
quiet and
> can swith from TX to RX in ~ 2msec?
>
>
> Paul (Kl7JG)

There are 2 approaches ... build a PIN diode switch (using PIN diodes
rated for the frequency and power levels involved and biasing them properly
to avoid unwanted non-linearities) or you could look into some of the GaAs
MIMIC switches made by NEC ... some of them can handle the power,
they typically switch in about 20 nsec, and they have the advantage of
requiring essentially no drive current (can be driven directly from 3-5V
CMOS outputs).

For data sheets, check California Eastern Labs' website at:

http://www.cel.com/prod/prod_rfics.asp

Scroll down to the GaAs section.

Look for a part with the highest 1 dB compression point available.
(for example a part with a 1 dB compression point of 33 dBm (2W)
would be more likely to generate undesirable distortion than a part
with a higher 1 dB compression point)

(CEL is the exclusive distributor in the US for NEC's parts)

Carl - wk3c

351. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 16:29:36 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <2nuahvc3fvpn27mnvioeokk23646l987m1@4ax.com>
Source record: 34118

>Can anyone reccomend a good small surface mount FM receiver chip that is currently availible?

I guess just use the current standard chips and do a triple conversion.

>Is it possible to do FM reception with a Direct conversion RX and some simple DSP?

Yup :)

You need the standard IQ signal from the mixer.
Just look for Demodulating FM using DSP (or something or other) on the net,
should come up with something.

I did find the info myself a few weeks ago but can't find the exact link atm.

Something like ...

```
R = (RxI * RxIprev) + (RxQ * RxQprev);
I = -(RxQ * RxIprev) + (RxI * RxQprev);
if (R = 0) then R = 0.0000001; // stop a divide by 0 error poping up
FMDemod = ArcTan(I / R) * SampleRate / (pi * 2);
RxIprev = RxI;
RxQprev = RxQ;
```

RxI & RxQ are incoming samples from a stereo ADC, SampleRate is the sampling
rate for the ADC.

Use the Cordic routine for use on a relatively slow cpu - inplace of the ArcTan.

Clive

352. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 17:23:34 UTC
From: holden_family@sympatico.ca
Message-ID: <27d95818.0307160923.7cb64c84@posting.google.com>
Source record: 34119

averyfineman@aol.com (Avery Fineman) wrote in message
news:<20030715155304.01315.00000898@mb-m18.aol.com>...
[snip]
> Stirling's description isn't quite good enough in the '74 article covering
> the included "reciprocating detector." The principle is that of simply
> filtering out the carrier, amplifying it, and mixing it back with the
> incoming carrier-plus-sidebands. At the output the carrier, mixed with
> itself, becomes a DC level. The sidebands mix with the amplified-and-
> limited/filtered carrier to result in the original audio.

I assume he is now a Silent Key - his call sign W1SNN is now
unassigned. Reading the preceding patent by Badessa, it seems more
complicated than what you describe but perhaps it boils down to that -
the complexity is in understanding the technique with which the
carrier is "synthesized" (his word). What you describe is a
"quasi-synchronous" detector; Badessa/Olberg talk about synthesizing a
carrier for suppressed carrier AM based on the carrier phase reversal
at zero crossings in the modulation envelope - the fundamental carrier
extraction also works on AM with carrier without the phase reversal
and it's my impression that the product detector itself oscillates at
the feedback loop filter frequency in the absence of a lockable
carrier.

The way my implementation behaves, I would say it has a synchronous
BFO. It sounds similar to a conventional BFO/product detector except
within the lock-in range, where it locks on to zero beat. I'm not sure
I have it functioning as Olberg intended or that Olberg's design is
consistent with Badessa's patent. The latter seems to claim phase
lock, except when there is a beat frequency. Both are silent about the
phenomenon I observe of an audio null on DSB AM carrier signals at a
certain point within the lock-in range. A couple have suggested that a
90 degree difference between carrier and reference would cause this -
(however,)it's not evident on SSB AM with carrier (e.g. CHU at
3330kHz). If so, then it would seem that the phase difference changes
across the lock-in range and passes through 90 degrees at one point
only. Wouldn't this be typical of all synchronous product detectors?

A hint that audio nulling may indeed have been a negative factor in
the RD is in Olberg's HR'78 article on the 10.7MHz RD where there is a
phasing network that does not appear in the earlier low frequency
models.

[snip]

> Olberg claimed that (in the '74 article) the "reciprocating detector" did
> not handle overloads well. While I've not examined that in detail, nor did

> I read HR in that year, I used the MC1330P in 8 simultaneous RF pulse
[snip]

I have been quite pleased with the dynamic range of my RD in
combination with the output levels from the 2nd last IF amp of my
DX-394. I do hear a strong click on the initial pulse of strong
carrier for CW Morse characters that I have not yet concluded is
related to the AGC action of older receivers to which attributed some
overload problems. My modified AGC should have an attack of between 2
and 10 ms and I have turned AGC off and still get the clicks, IIRC.

> Offhand, after a long and thoughtful 20 minutes after reading Olberg's
> '74 HR article, a narrowband (IF) filter could pass the carrier through to
> any FM-style limiter IC, its output to a balanced mixer (differential,
> double-balanced bipolar or FET) which could then output just the side-
> band content of an AM unsuppressed-carrier signal. If the limiter gain
> was high (that is, limiting threshold low), front end noise would get
> through and appear at the demodulated output...but that noise band-
> width would be only as high as the narrowband IF filter bandwidth.
> Once a carrier was there, it would take over in the limiter and
> demodulation would become essentially linear. Impulse noise
> received could be reduced depending on the relative peak IF power
> of noise pulse versus carrier...the limiter stage would take over and
> pass the higher input level while suppressing the lower input level.

I have not compared my RD output to the envelope detector output under
controlled listening conditions. RD goes to my old stereo and Dynaco
A25 speakers; ED goes through the narrower bandwidth audio amplifier
of the DX-394 to a 4" speaker. When locked, RD sounds pretty clean!

> I doubt that this "reciprocating detector" would be good for any FM
> except quite narrowband FM...due to the bandwidth of the filter.
> That was another claim by Stirling Olberg in the 1974 article. FM
> carrier level would vary with modulation (although entire carrier plus
> sidebands would remain constant) and that would mess up the carrier
> reinsertion part of the "RD." Might be okay for PM. Have to do the
> numbers to see if that is feasible and my 20 minutes was up. :-)
>
For FM demodulation, he claims that converting the narrow-band crystal
filter that follows the feedback filter to an LC circuit makes a
frequency discriminator. In his Companion Receiver project, he
switches between the two filters for the two modes. My RD works with
the AM modes with/without the crystal filter (actually mine's ceramic)
and with an LC 455kHz resonator in parallel with the ceramic filter.
With straight wire, the lock-in range is on the order of 400Hz; with
the others, it can be reduced to less than the nominal 50Hz tuning
steps of the DX-394. I have yet to find a NBFM signal.

> All in all, interesting stuff to see and consider!
So far, it has been all of that and the parts cost is low.

>
> Len Anderson
> retired (from regular hours) electronic engineer person

Good to hear from you,

Tom

353. HAMCALC version 65 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 18:20:48 UTC
From: "T.E.O" <rfmscpa@earthlink.net>
Message-ID: <4IgRa.104447$Io.8955301@newsread2.prod.itd.earthlink.net>
Source record: 34120

Has anyone downloaded HAMCALC version 65 from the QST website & actually got it to work?

I unzipped it to my C: DRIVE as instructed. I have both the VE3ERP file and the GWBASIC file in my root directory.

When I do a RUN: VE3ERP, I get the message "You can not SHELL to BASIC"

354. Re: htx-252 compatible mic???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 18:45:24 UTC
From: gmz79@aol.comnospam
Message-ID: <20030716144524.28299.00000014@mb-m24.aol.com>
Source record: 34121

>I'd be interested in taking a look at that schematic if you'd be so
>kind as to post the link.
>
>Thanks,
>don t
---
http://www.albrecht-electronic.de/service/Amateurfunk/AE540-DTMF/
Greg Z
to thine own sound be true

355. Re: HAMCALC version 65 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 19:16:12 UTC
From: wa0goz@arrl.net
Message-ID: <3F15A47C.5410@arrl.net>
Source record: 34122

What Operating System are you using. Win2K and XP don't have DOS. That
might be your problem.

Henry WA0GOZ

T.E.O wrote:
>
> Has anyone downloaded HAMCALC version 65 from the QST website & actually got
> it to work?
>
> I unzipped it to my C: DRIVE as instructed. I have both the VE3ERP file and
> the GWBASIC file in my root directory.
>
> When I do a RUN: VE3ERP, I get the message "You can not SHELL to BASIC"

356. Re: HAMCALC version 65 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 19:40:38 UTC
From: "T.E.O" <rfmscpa@earthlink.net>
Message-ID: <WShRa.5052$Mc.436027@newsread1.prod.itd.earthlink.net>
Source record: 34123

I'm using Win 98.

<wa0goz@arrl.net> wrote in message news:3F15A47C.5410@arrl.net...
> What Operating System are you using. Win2K and XP don't have DOS. That
> might be your problem.
>
> Henry WA0GOZ
>
>
> T.E.O wrote:
> >
> > Has anyone downloaded HAMCALC version 65 from the QST website & actually
got
> > it to work?
> >
> > I unzipped it to my C: DRIVE as instructed. I have both the VE3ERP file
and
> > the GWBASIC file in my root directory.
> >
> > When I do a RUN: VE3ERP, I get the message "You can not SHELL to BASIC"
>

357. FS: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 20:10:26 UTC
From: servis_za_elektroniku@yahoo.com
Message-ID: <71725543.0307161210.130ddc53@posting.google.com>
Source record: 34124
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

on E-bay, currently 35 USD for one pair.

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544919738&category=14947&rd=1

358. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 20:39:35 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bf4d67$b48$1@sparta.btinternet.com>
Source record: 34125

<pbreed@NoSpam.com> wrote in message
news:ljrahvo3j8nc2hsasv0i9j66unqnkda0qb@4ax.com...
> Can anyone reccomend a good small surface mount FM receiver chip that is
currently availible?
>
>
> Is it possible to do FM reception with a Direct conversion RX and some
simple DSP?

You can convert directly down to I and Q baseband with two mixers and a
quadrature oscillator, then demodulate the baseband signals with a DSP.

73 Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

359. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 22:00:05 UTC
From: Jock Cooper <jockc@mail.com>
Message-ID: <m3isq2nndm.fsf@jcooper02.sagepub.com>
Source record: 34126

"Tweetldee" <dgmason99@att99.net> writes:

> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vh8j8pfucump5d@corp.supernews.com...
> [snip]
> Yup to everything that Roy said, and I'll add a couple comments of my own.
> Depending on the type of breadboard that you're using, the capacitance
> between the rows of contacts can upset RF tuning. At the relatively low
> frequencies that you're using, that shouldn't be having that much of an
> effect,but you can't rule it out entirely.
> I assume, that since you're trying to build a superhet radio, that you're
> tuning the oscillator and RF with a multi-section variable capacitor. I'll
> bet that you're using a variable with equal capacitance on each section.
> Wrong!! Since the frequencies that the oscillator needs to tune is
> different from the RF tuning, then you need to select a variable with a high
> capacity section for the RF side, and a lower capacity section for tuning
> the oscillator. Take a look inside an old tube superhet radio and look at
> the tuning capacitor. Notice that one section has very large plates on the
> rotor and the other section has plates that are about 1/2 to 2/3 the size of
> the large (high capacity) section. That's probably why the oscillator isn't
> tracking the RF tuning.
> Now, to get the oscillator to run reliably, you may need to separate the
> connections on the breadboard a little more. Instead of connecting
> somponents to adjacent rows, separate them by two rows. That will reduce
> the capacitance somewhat. Are you using a suggested circuit from the data
> sheet of the NE602? If so, be sure you use suggested types of components,
> especially capacitors. They can be notoriously problematic if they are the
> wrong type for the application.

Yes, I am using the ganged air capacitors; I have a few different
ones. I have a two section 15-390 each, a three section 10-500 each,
and a 5 section (something like three 10-30s, a 10-240 and a 10-90).
(these are from memory, I'm at work). So I've been experimenting with
differnent capacitance ranges and different inductor values and three
oscillator types: clapp, colpitts and hartley. I figured that the
oscillator's cap range should be smaller because it seemed that that
was how it was in most radios. But I also hoped that by working in
some extra capacitors in series or parallel with the larger ranged
variable capacitor I could get the tank to the proper range. In fact
I wrote a little software function (brute force algorithm) that given
a lo and hi Freq and Cvar would spit out values of cpar and cser which
would satisfy the equation

Flo = 1/ (2*pi* sqrt(L*Chi))
Fhi = 1/ (2*pi* sqrt(L*Clo))

Clo and Chi are derived by combining the actual cvarlo and cvarhi (eg 15 and 390) with test values for a parallel and serial capacitance.

the output is something like:

found: [[15-500 parallel 6] series 319] l= 444.8477/443.9821
found: [[15-500 series 320] parallel 6] l= 431.1616/431.9100

I wasn't sure if this was even OK to do (if it is too lossy or someting), I figured I could experiment around with the result and find out :) But maybe now I can just ask.. how much mucking around can I do by adding in parallel and serial caps to tweak the variable cap range? Also, Can I just find any old values of L and C that when plugged in would give me the F I'm looking for? Or are there only certain values of L and C that are appropriate for certain ranges of Freq.

A side note: In fact I *was* able to get my currently working oscillator to range 995 Khz - 2055 Khz with the 15-500p var cap and a parallel cap. The problem was the main tuner (also using 15-500p) wasn't tuning exactly 540 - 1600. Which is why I decided to build a second oscillator, so I could try to pin down the main tuning range, by tuning the oscillator to known values (using freq counter) I could figure out the range and how certain tweaks would affect it.

Jock
---

360. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 22:26:31 UTC
From: Jock Cooper <jockc@mail.com>
Message-ID: <m3el0qnm5k.fsf@jcooper02.sagepub.com>
Source record: 34127

Jock Cooper <jockc@mail.com> writes:

> Hi everyone,
> [snip]

Thanks to everyone for the great and helpful suggestions. This sure is a friendly group.

Since I just recently started all this tinkering, my junkbox is a little low in some areas, notably NP0 capacitors.. I have a few in values from 3.9 up to 47 and a few 100s but not else. So I've used various other types when higher values are called for.. I'm planning on picking up an assortment soon.

Also I have some copper clad non drilled pc boards, I'm going to try to rebuild the oscillator (and radio) using the 'ugly' method; although I'm a little afraid I'll make myself a tangled mess of useless and stuck together parts. The main reason I use breadboards is so that I can take parts in and out of the circuit quickly (ie I'm at the stage where I'm curious about what happens when I take such and such part out, or change its value etc).

I'd love to get a oscilloscope but my 'play' budget is mostly spent for awhile. So I've been making due with an LCR and a little cheapo DMM.

I did order the book _Experimental Methods in RF Design_ .. I've also got a lot of good info from an old (well 1998) ARRL handbook I got on Ebay.

Jock

361. Re: Crystal controlled super regen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 22:51:13 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bf4kt1ajh1@freenet9.carleton.ca>
Source record: 34128

Bill Higdon (w.higdon@attbi.com) writes:
> I need some references on crystal controlled super regens, I know they
> have been replaced in most new designs. But I have a idea that would be
> easier to do with a super regen as opposed to the new studd.
> Thanks,
> bILL hIGDON
>
In the September 1972 issue of CQ, Irwin Math in his Math Notes column had
a circuit for a crystal controlled superregen receiver. The same column
had that then novel transmitter in an IC, the LP-2000.

It was simply a cross-coupled multivibrator made up of two transistors,
running at 20KHz, with a tank circuit with a crystal added in. He said
the one he built at 10MHz worked fine. He pulled the circuit out of
an issue of EDN, but no date is given.

Charles Kitchin had an article in the May 1997 issue of QST about a
crystal-controlled regen receiver (for receiving 80meter W1AW code practice
runs).

In the Q&A column in CQ for May 1960, there is a circuit for a crystal
controlled Q-Multiplier, which is basically a pierce oscillator. Apparently,
the circuit was originally in the RSGB Bulletin for February 1960.

In October 1961, there is a simple portable transceiver described in CQ,
and it too uses a crystal controlled regen detector.

Likely there are others, but those are the ones I know about.

Admittedly three of those four are regen and not superregen, but that's
hardly important since a superregen is just a regen detector which
is oscilalting and modulated with an above audible frequency. (And take
note that a Q-Multiplier is just a specific application of regeneration.)

Indeed, a regen is just an oscillator with controlled feedback, or
to look at it another way, a regen is just an amplifier with positive
feedback.

So you can take just about any oscillator circuit, and by adding some
sort of control so you can reduce things so it's on the verge of oscillation,
you've got a regen detector. Coupling into it may be easier with some
circuits than others. And once you've got a regen circuit, adding
some scheme to modulate it at an ultrasonic frequency will make it
a superregen.

Since a crystal controlled superregen is relatively rare (who knows
why), you might want to start things by going through this sequence

and figuring out the best setup yourself.

Someone once pointed out here that for a lot of uses you don't need ultra selectivity, and so a crystal in a regen is out of place. I'm not sure how this translates to a superregen.

Be advised that while there has been some work done on using better tuned circuits in a superregen, it seems more likely that the reason for it's passband is because it is in effect an oscillator that is being modulated. Working on the quench circuit, both amplitude and waveform, would seem to be a better path. Charles Kitchin has done some work on this, and he claims he has gotten better results by fiddling with this. I've never seen the article, but he wrote about superregens in the Fall 1994 issue of Communications Quarterly. His article about regens the following year was an interesting mix of history and new circuits, and I suspect the superregen article is similar. He's also had a few superregen circuits in QST (and in the Handbook for an issue or two), but I don't have a bibliography handy. There was a superregen receiver article of his on the ARRL site, http://www.arrl.org at one point, and doing a search there would hopefully find it.

Take note that most superregens use the same active element as both the RF oscillator and as the quench oscillator. Separating them, has certain advantages in trying to get the best quench, and these days it pretty much costs nothing to add the extra circuitry, unlike in the 30s when the superregen was pretty hot.

I'd be curious about why you think you need a crystal controlled superregen. Most superregens have been at VHF (indeed, if you go by some rules of thumb of making the quench frequency a certain percentage of the operating frequency the quench will be at audio once you get below a certain frequency), and getting a crystal to oscillate up there may start being a problem especially the higher you go. Though, I think some work has been done with SAW controlled superregens. And whether it adds to selectivity is under question. Stability might be a factor, but then the traditional wide bandwidth has always offset any issue of frequency stability. Who cares about drift when a superregen's bandwidth would basically cover most of the 2meter band?

Michael VE2BVW

362. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-16 23:18:11 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307161518.51962b11@posting.google.com>
Source record: 34129

John Miles <jmiles@pop.removethistomailme.net> wrote in message
news:<MPG.197d0c18266c2c15989691@news-central.giganews.com>...
> In article <3f11685c$0$23600$5a62ac22@freenews.iinet.net.au>,
> richardh@iinet.net.au says...
> > Dear all
> > I have seen posts in the past about this issue
> > My friend has acquired a unit with the output stage defunct.
> > Any ideas about what the problem is likely to be and the solution?
> >
> > Thanks
> > Richard
>
> They tend to get fried by reverse power application. Best solution
> would be to replace it with a part from a donor unit. Next bet thing
> would probably be a 50-ohm MMIC like a GALI-5 that's capable of similar
> gain and output power. I don't remember if the 8640B's output-power
> sampler is built into its output stage, though; if it is, then some
> careful hacking might be necessary.

I'm pretty sure it's just an amplifier. I took a very quick look at
the schematic this morning for my HP8640M, which should be the same.
I believe it's 18dB gain. As you say, it must be capable of the
output power. GALI-51 would be a bit closer match for the gain, but
not quite enough output power?

Cheers,
Tom

363. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 00:43:11 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bf4rev$s5b$1@freenet9.carleton.ca>
Source record: 34130

Avery Fineman (averyfineman@aol.com) writes:
>
> Stirling's description isn't quite good enough in the '74 article covering
> the included "reciprocating detector." The principle is that of simply
> filtering out the carrier, amplifying it, and mixing it back with the
> incoming carrier-plus-sidebands. At the output the carrier, mixed with
> itself, becomes a DC level. The sidebands mix with the amplified-and-
> limited/filtered carrier to result in the original audio.
>
> Motorola used the same principle in the MC1330P video detector chip
> introduced in the early 1970s (1972?). The 1330 had what amounted to
> a limiter ahead of the mixing stage. The so-called "capture effect" of
> the limiter will output the stronger signal which, in this case, is the AM
> carrier. For the "filtering" (as Olberg called it), the 1330 used a simple
> resonant circuit tuned to the carrier frequency.
>
While the MC1330 internal schematic is not well layed out for clear
understanding, it is different from the reciprocal detector.

Unique to the RD design is the fact that the filter is at the output of
the differential amplifier, what it sees at it's input is not just
the incoming signal, but the incoming signal modified by the output
of the filter. That seems to be a key to the design.

The MC1330 splits the incoming signal, with one path going to a mixer,
and the other path going throught a limiter and filter which then feeds
the other input of the mixer. It's behaviour is obvious, ie limit the
incoming signal so it's you get a constant amplitude carrier and mix
it with the incoming signal to beat it down to baseband, and shows up
in plenty of designs, both before and after the Badessa patent. There
was an article in Ham Radio for September 1970 about the MC1496 double
balanced modulator, and Roy Hejhall specifically mentions it's use as
an AM detector in a similar scheme. He said that a limiter wasn't
even needed since the 1496 will limit with enough signal. The same
thing is stated in the MC1496 datasheet though you have to dig a bit
to find it since it's under the "product detector" heading. The filter
in this scheme is optional, because not only is there the 1496 example
but I've seen similar schemes with no filter. The same scheme shows
up in that fairly recent QST article about a synchronous detector (it's
been in the Handbook too), though there it's labelled as
"quasi-synchronous" and it's merely a side circuit to the main part using
a PLL. But if you look in old literature it gets the "synchronous
detector" label.

What is a puzzle is why Olberg did not reference such articles, because they were halfway there to explaining the reciprocal detector, and what is vague in his articles is what makes the RD different.

One thing is certain. That "amplify the carrier, limit it and use it as a locally generated carrier" scheme will not work with SSB, unless the original carrier is not well suppressed. And it's not going to work with CW either, since beating a carrier, as you say, against itself will result in DC and double the carrier. There'll be no beatnote. Since the RD is claimed to work on these modes, something else has to be going on.

Michael VE2BVW

364. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:04:38 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <ZbkRa.80767$H17.23586@sccrnsc02>
Source record: 34131

Troy,
Please join us - the Minnesota QRP Society.
We are a group of enthusiastic experimenters/builders.
We meet the first Saturday of every month 1:30 in the Minnetonka Community Center.
See our web page at http://www.qsl.net/mnqrp/

73,
Craig, AA&#65533;ZZ
Shoreview MN

"Troy" <troyml@nospam.yahoo.com> wrote in message
news:Xns93B886AA7604Btroymlnospamyahoocom@207.217.77.101...
> I am JUST starting to get interested in homebrewing things, and I don't
> know where to start! I have reasonable good solder skills, etc, have
> done some minor projects, rig interface kit, electronic kits in HS, some
> cables etc... But I'd like to do more, like build a regenerative,
> eventually a little transceiver, all the while learning what to do with
> tubes, transistors and all the rest.
>
> What I'd like to find is an Elmer in the Mpls area who would be willing
> to show me some of the stuff they've built, let me know where they
> procure their parts, maybe let me raid their junk box every once in a
> while.
>
> Feel free to reply off the list, or on if you have information about the
> homebrew scene in Mpls/St Paul of interest to everyone else.
>
> 73,
> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

365. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:04:47 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <E4IRa.80855$H17.24823@sccrnsc02>
Source record: 34132

Troy,
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Shoreview MN

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> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

366. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:04:48 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <9flRa.80875$H17.24416@sccrnsc02>
Source record: 34133

Troy,
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>
> 73,
> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

367. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:04:48 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <p9lRa.80863$H17.24760@sccrnsc02>
Source record: 34134

Troy,
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> homebrew scene in Mpls/St Paul of interest to everyone else.
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> 73,
> Troy Lubbers KC0EJO
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> (remove "nospam" to reply)

368. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:06:20 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <gEmRa.81007$H17.24771@sccrnsc02>
Source record: 34136

> I'm pretty sure it's just an amplifier. I took a very quick look at
> the schematic this morning for my HP8640M, which should be the same.
> I believe it's 18dB gain. As you say, it must be capable of the
> output power. GALI-51 would be a bit closer match for the gain, but
> not quite enough output power?
>
> Cheers,
> Tom

Parallel a couple.

W4ZCB

369. Re: more old transformer catalogs online and 78's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:06:58 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F15F6B2.6070005@bellsouth.net>
Source record: 34135
Cross-posted to:
rec.radio.amateur.boatanchors,rec.audio.tubes,alt.ham.radio.mods,rec.antiques.radio+phono,rec.radio.amateur.homebrew

opcom wrote:
> just put up.
>
> unless you want to download huge files, choose the "WEB SIZE" links to view the catalog pages
>
> main page http://208.190.133.201/
>
> see "Vintage Transformer Catalogs and Information" to get to the catalogs.
>
> regards,
> OPCOM

Wow nice site. He also has some MP3's of old 78's. Just the stuff to
broadcast over your "wireless phonograph" to hear on your old Philco or
Zenith.
(In my case an old Majestic / Grunow).

370. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:08:18 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <rhkRa.79531$N7.9535@sccrnsc03>
Source record: 34138

Troy,
Please join us - the Minnesota QRP Society.
We are a group of enthusiastic experimenters/builders.
We meet the first Saturday of every month 1:30 in the Minnetonka Community Center.
See our web page at http://www.qsl.net/mnqrp/

73,
Craig, AA&#65533;ZZ
Shoreview MN

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> Feel free to reply off the list, or on if you have information about the
> homebrew scene in Mpls/St Paul of interest to everyone else.
>
> 73,
> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

371. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:08:20 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <OqkRa.79546$N7.10038@sccrnsc03>
Source record: 34137

Troy,
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Shoreview MN

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> Troy Lubbers KC0EJO
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> (remove "nospam" to reply)

372. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:14:15 UTC
From: Craig Johnson <cbjohns@cbjohns.com>
Message-ID: <W4kRa.79338$ye4.56921@sccrnsc01>
Source record: 34140

Troy,
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Craig, AA&#65533;ZZ
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> Troy Lubbers KC0EJO
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> (remove "nospam" to reply)

373. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:14:17 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <UlkRa.79358$ye4.56734@sccrnsc01>
Source record: 34139

Troy,
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> 73,
> Troy Lubbers KC0EJO
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> (remove "nospam" to reply)

374. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 01:57:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhc0lclng5h71e@corp.supernews.com>
Source record: 34141

When you get _Experimental Methods. . _, look at the very first few pages -- "Getting Started". You'll find a nice drawing and some other information about "ugly construction".

Incidentally, the method was first described and the term coined in the article "The Ugly Weekender" by Roger and Wes Hayward, in August 1981 QST. If you can get hold of a copy of this article, it has more about the method, as well as some other good information.

If and when you do eventually decide to get a scope -- I've been surprised to see Tek 465 scopes going on eBay for about $200. That's an awful lot of bang for the buck.

Roy Lewallen, W7EL

Jock Cooper wrote:
> Jock Cooper <jockc@mail.com> writes:
>
>
>>Hi everyone,
>>[snip]
>
>
> Thanks to everyone for the great and helpful suggestions. This sure
> is a friendly group.
>
> Since I just recently started all this tinkering, my junkbox is a
> little low in some areas, notably NP0 capacitors.. I have a few in
> values from 3.9 up to 47 and a few 100s but not else. So I've used
> various other types when higher values are called for.. I'm planning
> on picking up an assortment soon.
>
> Also I have some copper clad non drilled pc boards, I'm going to try
> to rebuild the oscillator (and radio) using the 'ugly' method;
> although I'm a little afraid I'll make myself a tangled mess of
> useless and stuck together parts. The main reason I use breadboards is
> so that I can take parts in and out of the circuit quickly (ie I'm at
> the stage where I'm curious about what happens when I take such and
> such part out, or change its value etc).
>
> I'd love to get a oscilloscope but my 'play' budget is mostly spent
> for awhile. So I've been making due with an LCR and a little cheapo
> DMM.
>
> I did order the book _Experimental Methods in RF Design_ .. I've also

> got a lot of good info from an old (well 1998) ARRL handbook I got
> on Ebay.
>
> Jock
>

375. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 02:11:28 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhc1euhnkd5h11@corp.supernews.com>
Source record: 34142

You can series and parallel any number of capacitors to get the right value. A given oscillator type works best within some range of reactance values for L and C. If you go too far outside the ideal range, stability will suffer, noise might increase, and if too extreme, it might not oscillate. The ideal range depends on the oscillator design. That being said, you can often vary L and C quite a great deal and still get adequate operation.

Real inductors are, in general, a lot more different from their theoretical ideal counterparts than capacitors are. Real inductors have considerable loss and stray capacitance, as well as being temperature sensitive. So you'll often find that a circuit works quite a bit differently if you substitute an inductor for one with different physical construction. For a VFO tank, I use only toroids wound on type 6 powdered iron material. (As I mentioned earlier, type 7 is probably as good, but I've never used it.) For VFO tank capacitors, I use only NPO ceramic. The combination produces low drift, dominated by the inductor. If desired, the drift can be compensated by replacing part of the C with negative temperature coefficient parts. Most other types of L and C have substantially greater temperature sensitivity. You might get lucky and have poor parts drift in opposite directions and more-or-less cancel, but that's poor practice and hard to duplicate. Better to design for minimal inherent drift, then compensate what's left if necessary. Toroids have the big advantage of producing a relatively small external field. That makes them much less sensitive to mounting, the influence of nearby objects, and microphonics.

Jock Cooper wrote:
> . . .
> I wasn't sure if this was even OK to do (if it is too lossy or
> someting), I figured I could experiment around with the result and
> find out :) But maybe now I can just ask.. how much mucking around
> can I do by adding in parallel and serial caps to tweak the variable
> cap range? Also, Can I just find any old values of L and C that when
> plugged in would give me the F I'm looking for? Or are there only
> certain values of L and C that are appropriate for certain ranges of
> Freq.

>. . .

Roy Lewallen, W7EL

376. Re: Crystal controlled super regen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 02:56:41 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <ffqdnRoUxc-RkYuiU-KYvA@comcast.com>
Source record: 34143

One excellent reason for a crystal regen is to use it after
an upconversion stage as a simplified IF-amp/detector
with (I believe) outstanding sensitivity.

I'm interested in a crystal controlled regen also. Seeing
as I have no back issues, can you point me to a web
page?

The Eternal Squire

Michael Black <et472@FreeNet.Carleton.CA> wrote in message
news:bf4kt1ajh1@freenet9.carleton.ca...
> Bill Higdon (w.higdon@attbi.com) writes:
> > I need some references on crystal controlled super regens, I know they
> > have been replaced in most new designs. But I have a idea that would be
> > easier to do with a super regen as opposed to the new studd.
> > Thanks,
> > bILL hIGDON
> >
> In the September 1972 issue of CQ, Irwin Math in his Math Notes column had
> a circuit for a crystal controlled superregen receiver. The same column
> had that then novel transmitter in an IC, the LP-2000.
>
> It was simply a cross-coupled multivibrator made up of two transistors,
> running at 20KHz, with a tank circuit with a crystal added in. He said
> the one he built at 10MHz worked fine. He pulled the circuit out of
> an issue of EDN, but no date is given.
>
> Charles Kitchin had an article in the May 1997 issue of QST about a
> crystal-controlled regen receiver (for receiving 80meter W1AW code
practice
> runs).
>
> In the Q&A column in CQ for May 1960, there is a circuit for a crystal
> controlled Q-Multiplier, which is basically a pierce oscillator.
Apparently,
> the circuit was originally in the RSGB Bulletin for February 1960.
>
> In October 1961, there is a simple portable transceiver described in CQ,
> and it too uses a crystal controlled regen detector.
>
> Likely there are others, but those are the ones I know about.
>
> Admittedly three of those four are regen and not superregen, but that's
> hardly important since a superregen is just a regen detector which

> is oscilalting and modulated with an above audible frequency. (And take
> note that a Q-Multiplier is just a specific application of regeneration.)
>
> Indeed, a regen is just an oscillator with controlled feedback, or
> to look at it another way, a regen is just an amplifier with positive
> feedback.
>
> So you can take just about any oscillator circuit, and by adding some
> sort of control so you can reduce things so it's on the verge of
oscillation,
> you've got a regen detector. Coupling into it may be easier with some
> circuits than others. And once you've got a regen circuit, adding
> some scheme to modulate it at an ultrasonic frequency will make it
> a superregen.
>
> Since a crystal controlled superregen is relatively rare (who knows
> why), you might want to start things by going through this sequence
> and figuring out the best setup yourself.
>
> Someone once pointed out here that for a lot of uses you don't need ultra
> selectivity, and so a crystal in a regen is out of place. I'm not sure
> how this translates to a superregen.
>
> Be advised that while there has been some work done on using better
> tuned circuits in a superregen, it seems more likely that the reason
> for it's passband is because it is in effect an oscillator that is
> being modulated. Working on the quench circuit, both amplitude and
> waveform, would seem to be a better path. Charles Kitchin has done
> some work on this, and he claims he has gotten better results by
> fiddling with this. I've never seen the article, but he wrote
> about superregens in the Fall 1994 issue of Communications Quarterly.
> His article about regens the following year was an interesting mix
> of history and new circuits, and I suspect the superregen article is
> similar. He's also had a few superregen circuits in QST (and in
> the Handbook for an issue or two), but I don't have a bibliography handy.
> There was a superregen receiver article of his on the ARRL site,
> http://www.arrl.org at one point, and doing a search there would hopefully
> find it.
>
> Take note that most superregens use the same active element as both
> the RF oscillator and as the quench oscillator. Separating them,
> has certain advantages in trying to get the best quench, and these
> days it pretty much costs nothing to add the extra circuitry, unlike
> in the 30s when the superregen was pretty hot.
>
> I'd be curious about why you think you need a crystal controlled
> superregen. Most superregens have been at VHF (indeed, if you go
> by some rules of thumb of making the quench frequency a certain percentage
> of the operating frequency the quench will be at audio once you get below
> a certain frequency), and getting a crystal to oscillate up

> there may start being a problem especially the higher you go. Though,
> I think some work has been done with SAW controlled superregens.
> And whether it adds to selectivity is under question. Stability might
> be a factor, but then the traditional wide bandwidth has always offset
> any issue of frequency stability. Who cares about drift when a
superregen's
> bandwidth would basically cover most of the 2meter band?
>
> Michael VE2BVW
>
>
>

377. Re: more old transformer catalogs online and 78's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 03:03:44 UTC
From: Fred Nachbaur <fnachbaur@netscape.net>
Message-ID: <kmoRa.17083$xn5.2173192@news0.telusplanet.net>
Source record: 34144
Cross-posted to:
rec.radio.amateur.boatanchors,rec.audio.tubes,alt.ham.radio.mods,rec.antiques.radio+phono,rec.radio.amateur.homebrew

```
scharkalvin wrote:
> opcom wrote:
>
>> just put up.
>>
>> unless you want to download huge files, choose the "WEB SIZE" links to
>> view the catalog pages
>>
>> main page http://208.190.133.201/
>>
>> see "Vintage Transformer Catalogs and Information" to get to the
>> catalogs.
>>
>> regards, OPCOM
>
>
> Wow nice site. He also has some MP3's of old 78's. Just the stuff to
> broadcast over your "wireless phonograph" to hear on your old Philco or
> Zenith.
> (In my case an old Majestic / Grunow).

.. and tube manuals also. Well worth a visit (or two... or more...)

Cheers,
Fred
--
+-----------------------------------------+
| Music: http://www3.telus.net/dogstarmusic/ |
| Projects, Vacuum Tubes & other stuff: |
| http://www.dogstar.dantimax.dk |
+-----------------------------------------+
```

378. Re: Crystal controlled super regen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 03:10:08 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F16135C.1060305@attbi.com>
Source record: 34145

The no back issues is a problem for me also.
Bill Higdon
The Eternal Squire wrote:
> One excellent reason for a crystal regen is to use it after
> an upconversion stage as a simplified IF-amp/detector
> with (I believe) outstanding sensitivity.
>
> I'm interested in a crystal controlled regen also. Seeing
> as I have no back issues, can you point me to a web
> page?
>
> The Eternal Squire
>
>
> Michael Black <et472@FreeNet.Carleton.CA> wrote in message
> news:bf4kt1ajh1@freenet9.carleton.ca...
>
>>Bill Higdon (w.higdon@attbi.com) writes:
>>
>>>I need some references on crystal controlled super regens, I know they
>>>have been replaced in most new designs. But I have a idea that would be
>>>easier to do with a super regen as opposed to the new studd.
>>>Thanks,
>>>bILL hIGDON
>>>
>>
>>In the September 1972 issue of CQ, Irwin Math in his Math Notes column had
>>a circuit for a crystal controlled superregen receiver. The same column
>>had that then novel transmitter in an IC, the LP-2000.
>>
>>It was simply a cross-coupled multivibrator made up of two transistors,
>>running at 20KHz, with a tank circuit with a crystal added in. He said
>>the one he built at 10MHz worked fine. He pulled the circuit out of
>>an issue of EDN, but no date is given.
>>
>>Charles Kitchin had an article in the May 1997 issue of QST about a
>>crystal-controlled regen receiver (for receiving 80meter W1AW code
>
> practice
>
>>runs).
>>
>>In the Q&A column in CQ for May 1960, there is a circuit for a crystal
>>controlled Q-Multiplier, which is basically a pierce oscillator.

>
> Apparently,
>
>>the circuit was originally in the RSGB Bulletin for February 1960.
>>
>>In October 1961, there is a simple portable transceiver described in CQ,
>>and it too uses a crystal controlled regen detector.
>>
>>Likely there are others, but those are the ones I know about.
>>
>>Admittedly three of those four are regen and not superregen, but that's
>>hardly important since a superregen is just a regen detector which
>>is oscilalting and modulated with an above audible frequency. (And take
>>note that a Q-Multiplier is just a specific application of regeneration.)
>>
>>Indeed, a regen is just an oscillator with controlled feedback, or
>>to look at it another way, a regen is just an amplifier with positive
>>feedback.
>>
>>So you can take just about any oscillator circuit, and by adding some
>>sort of control so you can reduce things so it's on the verge of
>
> oscillation,
>
>>you've got a regen detector. Coupling into it may be easier with some
>>circuits than others. And once you've got a regen circuit, adding
>>some scheme to modulate it at an ultrasonic frequency will make it
>>a superregen.
>>
>>Since a crystal controlled superregen is relatively rare (who knows
>>why), you might want to start things by going through this sequence
>>and figuring out the best setup yourself.
>>
>>Someone once pointed out here that for a lot of uses you don't need ultra
>>selectivity, and so a crystal in a regen is out of place. I'm not sure
>>how this translates to a superregen.
>>
>>Be advised that while there has been some work done on using better
>>tuned circuits in a superregen, it seems more likely that the reason
>>for it's passband is because it is in effect an oscillator that is
>>being modulated. Working on the quench circuit, both amplitude and
>>waveform, would seem to be a better path. Charles Kitchin has done
>>some work on this, and he claims he has gotten better results by
>>fiddling with this. I've never seen the article, but he wrote
>>about superregens in the Fall 1994 issue of Communications Quarterly.
>>His article about regens the following year was an interesting mix
>>of history and new circuits, and I suspect the superregen article is
>>similar. He's also had a few superregen circuits in QST (and in
>>the Handbook for an issue or two), but I don't have a bibliography handy.
>>There was a superregen receiver article of his on the ARRL site,

>>http://www.arrl.org at one point, and doing a search there would hopefully
>>find it.
>>
>>Take note that most superregens use the same active element as both
>>the RF oscillator and as the quench oscillator. Separating them,
>>has certain advantages in trying to get the best quench, and these
>>days it pretty much costs nothing to add the extra circuitry, unlike
>>in the 30s when the superregen was pretty hot.
>>
>>I'd be curious about why you think you need a crystal controlled
>>superregen. Most superregens have been at VHF (indeed, if you go
>>by some rules of thumb of making the quench frequency a certain percentage
>>of the operating frequency the quench will be at audio once you get below
>>a certain frequency), and getting a crystal to oscillate up
>>there may start being a problem especially the higher you go. Though,
>>I think some work has been done with SAW controlled superregens.
>>And whether it adds to selectivity is under question. Stability might
>>be a factor, but then the traditional wide bandwidth has always offset
>>any issue of frequency stability. Who cares about drift when a
>
> superregen's
>
>>bandwidth would basically cover most of the 2meter band?
>>
>> Michael VE2BVW
>>
>>
>>
>
>
>

379. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 03:38:12 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <DKoRa.4683$eP6.687938@news20.bellglobal.com>
Source record: 34146

"David J. Windisch" <davidw@copper.net> wrote in message
news:3f13ee31_1@newsfeed...
> Hmmmm. Been a long time since I thought about the r-d.
>
> IIRC #1: It (the reciprocating detector) would detect SSB and c-w, and it
> was silent between SSB bursts and c-w characters.

Hmmmmmm. My RD implementation behaves like a BFO, no silence like you recall. Heterodynes 5kHz and higher with a wide IF. Olberg's hr 74/09 article says "Through regenerative feedback Q1 and Q2 form a simple oscillator operating at the filter centre frequency". When not locked onto a carrier ("nonsynchronous mode") he said, "the reference level is no longer completely amplitue controlled by the input signal". That seems to suggest that as a locked on signal becomes weak, the amplitude of the reference signal will diminish until lock is lost and rise when it becomes unlocked. He went on "but it does have signal-induced phase fluctuations", whatever that means. I do notice a tendency for the reference signal (BFO) to pull on signal strength and also on keyed carrier or bass speech energy close to the lock-in range. The latter can sound like a lf resonant belch. The narrower the lock-in range, the less susceptible it would seem, but then with no better than 50Hz tuning steps and some drift to contend with, we can't be too narrow.

>
> IIRC #2: It was best preceded by mode-suited, steeply-sloped filtering.
>
> I recall speculating, back then, that its operating principle was to
> generate the bfo signal by ringing a bfo tank, offset from the incoming
> signal, with the bursts of incoming signal. When the tank ceased
> oscillating, the r-d output was silent.
>
> A mode-suited, steeply-sloped filter ahead of the r-d would help keep its
> bfo tank from being rung by unwanted (off-frequency) signals.

It would certainly prevent them beating against the product detector's self oscillation. The filtering of the reference signal inside the RD is supposed to be fairly narrow but not so narrow as to make lock difficult. The narrower the filter, purportedly the greater the immunity to impulse noise. In my current implementation, I use a ceramic resonator paralleled by a white top 455kHz IF L-C resonator. Olberg showed just an inductor in parallel with a quartz crystal, the inductor apparently chosen to resonate with the crystal's interelectrode capacitance at the crystal's frequency. My LC ratio is much lower and is perhaps not as effective at suppressing wideband noise but I can tune for a tighter lock range than Olberg recommended.

>
> The bfo offset required for these modes, and thus non-synchronousness of
the
> bfo with the incoming signals, I think, might help to support, to some
> degree, the speculation above, as well as to explain the use of
> "reciprocating", rather than "synchronous", as part of the name.

The "reciprocating" nomenclature seems to be related to switching the path between opposite phase legs of the product detector on the carrier phase reversals that occur with zero crossings of the modulation envelope of a suppressed carrier AM signal. Perhaps he borrowed it from "reciprocating engine" metaphor. The inventor, Badessa, did not use the term in his patent.

>
> Thinking about it now, I simply can't recall any attraction other than
> novelty ;o)

It does seem to me to be an inexpensive synchronous/nonsynchronous detector for all AM modes (and possibly NBFM) that can be easily constructed for low frequencies, eg 455kHz. I'm sure my parts cost is only about $10 compared to $150 for a kit that uses the Sony ICF2010 parts. I'd like to try a 2010 as many extol the virtues of its SD and see how they compare. My main complaint with the RD (or, at least, with my RD) is the audio null that occurs at one point in the lock range.

> 73, Dave, N3HE
and 73 to you.
Tom VE3MEO

380. Re: HF SSB Backpack portable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 03:44:43 UTC
From: Bob Headrick <bobh@proaxis.com>
Message-ID: <vhc6thdcrcfm86@corp.supernews.com>
Source record: 34148

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f1169d7$0$23584$5a62ac22@freenews.iinet.net.au...
> I am interested in acquiring a unit (or building a kit if such is available)
> for backpacking with the following specs
>
> Output around 5W SSB/CW
> Tunable
> Digital readout freq
> All (or most) amateur HF bands
> Light <1-2kg
> Battery drain low on Rx (?< 100mA)
> Rugged
>
> Does such a unit exist at reasonable cost or is this the realm of military
> style radios?
> I would appreciate any pointers

I would suggest the FT-817 - small, light and covers 160M - 440Mhz with 5W out
CW, SSB, FM, etc. With an internal battery pack it is just over 1Kg without
the microphone.

- 73 Bob W7OV

381. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 03:45:06 UTC
From: "Bob G. Mahrenholz" <bobm@edge.net>
Message-ID: <3F161B9E.D66A7F26@edge.net>
Source record: 34147

Hi Tom, I was waiting for a thunderstorm so I could answer your question. We finally got one.

You get maximum audio in the center of the passband as long as the regenerated carrier is in phase with the original carrier (suppressed or not). With the RD it is in phase.

It's hard to tell what lock range I get since I have a DDS local oscillator that only tines in 10kHz steps. I believe that since my RD uses a xtal, the lock range would be in the ballpark of a hundred cycles.

As far as noise rejection, I also have an envelope detector in my receiver and I can switch between it and the RD. I cannot tell any improvement on static crashes. I tried my electric shaver as a noise source and the RD may have had slightly less noise - but not enough difference to write home about.

Bob

Tom Holden wrote:

> Bob, thanks forcoming back. I'm delighted to connect with someone who has a
> RD.
>
> Do you not get null or minimal audio at zero beat in the centre of the
> passband with your authentic RD? I thought that this would be the normal
> response of a product detector on symmetrical sidebands - the negative
> frequency product would be antiphase of the positive frequency product.
> There is no such null on a SSB with carrier signal such as CHU.
>
> What lock range do you get? Without the 455kHz filter in the feedback loop,
> I get about 400Hz. With a ceramic resonator of unknown interelectrode
> capacitance, I have been trying different values of parallel inductors and
> getting lock range of 100 Hz or less.
>
> Do you find that the RD suppresses impulse noise and static crashes?
>
> 73, Tom VE3MEO
>
> "Bob G. Mahrenholz" <bobm@edge.net> wrote in message
> news:3F10DD64.2E66BD8F@edge.net...
> > I have a Reciprocating Detector that I built from a kit of parts that I
> purchased
> > from W1SNN back in 1972. I use it at 455kHz in an AM broadcast receiver to
> > eliminate selective fading.
> >
> > The IEEE Comm paper by Badessa lists the patent on the RD that you can

> look up.
> > Also if you get a null in the center of the lock range you may be locking
> 90
> > degrees out of phase with the carrier.
> >
> > Bob K4QQK
> >

382. Re: HAMCALC version 65 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 03:59:30 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <D2pRa.4710$eP6.692992@news20.bellglobal.com>
Source record: 34149

Works for me on Win98, right from the Start Menu. My cmd line is
E:\VE3ERP.BAT. I see gwbasic.exe in the same path. I can't remember if that
came with HamCalc or whether I put it there. The bat file either needs it to
be in the same path or there has to have been a PATH command issued prior
that includes the path to gwbasic.

73, Tom

"T.E.O" <rfmscpa@earthlink.net> wrote in message
news:WShRa.5052$Mc.436027@newsread1.prod.itd.earthlink.net...
> I'm using Win 98.
>
>
> <wa0goz@arrl.net> wrote in message news:3F15A47C.5410@arrl.net...
> > What Operating System are you using. Win2K and XP don't have DOS. That
> > might be your problem.
> >
> > Henry WA0GOZ
> >
> >
> > T.E.O wrote:
> > >
> > > Has anyone downloaded HAMCALC version 65 from the QST website &
actually
> got
> > > it to work?
> > >
> > > I unzipped it to my C: DRIVE as instructed. I have both the VE3ERP
file
> and
> > > the GWBASIC file in my root directory.
> > >
> > > When I do a RUN: VE3ERP, I get the message "You can not SHELL to
BASIC"
> >
> >
>

383. Re: HAMCALC version 65 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 06:19:43 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0307162219.2e389c30@posting.google.com>
Source record: 34150

wa0goz@arrl.net wrote in message news:<3F15A47C.5410@arrl.net>...

Hi all,
I got my new version from
http://www.cq-amateur-radio.com/HamCalcem.html . The page says it is
ver.65, but the archive has number 66. I REMed the "attrib" line in
the VE3ERP.BAT file. Now it runs O.K. under Win2K. It worked even
without that change, but an error message appeared shortly at the
startup.

BR from Ivan OK1SIP

> What Operating System are you using. Win2K and XP don't have DOS. That
> might be your problem.
>
> Henry WA0GOZ
>
>
> T.E.O wrote:
> >
> > Has anyone downloaded HAMCALC version 65 from the QST website & actually got
> > it to work?
> >
> > I unzipped it to my C: DRIVE as instructed. I have both the VE3ERP file and
> > the GWBASIC file in my root directory.
> >
> > When I do a RUN: VE3ERP, I get the message "You can not SHELL to BASIC"

384. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 07:36:32 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <zugW0bHAIIF$EAJs@ifwtech.co.uk>
Source record: 34157

Harold E. Johnson wrote:
>
>
>> I'm pretty sure it's just an amplifier. I took a very quick look at
>> the schematic this morning for my HP8640M, which should be the same.
>> I believe it's 18dB gain. As you say, it must be capable of the
>> output power. GALI-51 would be a bit closer match for the gain, but
>> not quite enough output power?
>>
>> Cheers,
>> Tom
>
>Parallel a couple.

Is there also an issue about harmonic content? ISTR there is no
significant harmonic filtering after that amp, so any replacement needs
to be operating well below its quoted maximum power output (which will
be at 1dB compression, where significant harmonic output is guaranteed).

Depending on the detailed schematic, might the input and output match
also be important? Are any filters or attenuators relying on this amp
for their wideband 50R source load or source? If there is no fixed
attenuator pad at the output, then the variable attenuator is relying on
the accuracy of the amp's output impedance (at least at high output
levels, ie low attenuation).

This might be a case for using push-pull, to reduce the even harmonics,
if you can find suitable wideband transformers. Four GALIs of some kind
in push-pull parallel might do the job nicely... but if you want to get
it as right as HP did in the original design, it ain't trivial.

I shouldn't have said that - I'm now too scared to switch on my 8640A!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

385. rock candy for popcorn receivers.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 08:14:52 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <UK6dnZEjge8Hy4uiXTWJkA@comcast.com>
Source record: 34151

Hi,

I have a question making a diplexer for a popcorn receiver:

For example, suppose I have an active mixer (AD831)
where the IF is the colorburst frequency (3579 khz).
I would then use an MK484 AM receiver chip (TRF stage
as demodulator) operating at the colorburst frequency
to downconvert from IF to baseband.

Given that lineup, does it make any sense to couple the
mixer and the TRF stages together using a colorburst
crystal, or do I need to couple them with a fully elaborated
diplexer?

I'm wanting a CW receiver, so I am not that concerned
about the crystal not being wide enough to pass voice.
Or is there something about impedance termination which
makes a diplexer far more important than the narrow
filtering which a crystal would give me?

That is to say, would a crystal work as a diplexer under
this circumstance?

Thanks for the advice in advance,

The Eternal Squire

386. Re: Balun 6:1 without Amidon

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 08:21:38 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <HhucnYeYG6StxYuiU-KYuQ@comcast.com>
Source record: 34152

Unfortunately, I can't read the site with my BabelFish.

Max <Max_Jens@post9.tele.dk.invalid> wrote in message
news:3f0aa4d3$0$48907$edfadb0f@dtext02.news.tele.dk...
> Hello Franck
>
> > also , can use old ferrites in old VHF or UHF television antennas (
>
> Another way is plain ferrite rods
> http://members.fortunecity.com/xe1bef/balun.htm
>
> Regards Max
>
>

387. Re: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 08:31:21 UTC
From: servis_za_elektroniku@yahoo.com
Message-ID: <71725543.0307170031.6a0bdc51@posting.google.com>
Source record: 34154
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

> Quote from eBay :
> Made in Germany, original box, never open, NOS, NIB. Diamond <> sign on
> bottom.
> How do you know for shure ??
> Lots of Tele's out there without <> ....

I have 9 of them, NOS/NIB, same serial, factory sealed. I have oppened
one box to check for <>. Photo available on request.

388. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 08:33:12 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <Q7ydnVUK_pN7x4uiXTWJjQ@comcast.com>
Source record: 34153

Sick thought :) did we hams just discover the Electric Derringer?

But seriously, the best way to debug one is backwards: 1) power supply
(seeing as you need it to run
everything), 2) audio stage. If you get a cheap signal generator from EBAY,
inject a 1 kilohertz
signal into the beginning of the audio amp and be certain you get a normal
volume to your headphones.
3) Set the generator to what the VFO circuit is supposed to be generating,
and debug your mixer stage,
that's the most difficult part. Now, if the VFO is actually a bogus
circuit, I have always found a no-fail
solution: the MPF102-based VFO from DeMaw's QRP design handbook.

Good luck,

The Eternal Squire

John R. Strohm <strohm@airmail.net> wrote in message
news:bek516$ke8@library2.airnews.net...
> "Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
> news:JrdPa.5760$_k2.251848@nnrp1.ptd.net...
> >
> > "TC Dufresne" <tdufresne@neb.rr.com> wrote in message
> > news:Zk5Pa.96759$fe.1988715@twister.rdc-kc.rr.com...
> > > Hi:
> > > I am having a problem with a "Simple Receiver for Beginners". It is
from
> a
> > > design that was featured in an old (1981) ARRL handbook. It is a DC
> > > receiver, looks like alot of fun, but it isn't fun now.
> > > Here is the problem.
> > >
> > > 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at
> > all,
> > > or on my Radio Shack freq counter.
> > > 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt.
I
> > am
> > > using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
> >
> > Are you using a tantalum capacitor? If they are inserted with the wrong
> > polarity they will get really hot ... sometime will actually burn.
>
> More likely explode, sending HARD ceramic fragments in ALL directions at

> HIGH velocity.
>
>

389. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 08:36:14 UTC
From: Craig Johnson <cbjohns@cbjohns.com>
Message-ID: <t3kRa.79843$Ph3.8337@sccrnsc04>
Source record: 34155

Troy,
Please join us - the Minnesota QRP Society.
We are a group of enthusiastic experimenters/builders.
We meet the first Saturday of every month 1:30 in the Minnetonka Community Center.
See our web page at http://www.qsl.net/mnqrp/

73,
Craig, AA&#65533;ZZ
Shoreview MN

"Troy" <troyml@nospam.yahoo.com> wrote in message
news:Xns93B886AA7604Btroymlnospamyahoocom@207.217.77.101...
> I am JUST starting to get interested in homebrewing things, and I don't
> know where to start! I have reasonable good solder skills, etc, have
> done some minor projects, rig interface kit, electronic kits in HS, some
> cables etc... But I'd like to do more, like build a regenerative,
> eventually a little transceiver, all the while learning what to do with
> tubes, transistors and all the rest.
>
> What I'd like to find is an Elmer in the Mpls area who would be willing
> to show me some of the stuff they've built, let me know where they
> procure their parts, maybe let me raid their junk box every once in a
> while.
>
> Feel free to reply off the list, or on if you have information about the
> homebrew scene in Mpls/St Paul of interest to everyone else.
>
> 73,
> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

390. Re: Homebrew in Mpls/St Paul

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 08:36:26 UTC
From: Craig Johnson <cbjohns@comcast.net>
Message-ID: <6qlRa.79963$Ph3.8546@sccrnsc04>
Source record: 34156

Troy,
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See our web page at http://www.qsl.net/mnqrp/

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Craig, AA&#65533;ZZ
Shoreview MN

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news:Xns93B886AA7604Btroymlnospamyahoocom@207.217.77.101...
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> while.
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> Feel free to reply off the list, or on if you have information about the
> homebrew scene in Mpls/St Paul of interest to everyone else.
>
> 73,
> Troy Lubbers KC0EJO
>
> (remove "nospam" to reply)

391. Re: 2pcs. Telefunken ECL82 (6BM8) NOS NIB diamond

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 09:22:57 UTC
From: servis_za_elektroniku@yahoo.com
Message-ID: <71725543.0307170122.4676989c@posting.google.com>
Source record: 34158
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

Sentence "the very first who will F* you up is someone who is close to you" is widely known in Serbia. Also all Serbs know they are "very clever", "talented" and "nation given by God". Sad. It isn't bad to talk but it is bad and sad to spread rumors about something that you don't know, can't prove, something that you are just guessing. That is one more prove about who the Serbs are. I'm Serb too and can't say I'm proud of it. What is the way you want to see photos of the tubes and show you how wrong you are ? Then I would like to her your opinion about tube(s) "in question".

Regards,

Dragan

U Srbiji je jako poznata izreka "ko ce koga nego svoj svoga". Takodje je u Srba poznato da su "jako pametan", "talentovan" i "nebeski narod". Zalosno. Nije strasno pricati ali je zalosno tvrditi nesto sto neznas, ne mozes da dokazes, nisi siguran i baziras na pretpostavkama, sto je samo jos jedan dokaz o navikama u Srba. I ja sam Srbin, i ne mogu reci da sam zbog toga ponosan. Na koji nacin bi zeleo da ti uradim fotografije kako bi se uverio koliko gresis ? Tada bih voleo cuti tvoje misljenje o "spornim" cevima.

Pozdrav,

Dragan

"Choky" <choky*remove*@eunet.yu> wrote in message news:<beskiq$82r$1@news.eunet.yu>...
> hehe,that's why we share informations here
> ;)
>
> --
> Choky
> Prodanovic Aleksandar
> YU
>
> (wow,what xpost!)
>
> "Ronald" <ln.maps.emoh@tip.r> wrote in message
> news:berpm7$u36$1@news2.tilbu1.nb.home.nl...
> > OK , I'll let him bread .
> >
> > But since I don't know the guy I think my question wasn't that weird ...
> > I just saw the 2 sealed boxes .....
> >

> > Ronald .
> >
> > "Choky" <choky*remove*@eunet.yu> schreef in bericht
> > news:bepɪbb$6ro$3@news.eunet.yu...
> > > Ron,"Servis za elektroniku" (hehe) is one good and knowledgeable guy.
> > > lay off a little,let him bread;
> > > if he sez tht diamond is below,be sure that is-he always have enough
> boxes
> > > from same lot-opening few of them tell ya everything about lot.
> > >
> > > --
> > > Choky
> > > Prodanovic Aleksandar
> > > YU
> > >
> > > ps.even if I'm on his side (;)) I can say few words for massive xpost!
> > >
> > > "Ronald" <ln.maps.emoh@tip.r> wrote in message
> > > news:beopvvajg1@news2.tilbu1.nb.home.nl...
> > > > "Servis za elektroniku ï¿½" <servis_za_elektroniku@yahoo.com> schreef in
> > > > bericht news:71725543.0307112259.46ebba66@posting.google.com...
> > > > > on E-bay:
> > > > >
> > > > >
> > > >
> > >
> >
> http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2544919738&category=14947
> > > > &rd=1
> > > >
> > > > Quote from eBay :
> > > > Made in Germany, original box, never open, NOS, NIB. Diamond <> sign
> on
> > > > bottom.
> > > >
> > > > How do you know for shure ??
> > > > Lots of Tele's out there without <> ....
> > > >
> > > >
> > >
> > >
> >
> >

392. ** FLEA at MIT ** Sunday July 20th Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 11:07:13 UTC
From: w1gsl@mit.edu
Message-ID: <3f168361$0$3932$b45e6eb0@senator-bedfellow.mit.edu>
Source record: 34159
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors

This coming Sunday....

+++ Now even more Buyers Parking !!!
Thanks to TKT we have use of their new parking lot
across Albany St from the SWAPFEST !!!

!! ** More Buyers PARKING is available ** for details see
http://web.mit.edu/w1gsl/Public/flyer

*** !!!! In our Traditional GARAGE and the adjacent lot !!!! ****
so come rain or shine or super heat the Flea is on !!!

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
Sunday July 20th 2003
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >2000 cars!

Buyers admission is $5 (you get $1 off if
you're lucky enough to have a copy of our ad)
and sellers spaces are $20 for the first and
$15 for each additional at the gate.

The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
time starting at 7AM.

*** Attention Sellers ***
Prepaid vendors.. Season Pass or monthly,
will be admitted FIRST.
Separate lines will form prior to gate opening
for prepaid and nonprepaid vendors

!! RAIN or SHINE !! Have no fear of rain, a covered
well illuminated tailgate area is available for all
sellers (6'8" clearance).

Talk-in: 145.23- (PL 88.5) W1BOS/R and
W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ************

<<<<<<<<<<<<<<<<<<<<<<< cut here >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

Mail the coupon below by the 5th of the month to be a Prepaid Vendor.

FLEA at MIT 2003 Rates

SELLERS

This year each vendor must have a Cambridge Vendor License.
We will do all the paperwork to get the one day Cambridge licenses.
To keep the spaces affordable we are discounting your first space.
To use your spaces the named vendor MUST be present.
Rates include one admission per space.

Advance $17 First space - includes $10 Cambridge Vendor License
$12 Additional Spaces
Must be received by the 5th of the month.

Gate Admission $20 First Space - includes $10 Cambridge Vendor License
$15 Additional Spaces
Admission is after the prepaid vendors

Early Bird Buyer -Admission after the prepaid vendor line is admitted. ~ 7:15AM
** You may not sell. **
$15 per person at the gate.

****************************** cut here ******************************

FLEA at MIT 2003 Advance Space Application

____April ____May ____June ____ July ____Aug ___Sept ____Oct
@ $17 for the first each month + $12 each additional

Name _____ Call _____ $ Included_____

Address _____ Phone _____ Make Check to
The MIT Radio Society
City _____ State _____ Zip _____ PO Box 397082
Cambridge MA 02139
E-mail _____

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

393. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 14:50:16 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <IIyRa.59353$3o3.3945788@bgtnsc05-news.ops.worldnet.att.net>
Source record: 34160

The Analog Devices AD607 would do the trick.....it is an I.F. subsystem
that has I and Q outputs. There isn't much support from Analog Devices on
this one, so you would be breaking new frontiers.

Pete

Leon Heller <leon_heller@hotmail.com> wrote in message
news:bf4d67$b48$1@sparta.btinternet.com...
>
> <pbreed@NoSpam.com> wrote in message
> news:ljrahvo3j8nc2hsasv0i9j66unqnkda0qb@4ax.com...
> > Can anyone reccomend a good small surface mount FM receiver chip that is
> currently availible?
> >
> >
> > Is it possible to do FM reception with a Direct conversion RX and some
> simple DSP?
>
>
> You can convert directly down to I and Q baseband with two mixers and a
> quadrature oscillator, then demodulate the baseband signals with a DSP.
>
> 73 Leon
> --
> Leon Heller, G1HSM
> leon_heller@hotmail.com
> http://www.geocities.com/leon_heller
>
>

394. Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 17:11:57 UTC
From: Tom <tstimac01@yahoo.com>
Message-ID: <bf6l9p$7dnv$1@as201.hinet.hr>
Source record: 34161
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hello

If anyone can recommend me a good book from which i will learn to construct oscillator that for example covers range 0-12 MHz.

Thanks in advance!
Tom

395. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 17:29:12 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F16DE17.4D38D659@rica.net>
Source record: 34162
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Tom wrote:
>
> Hello
>
> If anyone can recommend me a good book from which i will learn to construct
> oscillator that for example covers range 0-12 MHz.
>
> Thanks in advance!
> Tom

I would probably start here:
http://www.maxim-ic.com/quick_view2.cfm/qv_pk/1257
--
John Popelish

396. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 18:02:34 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307171002.7a5136ac@posting.google.com>
Source record: 34163

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<zugW0bHAIlF$EAJs@ifwtech.co.uk>...

> Is there also an issue about harmonic content? ISTR there is no
> significant harmonic filtering after that amp, so any replacement needs
> to be operating well below its quoted maximum power output (which will
> be at 1dB compression, where significant harmonic output is guaranteed).
>
> Depending on the detailed schematic, might the input and output match
> also be important? Are any filters or attenuators relying on this amp
> for their wideband 50R source load or source? If there is no fixed
> attenuator pad at the output, then the variable attenuator is relying on
> the accuracy of the amp's output impedance (at least at high output
> levels, ie low attenuation).
>
> This might be a case for using push-pull, to reduce the even harmonics,
> if you can find suitable wideband transformers. Four GALIs of some kind
> in push-pull parallel might do the job nicely... but if you want to get
> it as right as HP did in the original design, it ain't trivial.
>
> I shouldn't have said that - I'm now too scared to switch on my 8640A!

All good points, Ian. Indeed there's no filtering after the
amplifier, so if you want to keep the harmonic content low, you will
want a decent amplifier there. Also, the output power should be at
least +23dBm if you want to have the same performance as the original.
However, I believe the output is leveled (or at least monitored), so
the output impedance is irrelevant, except perhaps on the highest
range where the source impedance may depend on the amplifier output
impedance. I could have a closer look at the schematic (and in the HP
Journal article about the 8640B) if anyone has a serious need to know
some more details.

It may have been in this group a while ago that mention was made of
the way the 8640 generates its output bands: an oscillator from about
250 to 500MHz, with digital divide-by-2 stages followed by LC filters
to attenuate the harmonics. Someone said, I believe, that there is
only one filter per octave. That is not the case with my 8640M, which
on the higher bands has two filters per octave, one for the low half
and one for the high half of the band, which are somehow automatically
switched. I didn't look into just how the switch point was
determined.

Cheers,
Tom

397. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 18:08:10 UTC
From: Jock Cooper <jockc@mail.com>
Message-ID: <m3he5l6n79.fsf@jcooper02.sagepub.com>
Source record: 34164

Roy Lewallen <w7el@eznec.com> writes:

> When you get _Experimental Methods. . _, look at the very first few
> pages -- "Getting Started". You'll find a nice drawing and some other
> information about "ugly construction".
>
> Incidentally, the method was first described and the term coined in
> the article "The Ugly Weekender" by Roger and Wes Hayward, in August
> 1981 QST. If you can get hold of a copy of this article, it has more
> about the method, as well as some other good information.
>
> If and when you do eventually decide to get a scope -- I've been
> surprised to see Tek 465 scopes going on eBay for about $200. That's
> an awful lot of bang for the buck.
>
> Roy Lewallen, W7EL
>

Well last night I took some double sided copper clab board and cut off
a small square. (By the way, what is the best way to cut this stuff?)
I rebuilt the oscillator on there in 'ugly' style. And it was in fact
quite ugly. It looked like something I would have done as a kid. But
it worked! Now I'm sold on it. Hopefully I can get some pointers on
improving my technique from the book.

Now I have a new question though. The circuit is a Clapp based on the
MPF102 JFET. When I compute the frequency range, it is close to the
measured range but not the same; but there appears to be some
capacitance that I can't account for, and its value seems higher than
would be 'stray'.

The circuit I'm using is basically like the one at
http://www.electronics-tutorials.com/oscillators/colpitts-oscillators.htm
in figure 2, but without the extra parallel stuff on the variable cap.
So I calculate the cap value by adding the var cap value in series
with the caps labelled on that website as cfb-a and cfb-b. (By the
way, what happens if those two aren't the same value?) Do any of the
other capacitors in the circuit factor in?

How much capacitance could my 'pill bottle inductor' be contributing?
I was careful, but not extra careful when winding it.

398. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 19:09:49 UTC
From: Leigh W3NLB <w3nlbREMOVETHIS@amsat.org>
Message-ID: <73tdhvks1u6u9jhm3hr6filnmtkps64ia8@4ax.com>
Source record: 34165
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:

>Hello
>
>If anyone can recommend me a good book from which i will learn to construct
>oscillator that for example covers range 0-12 MHz.
>
>Thanks in advance!
>Tom
>

12 MHz is easy. 0 MHz is really difficult.

73 de Leigh W3NLB

399. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 19:26:38 UTC
From: Jock Cooper <jockc@mail.com>
Message-ID: <m3smp5eyz5.fsf@jcooper02.sagepub.com>
Source record: 34168
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Leigh W3NLB <w3nlbREMOVETHIS@amsat.org> writes:

> On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:
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> >Hello
> >
> >If anyone can recommend me a good book from which i will learn to construct
> >oscillator that for example covers range 0-12 MHz.
> >
> >Thanks in advance!
> >Tom
> >
>
> 12 MHz is easy. 0 MHz is really difficult.

Are you kidding? almost all my attempted oscillators run at 0Mhz..

400. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 19:39:07 UTC
From: "M. J. Powell" <mike@pickmere.demon.co.uk>
Message-ID: <8I6IJlObtvF$Ew6F@pickmere.demon.co.uk>
Source record: 34167
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In message <73tdhvks1u6u9jhm3hr6filnmtkps64ia8@4ax.com>, Leigh W3NLB
<w3nlbREMOVETHIS@amsat.org> writes
>On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:
>
>>Hello
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>>If anyone can recommend me a good book from which i will learn to construct
>>oscillator that for example covers range 0-12 MHz.
>>
>>Thanks in advance!
>>Tom
>>
>
>12 MHz is easy. 0 MHz is really difficult.

I've seen them in little boxes in Woolworths.

Mike
--
M.J.Powell

401. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 19:42:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhdv0hnp5mj80a@corp.supernews.com>
Source record: 34166

I usually cut PC board material with tin snips. A hacksaw also works, but it makes a lot of irritating dust.

In the schematic you mention, the "a" and "b" capacitors form a voltage divider to control the amount of signal that's fed back to the active device. If there's too much (a/b ratio too large), the waveform will be distorted and the temperature drift will probably increase. If there's too little, the oscillator will be slow to start or won't start reliably or at all.

I don't want to answer your question about calculating the oscillation frequency without some detailed thought, which I don't have time for just now. But I believe you're doing the right calculation. Note that the oscillator output is in parallel with the "b" capacitor, so any capacitive loading on the oscillator will lower the frequency. The RFC and your inductor will both present some stray C. It's nearly impossible to tell how much C your inductor will contribute. There are a couple of ways to measure it, but if you've got the other capacitances under control, you've already made yourself a test fixture for determining inductor capacitance (assuming you know its inductance) -- it's the oscillator.

Roy Lewallen, W7EL

Jock Cooper wrote:
> Roy Lewallen <w7el@eznec.com> writes:
>
>
>>When you get _Experimental Methods. . _, look at the very first few
>>pages -- "Getting Started". You'll find a nice drawing and some other
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>>If and when you do eventually decide to get a scope -- I've been
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>>Roy Lewallen, W7EL
>>
>
>

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> a small square. (By the way, what is the best way to cut this stuff?)
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> would be 'stray'.
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> The circuit I'm using is basically like the one at
> http://www.electronics-tutorials.com/oscillators/colpitts-oscillators.htm
> in figure 2, but without the extra parallel stuff on the variable cap.
> So I calculate the cap value by adding the var cap value in series
> with the caps labelled on that website as cfb-a and cfb-b. (By the
> way, what happens if those two aren't the same value?) Do any of the
> other capacitors in the circuit factor in?
>
> How much capacitance could my 'pill bottle inductor' be contributing?
> I was careful, but not extra careful when winding it.
>
>

402. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 19:55:51 UTC
From: Old DXer <"Old DXer"@connectnet.net>
Message-ID: <bbDRa.2290$ff.2113@fed1read01>
Source record: 34169
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Leigh W3NLB" <w3nlbREMOVETHIS@amsat.org> wrote in message
news:73tdhvks1u6u9jhm3hr6filnmtkps64ia8@4ax.com...
> On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:
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> >Hello If anyone can recommend me a good book from which i will learn to
construct
> >oscillator that for example covers range 0-12 MHz.
> >
> >Thanks in advance!
> >Tom
> >
> 12 MHz is easy. 0 MHz is really difficult.
>
> 73 de Leigh W3NLB

Nah for 0 MHz -- have a switch labeled 0 MHz -- fed by a battery.

Its the 0.00000000000000000000000000000001 Hertz that will be a problem

All in good fun.

Seriously you need to decide on accuracy and stability first which will
dictate whether you will be building an analog, or synthesized unit.

For an analog homebrew project -- see URL:
http://www.vintage-radio.com/projects/signal-generator.shtml
Covers 150kHz to 12 MHz. For the lower frequencies -- get a hold of some of
the later solid state Heathkit Audio generator manuals.

Or from scratch -- consider the following books:
http://www.sss-mag.com/cosc.html#books

>

403. MAking PC board using Silkscreen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-17 23:56:22 UTC
From: af4z@cfl.rr.com
Message-ID: <GIGRa.30271$k85.1275656@twister.tampabay.rr.com>
Source record: 34170

A group of local ham would like to make some simple boards that have large traces and pads. Traces are 100mils wide and pads are 150mils. It's a single sided board.
It will be cheaper to go with a silkscreen over the photo etch method? Can anyone recommend a screen kit that would work for this project. The boards are 12 inches long and 3-4 inches wide. Pre-sensitized copper clad board is very expensive.We need to make 12-15 boards.

DOn AF4Z

404. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 01:11:22 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bf7hfq$4ir$1@titan.btinternet.com>
Source record: 34171

I havn't read back to see what oscillator frequency is required.

But estimating coil dimensions is most likely to be the greatest source of error, especially at VHF. It should not be forgotten the dimensions of the tuning capacitors and the length of their connections affect the total circuit inductance.

The self-capacitance of the coil and its capacitance to surrounding parts is also of consequence.

In general, expect the resonant frequency to be several percent smaller than predicted.

If the coil is a small solenoid then use program SOLNOID3 to predict inductance. The program allows self-capacitance to be accounted for. But accuracy can be no better than the accuracy of measuring and constructing it. Take into account the difference between former diameter and the distance between wire centres otherwise for small VHF coils the inductance error may be as much as 10%.

The manufacturing tolerance on tuning capacitors MUST be taken into account. It may amount to plus or minus 20 percent corresponding to a discrepancy of 10 percent in frequency. If your oscillator is a VFO then I don't recommend a Clap. Its output always falls fairly fast with increasing frequency. You can't beat a parallel tuned circuit between gate and ground with the source tapped about 1/4 of the way up the coil.

Download SOLNOID3 in a few seconds and run immediately.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

405. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 01:40:20 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bf7j64aq1@freenet9.carleton.ca>
Source record: 34173
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Leigh W3NLB (w3nlbREMOVETHIS@amsat.org) writes:
> On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:
>
>>Hello
>>
>>If anyone can recommend me a good book from which i will learn to construct
>>oscillator that for example covers range 0-12 MHz.
>>
>>Thanks in advance!
>>Tom
>>
>
> 12 MHz is easy. 0 MHz is really difficult.
>
>
> 73 de Leigh W3NLB
>
The workaround is to have a variable oscillator beating against a fixed oscillator. So you have your variable oscillator going from 30 to 42MHz (I just picked those out of my hat), a fixed oscillator running at 30 MHz, and a mixer fed with both oscillators. The output of the mixer will be 0 to 12MHz (plus some other things).

Michael VE2BVW

406. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 01:48:17 UTC
From: Dick Carroll <dickc58@att.net>
Message-ID: <3F1751DB.73AE723F@att.net>
Source record: 34172
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi John,

I need to get one of the MAX038EVKIT oscillator evaluation kits shown at the website below but can't check the price nor order it without being a logged-in member, and don't believe that would work out for a one piece hanm radio use purchase. Where/how can I just order a single unit?

Dick

John Popelish wrote:

> Tom wrote:
> >
> > Hello
> >
> > If anyone can recommend me a good book from which i will learn to construct
> > oscillator that for example covers range 0-12 MHz.
> >
> > Thanks in advance!
> > Tom
>
> I would probably start here:
> http://www.maxim-ic.com/quick_view2.cfm/qv_pk/1257
> --
> John Popelish

407. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 01:53:43 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <HqIRa.84092$N7.10749@sccrnsc03>
Source record: 34174
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> I need to get one of the MAX038EVKIT oscillator evaluation kits shown at
the website
> below but can't check the price nor order it without being a logged-in
member, and
> don't believe that would work out for a one piece hanm radio use purchase.
Where/how
> can I just order a single unit?
>
> Dick

Maxim has an enlightened purchasing policy and will sell at a small premium,
1 or 2 of anything in their product line direct.

W4ZCB

408. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 02:48:29 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F176124.53D7999F@rica.net>
Source record: 34175
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dick Carroll wrote:
>
> Hi John,
>
> I need to get one of the MAX038EVKIT oscillator evaluation kits shown at the website
> below but can't check the price nor order it without being a logged-in member, and
> don't believe that would work out for a one piece hanm radio use purchase. Where/how
> can I just order a single unit?

Digikey sells a single unit of the chip for $24, but 25 is their
minimum order. You will have to recreate the kit with your own parts.

The data sheet shows most of what you will need.
http://rocky.digikey.com/WebLib/Maxim/Web%20Data/MAX038.pdf

Maxim is also pretty good about giving out samples but you will have
to register.

--
John Popelish

409. Re: Reciprocating vs Synchronous Detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 04:18:43 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <zqKRa.2213$5e7.179084@news20.bellglobal.com>
Source record: 34177

"Bob G. Mahrenholz" <bobm@edge.net> wrote in message
news:3F161B9E.D66A7F26@edge.net...
> Hi Tom, I was waiting for a thunderstorm so I could answer your question.
We
> finally got one.

Great!

> You get maximum audio in the center of the passband as long as the
regenerated
> carrier is in phase with the original carrier (suppressed or not). With
the RD
> it is in phase.

I get minimum audio near the centre. It's hard to tell where centre is with 50Hz steps. Tried reversing phase of feedback loop and got no oscillation, no audio. I'm wondering whether a phase shift network might be needed in the connection of the feedback loop to the product detector base. In Olberg's 10.7MHz version (hr 78/10), he describes a phase shift network on the input signal to the product detector. The unshifted signal also feeds the biased half-wave rectifier/reciprocating switch, as it does in the original version, which lacks the phase-shifted input to the PD.

> It's hard to tell what lock range I get since I have a DDS local
oscillator that
> only tines in 10kHz steps. I believe that since my RD uses a xtal, the
lock
> range would be in the ballpark of a hundred cycles.
>
> As far as noise rejection, I also have an envelope detector in my receiver
and I
> can switch between it and the RD. I cannot tell any improvement on static
> crashes. I tried my electric shaver as a noise source and the RD may have
had
> slightly less noise - but not enough difference to write home about.

That's what I get with my RD variant, too.

Do you hear heterodynes with your RD as you tune between stations and approach lock? In your e-mail you indicate that you hear only white noise in the absence of signal.

>
> Bob

73, Tom

410. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 04:40:53 UTC
From: Dana Myers K6JQ <k6jq@arrl.net>
Message-ID: <94914af6cd241d4c88e4bfb67020b169@free.teranews.com>
Source record: 34176

Jock Cooper wrote:

> I tried numerous circuits and numerous types (Hartley, Colpitts etc) I
> had found but I couldn't get any of them to start up.

Oh, that's easy. You're *trying* to build an oscillator; give up on
that goal and choose an easier one: try to build an amplifier. I mean,
really *want* to build a stable amplifier. Voila! An oscillator!!

Dana K6JQ
k6jq@arrl.net

411. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 07:35:32 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <TyhejPJEN6F$EAc5@ifwtech.co.uk>
Source record: 34182

Tom Bruhns wrote:
>"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
>news:<zugW0bHAIlF$EAJs@ifwtech.co.uk>...
>
>> Is there also an issue about harmonic content? ISTR there is no
>> significant harmonic filtering after that amp, so any replacement needs
>> to be operating well below its quoted maximum power output (which will
>> be at 1dB compression, where significant harmonic output is guaranteed).
>>
>> Depending on the detailed schematic, might the input and output match
>> also be important? Are any filters or attenuators relying on this amp
>> for their wideband 50R source load or source? If there is no fixed
>> attenuator pad at the output, then the variable attenuator is relying on
>> the accuracy of the amp's output impedance (at least at high output
>> levels, ie low attenuation).
>>
>> This might be a case for using push-pull, to reduce the even harmonics,
>> if you can find suitable wideband transformers. Four GALIs of some kind
>> in push-pull parallel might do the job nicely... but if you want to get
>> it as right as HP did in the original design, it ain't trivial.
>>
>> I shouldn't have said that - I'm now too scared to switch on my 8640A!
>
>All good points, Ian. Indeed there's no filtering after the
>amplifier, so if you want to keep the harmonic content low, you will
>want a decent amplifier there. Also, the output power should be at
>least +23dBm if you want to have the same performance as the original.
> However, I believe the output is leveled (or at least monitored), so
>the output impedance is irrelevant, except perhaps on the highest
>range where the source impedance may depend on the amplifier output
>impedance.

Good point.

>I could have a closer look at the schematic (and in the HP
>Journal article about the 8640B) if anyone has a serious need to know
>some more details.
>

Are those old HPJs on the web anywhere?

>It may have been in this group a while ago that mention was made of
>the way the 8640 generates its output bands: an oscillator from about
>250 to 500MHz, with digital divide-by-2 stages followed by LC filters
>to attenuate the harmonics. Someone said, I believe, that there is

>only one filter per octave. That is not the case with my 8640M, which
>on the higher bands has two filters per octave, one for the low half
>and one for the high half of the band, which are somehow automatically
>switched. I didn't look into just how the switch point was
>determined.

There's a mechanical switch on the slide-rule tuning mechanism.

But the true glory of the 8640 series is the way it keeps the FM
deviation constant when more dividers are switched in. Who else but HP
would have used a differential gearbox?

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

412. Re: MAking PC board using Silkscreen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 08:38:19 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bf8blq$b3g$1@hercules.btinternet.com>
Source record: 34178

"Don Winn" <af4z@cfl.rr.com> wrote in message
news:GIGRa.30271$k85.1275656@twister.tampabay.rr.com...
> A group of local ham would like to make some simple boards that have large
> traces and pads. Traces are 100mils wide and pads are 150mils. It's a
single
> sided board.
> It will be cheaper to go with a silkscreen over the photo etch method? Can
> anyone recommend a screen kit that would work for this project. The boards
are
> 12 inches long and 3-4 inches wide. Pre-sensitized copper clad board is
very
> expensive.We need to make 12-15 boards.
>

I think that Mega Electronics (in the UK) sells a silk screen kit. It's
intended for silk screening legends onto PCBs, but it could be used for
resist.

Where I worked 40 years ago, we made some PCBs using silk screen.

73, Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

413. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 08:38:20 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bf8blr$b3g$2@hercules.btinternet.com>
Source record: 34179
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Tom" <tstimac01@yahoo.com> wrote in message
news:bf6l9p$7dnv$1@as201.hinet.hr...
> Hello
>
> If anyone can recommend me a good book from which i will learn to
construct
> oscillator that for example covers range 0-12 MHz.

A DDS chip like the Analog Devices AD9850 will give you something close to
that. It won't quite go down to 0 MHz, though. You could just switch it off,
of course.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

414. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 10:54:05 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f17d1e2$0$23602$5a62ac22@freenews.iinet.net.au>
Source record: 34180

Looking at a cicuit, this issues seem to be
The attenuator presumably relies on the output impedance being 50 ohms
The hybrid has a gain of 16dB with an output of about +23dBm. Monitoring and AGC is separate from the hybrid, so all it has to do is provide the gain and output!
Supply voltage is 44V
There is no post amplifier filtering, so harmonics will depend on the amp.
None of the conventional MMICs seem to fit directly - it might be necessary to make up something from discrete components

Richard

Tom Bruhns <k7itm@aol.com> wrote in message
news:3200347.0307171002.7a5136ac@posting.google.com...
> "Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<zugW0bHAIlF$EAJs@ifwtech.co.uk>...
>
> > Is there also an issue about harmonic content? ISTR there is no
> > significant harmonic filtering after that amp, so any replacement needs
> > to be operating well below its quoted maximum power output (which will
> > be at 1dB compression, where significant harmonic output is guaranteed).
> >
> > Depending on the detailed schematic, might the input and output match
> > also be important? Are any filters or attenuators relying on this amp
> > for their wideband 50R source load or source? If there is no fixed
> > attenuator pad at the output, then the variable attenuator is relying on
> > the accuracy of the amp's output impedance (at least at high output
> > levels, ie low attenuation).
> >
> > This might be a case for using push-pull, to reduce the even harmonics,
> > if you can find suitable wideband transformers. Four GALIs of some kind
> > in push-pull parallel might do the job nicely... but if you want to get
> > it as right as HP did in the original design, it ain't trivial.
> >
> > I shouldn't have said that - I'm now too scared to switch on my 8640A!
>
> All good points, Ian. Indeed there's no filtering after the
> amplifier, so if you want to keep the harmonic content low, you will
> want a decent amplifier there. Also, the output power should be at
> least +23dBm if you want to have the same performance as the original.
> However, I believe the output is leveled (or at least monitored), so
> the output impedance is irrelevant, except perhaps on the highest
> range where the source impedance may depend on the amplifier output
> impedance. I could have a closer look at the schematic (and in the HP
> Journal article about the 8640B) if anyone has a serious need to know

> some more details.
>
> It may have been in this group a while ago that mention was made of
> the way the 8640 generates its output bands: an oscillator from about
> 250 to 500MHz, with digital divide-by-2 stages followed by LC filters
> to attenuate the harmonics. Someone said, I believe, that there is
> only one filter per octave. That is not the case with my 8640M, which
> on the higher bands has two filters per octave, one for the low half
> and one for the high half of the band, which are somehow automatically
> switched. I didn't look into just how the switch point was
> determined.
>
> Cheers,
> Tom

415. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 12:05:06 UTC
From: Tom <tstimac01@yahoo.com>
Message-ID: <bf8nmc$b73n$1@as201.hinet.hr>
Source record: 34181
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Leigh W3NLB wrote:
> 12 MHz is easy. 0 MHz is really difficult.

If you read my original post again or at least the topic, it says 0-12 (not 0, 12) MHz. And that would mean something in the range between 0 and 12. I don't remember when and WHERE i said that i need 0 MHz oscilator. The only one who talks about 0 MHz osc is you.

Big thanks to all other people who gave me good starting points. I was thinking about some CMOS devices, but most of them are square output. This MAX038 baby looks like a dream come true!

I also need to say big thanks to Old DXer. That is exacly what i was looking for !!! A finished project. If anyone knows similar links with finished oscillator projects of this freq. range, you can simply add it in a follow up to this message.

Thank you all again!!

416. Quagi 70cm design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 12:37:36 UTC
From: Roberto <pippu@excite.com>
Message-ID: <kSRRa.185359$Ny5.5223011@twister2.libero.it>
Source record: 34183
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hi, I re-designed a 8 el. Quagy for 70cm because I had problems with the original design. I thought it might interest to someone so I put it on www.qsl.net/ik1hge/homebrew/homebrew.html
It seems that the antenna works fine (gain looks outstanding for such a small antenna, but I can't measure it accurately), however I'd like to get some feedbacks from someone else. It's very easy to build.

Thanks
Bye
Roberto

417. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 14:51:36 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bf91ho$k05$1@freenet9.carleton.ca>
Source record: 34184
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

W7TI (noway@nohow.com) writes:
> On Fri, 18 Jul 2003 14:05:06 +0200, "Tom" <tstimac01@yahoo.com> wrote:
>
>>If you read my original post again or at least the topic, it says 0-12 (not
>>0, 12) MHz. And that would mean something in the range between 0 and 12. I
>>don't remember when and WHERE i said that i need 0 MHz oscilator. The only
>>one who talks about 0 MHz osc is you.
>
> ____
>
> Perhaps English is a second language for you, but when you say 0-12 that
> will be taken to mean those two frequencies and everything in between.
>
> --
> Bill, W7TI
>
And of course, even if such a full range oscillator was not intended
by the original poster, I'd say there often is a big difference between
oscillators in the KHz range and those in the MHz range. Obviously,
the concept of an oscillator doesn't change, but the specific design
does.

You can use resistors and capacitors to set the frequency down near
the audio range, and do your best to avoid coils down there due
to their size, while once you get into radio frequencies, one tends to
use coils for the frequency control element.

Time after time, I see people asking questions about oscillators,
and often they are coming to radio frequencies from an audio background.
So they think in terms of just scaling some favorite audio oscillator
up to radio frequencies, when a simpler solution would be to use an LC
oscillator.

Somewhere in this thread, the 8038's more recent spawn was mentioned.
Obviously, it will work over that full range, but I'm suspicious about
how good it will be at radio frequencies, as I would about any RC
oscillator. It seems a stretch to expect it to work as well at 12MHz
as at 10KHz.

Michael VE2BVW

418. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 15:13:23 UTC
From: Tom <tstimac01@yahoo.com>
Message-ID: <bf92no$bket$1@as201.hinet.hr>
Source record: 34185
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Michael Black wrote:
> Somewhere in this thread, the 8038's more recent spawn was mentioned.
> Obviously, it will work over that full range, but I'm suspicious about
> how good it will be at radio frequencies, as I would about any RC
> oscillator. It seems a stretch to expect it to work as well at 12MHz
> as at 10KHz.

I agree. But on the other hand if you controll this 8038 with another PLL synthesizer, i think the overall performance should be ok from 10 kHz to 12 MHz. I think that is the way how most of "pro stuff" works.

419. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 17:14:02 UTC
From: JJ <radiobuff0@mailcity.moc>
Message-ID: <3F182ADA.6030108@mailcity.moc>
Source record: 34194
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Leigh W3NLB wrote:
> On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:
>
>
>>Hello
>>
>>If anyone can recommend me a good book from which i will learn to construct
>>oscillator that for example covers range 0-12 MHz.
>>
>>Thanks in advance!
>>Tom
>>
>
>
> 12 MHz is easy. 0 MHz is really difficult.

Zero MHz is real easy, just throw a capacitor, transistor,
resistor, tube, or any other electronic component on the bench.
There, an oscillator that oscillators at zero MHz.

420. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 18:32:21 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307181032.7089656e@posting.google.com>
Source record: 34186

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<TyhejPJEN6F$EAc5@ifwtech.co.uk>...
> Tom Bruhns wrote:
> >"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
> >news:<zugW0bHAIlF$EAJs@ifwtech.co.uk>...
> >
...
> >I could have a closer look at the schematic (and in the HP
> >Journal article about the 8640B) if anyone has a serious need to know
> >some more details.
> >
>
> Are those old HPJs on the web anywhere?

For a while they were, then there was only an index, and now I'm
unable to find anything. Just yesterday, I boxed up a _complete_ set
of HPJs to move to our new site, so if there is a specific article you
need, please ask and I'll see what I can do (after the move in a
couple weeks). I have the HPJ that covers the 8640 at home, though,
and could turn part or all of it into a PDF file. Unfortunately, the
PDF would be large because it's a set of images, not text-based, from
my scanner. I also have the service manual on the 8640M, which is a
little different from either the A or B models.
>
> >It may have been in this group a while ago that mention was made of
> >the way the 8640 generates its output bands: an oscillator from about
> >250 to 500MHz, with digital divide-by-2 stages followed by LC filters
> >to attenuate the harmonics. Someone said, I believe, that there is
> >only one filter per octave. That is not the case with my 8640M, which
> >on the higher bands has two filters per octave, one for the low half
> >and one for the high half of the band, which are somehow automatically
> >switched. I didn't look into just how the switch point was
> >determined.
>
> There's a mechanical switch on the slide-rule tuning mechanism.

Presumably it's a bit different in mine, since there is no slide-rule
tuning mechanism. I'll have to have a look.
>
> But the true glory of the 8640 series is the way it keeps the FM
> deviation constant when more dividers are switched in. Who else but HP
> would have used a differential gearbox?

In the 1970's when the 8640 was designed, we did, and people like
Collins did, but now we don't. There are very few pots or trimcaps in

our circuits these days, too, for the same reason--and there are a lot of processors of various sorts, and lots of DACs and the like. I used to think the 8640 phase noise was pretty good, but it doesn't hold a candle to what we do these days. My fun these days is in finding ways to make meaningful measurements 120dB below full scale with data from a 12-bit or 14-bit ADC. :-)

Cheers,
Tom

421. Re: Crystal controlled super regen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 19:01:35 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307181101.3dc781d8@posting.google.com>
Source record: 34187

et472@FreeNet.Carleton.CA (Michael Black) wrote in message
news:<bf4kt1ajh1@freenet9.carleton.ca>...
...

> Take note that most superregens use the same active element as both
> the RF oscillator and as the quench oscillator. Separating them,
> has certain advantages in trying to get the best quench, and these
> days it pretty much costs nothing to add the extra circuitry, unlike
> in the 30s when the superregen was pretty hot.

...

First of all, many thanks, Michael, for quite a nice summary about
regen and superregen!

A distinction between regen and superregen is that in regen, the
feedback is kept (just) below the point of oscillation, and in a
superregen, it's above, but with quenching, so that the circuit
multiplies the energy in the tank when it's gated on by some factor
depending on the feedback and the time it's left on by the end of the
gating time. A jitter-free gating time and stable feedback should
result in a low output noise level.

I believe the quench frequency will limit how narrow the detector will
be, and if one uses a high Q tank (such as a crystal) with relatively
low feedback, that will limit the gain available. During the off
time, the tank energy must decay sufficiently to track the input
signal amplitude. Is there any value in having a short time just
after the "on" period when the tank is actively quenched?

An example of a commercial use of an externally-quenched superregen is
in a radar altimiter...I think it is/was something like APN-141. It
applied the gate just once per transmitted pulse, at a time which
locked to the return pulse, as I recall. I wish I could remember now
just how they tracked changes in the return time. I do recall that it
would scan over a range of delay times from very short to relatively
long, and could track from just a couple of meters up to at least a
few thousand meters. I also don't recall for sure, but suspect they
changed the gate duration depending on the delay time, since close-in
returns are much stronger than distant ones. Shorter gates mean less
gain. That's one way to control the gain of an externally-gated
superregen.

It should be possible to build a pretty accurate model of an
externally-gated superregen in SPICE...though to limit the time it
takes to run the simulation, it's probably useful to start with an

operating frequency not too far above the quench frequency, perhaps a couple dozen times f(quench).

Cheers,
Tom

422. testing supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 20:57:10 UTC
From: nightowls627@aol.comnojunk
Message-ID: <20030718165710.14658.00000283@mb-m04.aol.com>
Source record: 34188

Alright, I am really utilizing these newsgroups for the upcoming hamfest. Just picked up a ts-820s. Looking forward to receiving it and reading the manuals before operation. (Sometimes I wonder if XYL has influenced me with that). I would like to know some testing equipment I will need to get this rig in flight so that I can pick them up at the hamfest. I was reading some posts that talk about tuning the rig and it sounds like fun, albeit treated with respect like all high power electronics, but also more than a simple voltmeter will be needed. Any suggestions?
73
G. Doughty
KI4BBL

423. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 21:03:59 UTC
From: mcalhoun@ksu.edu
Message-ID: <bf9nbv$5m3@unix1.cc.ksu.edu>
Source record: 34189

<< I tried numerous circuits and numerous types (Hartley, Colpitts etc) I
<< had found but I couldn't get any of them to start up.

<Oh, that's easy. You're *trying* to build an oscillator; give up on
<that goal and choose an easier one: try to build an amplifier. I mean,
<really *want* to build a stable amplifier. Voila! An oscillator!!

I once built a power supply that oscillated above 150 MHz.
Unfortunately, I could never drop it into the 2-meter band.

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

424. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 21:44:35 UTC
From: mikea@mikea.ath.cx
Message-ID: <bf9po3$a23$3@puck.litech.org>
Source record: 34190

Tom Bruhns <k7itm@aol.com> wrote:

> > There's a mechanical switch on the slide-rule tuning mechanism.

> Presumably it's a bit different in mine, since there is no slide-rule
> tuning mechanism. I'll have to have a look.

IIRC, there *is* a switch in the tuning mechanism, and it switches
filters right at the midpoint of the band. I can't find my copy of
the manual to confirm that. *sigh*

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

425. Control-grid modulation for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 22:49:24 UTC
From: la8ak.xnd@online.no
Message-ID: <3f18765d.5359400@news.online.no>
Source record: 34191

Hi

Came across some notes OE3KK dated 1955 for proper control-grid modulation, where it was emphasized to use an attenuator between the driver stage and PA to adjust the drive level and swamp the RF drive on minimum modulation.

Wonder if this is mentioned in some English litterature since I receive some requests for it, and would like to mention some possible references

I've shown the notes from an old translation to Norwegian language on the pages
http://home.online.no/~la8ak/30b.htm and
http://home.online.no/~la8ak/30a.htm

73
Jan-Martin
LA8AK
http://home.online.no/~la8ak/c.htm

--
remove ,xnd to reply (Spam precaution!)

426. Re: tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-18 23:46:01 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <Wi9Sa.3705$47.403014@newsfep2-win.server.ntli.net>
Source record: 34049

> I am attempting to make a code key practice unit. I cannot find
> anything out there! I am going to make a simple tone generator so I
> can practice. Is this feasible? Are there any other designs out
> there besides making a full oscillator?
=======
A good but simple code key practice oscillator is a single transistor
'double T oscillator' which can be found in the ARRL Handbook .
I built mine from the circuit published in the 1995 Handbook , page 26.19
It produces a 'clean' approx 750 Hz output.
I added a LM386 audio power IC to drive a small loudspeaker.
The complete circuit was built 'ugly construction' and powered by a 9V
battery.
The external Morse key serves also as the power switch.

Many moons ago I built a code practice oscillator using a 555 timer IC ,but
the tone sounded rather rough ,the output NOT being a sine wave.

Frank GM0CSZ / KN6WH

427. Re: Crystal controlled super regen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 02:38:48 UTC
From: crabtreejr@aol.com
Message-ID: <20030718223848.09858.00000115@mb-m11.aol.com>
Source record: 34192

Michael Black, et472@FreeNet.Carleton.CA on 7/16/03 wrote:

>Bill Higdon (w.higdon@attbi.com) writes:
>> I need some references on crystal controlled super regens, I know they
>> have been replaced in most new designs. But I have a idea that would be
>> easier to do with a super regen as opposed to the new studd.
>> Thanks,
>> bILL hIGDON

A good pair of recent articles was written by Eddy Insam:
i) E. Insam, Designing Super-regens, Electronics World,
April 2002, pp46-53
ii) E. Insam, Applications for Super-regens, Electronics World,
May 2002, pp18-20
Electronics World is the UK publication, which was for many years Wireless World and finally metamorphosed into Electronics World.

Insam covers most of the key ground, ie separate and self quenching, what controls bandwidth (rate of change of the conductance as oscillation starts), why crystals are rarely if ever used (see later), etc.

Insam mentions, but does not go into any real detail on the use of SAW delay lines in super-regens. This was mentioned by Pat Hawker, G3VA, in a piece he wrote in Electronics and Wireless World (Wireless World as was), Dec 1987, p 1275. He referred to a paper by Darrell Ash of RF Monolithics:
'A low cost super-regenerative s.a.w. receiver', IEEE Trans-CE, Vol 33, August 1987, pp395-404
where better sensitivity, reduced bandwidth and better stability were claimed. On the RF Monolithics web site (www.rfm.com) you will also details of the Ampilifier Sequence Hybrid (ASH) receiver architecture, which is an alternative to using super-regens at VHF and UHF frequencies.

In his piece, G3VA also mentioned some work done by Nat Bradley, ZL3VN, on the use of crystals in super-regens (also written up in two pieces in his column in the RSGB's Radio Communication, ca. 1979 and 1980). He tried using crystal controlled receivers, but ".... did not have any great success with them. None would operate on Xtal fundamental, but a harmonic Xtal could be made to super-regenerate, kept under some control, and feed a separate detector for some results. Try that approach." The quoted part comes from personal correspondence in Nov 1999. It would seem that he was using the crystal super-regeneration stage as an amplifier, with a separate detector.

BTW the standard reference on super-regenerative receivers was and still is:
J.R. Whitehead, Super-Regenerative Receivers, Cambridge University Press, 1950.
This excellent book contains all the theory. Whitehead was at the Telecommunications Research Establishment in the UK during WW2 and played a, if

not the, key role in designing the Mk.3 I.F.F. (Identify-Friend-Foe) equipment which used a super-regen receiver. The allies built 170,000 of these units.

>In the September 1972 issue of CQ, Irwin Math in his Math Notes column had
>a circuit for a crystal controlled superregen receiver. The same column
>had that then novel transmitter in an IC, the LP-2000.
>
>It was simply a cross-coupled multivibrator made up of two transistors,
>running at 20KHz, with a tank circuit with a crystal added in. He said
>the one he built at 10MHz worked fine. He pulled the circuit out of
>an issue of EDN, but no date is given.
>
>> snip >>
>
>Admittedly three of those four are regen and not superregen, but that's
>hardly important since a superregen is just a regen detector which
>is oscillating and modulated with an above audible frequency. (And take
>note that a Q-Multiplier is just a specific application of regeneration.)

I would look at it differently. A super-regen is a sampled data system. The word modulated conveys the wrong idea to me.

>Indeed, a regen is just an oscillator with controlled feedback, or
>to look at it another way, a regen is just an amplifier with positive
>feedback.
>
>So you can take just about any oscillator circuit, and by adding some
>sort of control so you can reduce things so it's on the verge of oscillation,
>you've got a regen detector. Coupling into it may be easier with some
>circuits than others. And once you've got a regen circuit, adding
>some scheme to modulate it at an ultrasonic frequency will make it
>a superregen.

It is also easy to end up with a super-regen cct by accident if trying to build a reqen cct. :-)

>Since a crystal controlled superregen is relatively rare (who knows
>why), you might want to start things by going through this sequence
>and figuring out the best setup yourself.

Time to tackle this issue. The rise time of the oscillations and quench time (when you want the oscillations to drop to zero) are both dependent upon the Q of the oscillator, which for a crystal is very high. Insam discusses this on p. 49 of his first article, and ends by saying that a 30MHz crystal may place a quench rate limit of 400Hz. Clearly this could only be used for low bit-rate data recovery.

>Someone once pointed out here that for a lot of uses you don't need ultra
>selectivity, and so a crystal in a regen is out of place. I'm not sure
>how this translates to a superregen.
>
>Be advised that while there has been some work done on using better

>tuned circuits in a superregen, it seems more likely that the reason
>for it's passband is because it is in effect an oscillator that is
>being modulated. Working on the quench circuit, both amplitude and
>waveform, would seem to be a better path. Charles Kitchin has done
>some work on this, and he claims he has gotten better results by
>fiddling with this. I've never seen the article, but he wrote
>about superregens in the Fall 1994 issue of Communications Quarterly.
>His article about regens the following year was an interesting mix
>of history and new circuits, and I suspect the superregen article is
>similar. He's also had a few superregen circuits in QST (and in
>the Handbook for an issue or two), but I don't have a bibliography handy.
>There was a superregen receiver article of his on the ARRL site,
>http://www.arrl.org at one point, and doing a search there would hopefully
>find it.

Here are the details of Charles Kitchin's. N1TEV, more recent work on
super-regens:

Dec 1997 QST 39 An Ultra-Simple VHF Receiver for 6 Meters
Article: http://www.arrl.org/tis/info/pdf/9712039.pdf (187,078 bytes)

May 2001 QEX p62 New Super-Regenerative Circuits for Amateur VHF and UHF
Experimentation (Letters to the Editor)
Sep 2000 QEX pp18-32 New Super-Regenerative Circuits for Amateur
VHF and UHF Experimentation

In the Sept 2000 QEX article Charles states that the sinusoidal quench waveform
is the reason that the receiver can detect NBFM. I believe that quench
waveform is the effect of the operating conditons where the rate of change of
conductance as the oscillations start is low. One should also realise that
this is a self-quenched receiver.

The other interesting effect is that for a logarithmic mode super-regen, the
selectivity improves as the signal to noise ratio DECREASES. Whitehead
discussed this in his book, and Charles Kitchin's resuts agree.

>Take note that most superregens use the same active element as both
>the RF oscillator and as the quench oscillator. Separating them,
>has certain advantages in trying to get the best quench, and these
>days it pretty much costs nothing to add the extra circuitry, unlike
>in the 30s when the superregen was pretty hot.
>
>I'd be curious about why you think you need a crystal controlled
>superregen. Most superregens have been at VHF (indeed, if you go
>by some rules of thumb of making the quench frequency a certain percentage
>of the operating frequency the quench will be at audio once you get below
>a certain frequency), and getting a crystal to oscillate up
>there may start being a problem especially the higher you go. Though,
>I think some work has been done with SAW controlled superregens.
>And whether it adds to selectivity is under question. Stability might
>be a factor, but then the traditional wide bandwidth has always offset
>any issue of frequency stability. Who cares about drift when a superregen's

>bandwidth would basically cover most of the 2meter band?
>
> Michael VE2BVW

So where does this leave us? For VHF/UHF applications, one has:
i) L-C controlled super-regen
ii) SAW controlled super-regen
iii) ASH receiver
iv) low-cost superhet.
For this last option, see:
I. Hickman, Super-regen or Super-replacement, Electronics World (UK), Feb 1999, pp138-143 where he discusses the use of a low cost superhet chip from Micrel as an alternative to super-regens for data transmission. See also the Micrel web site at www.micrel.com, and look for the 'Qwikwire' product details in the 'Radio Frequency' section.

HTH and that I have not written too much.

73 John KC0GGH
Minneapolis, MN

428. Re: Amateur Radio Legal Issues List

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 05:01:18 UTC
From: WavyDave <nowaynowhere@yahoo.com>
Message-ID: <bfajgc02qaf@enews3.newsguy.com>
Source record: 34195

Love that signature!!

"Amateur Radio Station N0JAA" <n0jaa@aol.compost> wrote in message
news:20030718233542.21580.00000155@mb-m07.aol.com...
> Fellow Amateur Radio Operators,
>
> I have created a new list that deals specifically with legal issues
pertaining
> to our hobby, the Amateur Radio Legal Issues List. The list is for the
> dissemination and discussion of legal issues (such as PRB-1 and pending
> legislation in Congress) and other related issues (court battles, etc.)
that
> can affect our hobby.
>
> If you are interested in such a list, please send a blank email to
> ARLI-subscribe@topica.com.
>
> 73's,
> Paul Gray, N0JAA
> Moderator, Amateur Radio Legal Issues List
>
>
>
> "We have captured lightning and used it to teach sand how to think."
>
>
>

429. Re: help building oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 05:11:40 UTC
From: Dana Myers K6JQ <k6jq@arrl.net>
Message-ID: <5ca4fe2786a520454d3ed90b34434e4d@free.teranews.com>
Source record: 34193

mcalhoun wrote:
> << I tried numerous circuits and numerous types (Hartley, Colpitts etc) I
> << had found but I couldn't get any of them to start up.
>
> <Oh, that's easy. You're *trying* to build an oscillator; give up on
> <that goal and choose an easier one: try to build an amplifier. I mean,
> <really *want* to build a stable amplifier. Voila! An oscillator!!
>
> I once built a power supply that oscillated above 150 MHz.
> Unfortunately, I could never drop it into the 2-meter band.

Heh. Of course a DC power supply is indistinguishable for
a 0Hz oscillator under the best of circumstances, right?

But, 150MHz. That's pretty special. What were you using
for a pass element(s) ?

Dana

430. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 07:16:10 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F18F03A.E6387761@ob-wan.com>
Source record: 34047
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
The ARRL Handbook (any edition).
The Art of Electronics.

Two of the best basic electronics books ever written

Rob

Tom wrote:
>
> Hello
>
> If anyone can recommend me a good book from which i will learn to construct
> oscillator that for example covers range 0-12 MHz.
>
> Thanks in advance!
> Tom
```

431. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 07:30:54 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307182330.200257@posting.google.com>
Source record: 34196

mikea@mikea.ath.cx (Mike Andrews) wrote in message news:<bf9po3$a23$3@puck.litech.org>...
> Tom Bruhns <k7itm@aol.com> wrote:
>
> > > There's a mechanical switch on the slide-rule tuning mechanism.
>
> > Presumably it's a bit different in mine, since there is no slide-rule
> > tuning mechanism. I'll have to have a look.
>
> IIRC, there *is* a switch in the tuning mechanism, and it switches
> filters right at the midpoint of the band. I can't find my copy of
> the manual to confirm that. *sigh*

From the 8640M service manual:

(talking about how the filters are switched...) "The mid-point of the
range is sensed by a Schmitt Trigger which compares a reference
voltage to a voltage proportional to the frequency tuning. On the
four lowest frequency ranges the RF signal has little second harmonic
content because of good waveform symmetry; therefore, each range has
only one filter."

It's possible that the M is a bit different in this respect from the A
and B, though it tends to be very similar to the B.

Cheers,
Tom

432. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 09:00:32 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <WY$$JkLwiQG$EAG4@ifwtech.co.uk>
Source record: 34048

Tom Bruhns wrote:

>> Are those old HPJs on the web anywhere?
>
>For a while they were, then there was only an index, and now I'm
>unable to find anything. Just yesterday, I boxed up a _complete_ set
>of HPJs to move to our new site, so if there is a specific article you
>need, please ask and I'll see what I can do (after the move in a
>couple weeks). I have the HPJ that covers the 8640 at home, though,
>and could turn part or all of it into a PDF file. Unfortunately, the
>PDF would be large because it's a set of images, not text-based, from
>my scanner. I also have the service manual on the 8640M, which is a
>little different from either the A or B models.

The 8640 article would only be out of historical interest, to see what
was in the designers' minds at the time.

I downloaded the 8640B manual from the Army site mentioned here a few
days ago, but am still looking for a manual for my 8640A (at the same
price :-)

>> >Someone said, I believe, that there is
>> >only one filter per octave. That is not the case with my 8640M, which
>> >on the higher bands has two filters per octave, one for the low half
>> >and one for the high half of the band, which are somehow automatically
>> >switched. I didn't look into just how the switch point was
>> >determined.
>>
>> There's a mechanical switch on the slide-rule tuning mechanism.
>
>Presumably it's a bit different in mine, since there is no slide-rule
>tuning mechanism.

Beg your pardon - only the A model has the slide-rule dial, but the
filter switch is probably the same.

> I'll have to have a look.

You go do that, Tom - mine's right at the bottom of a stack of HP boxes!

>>
>> But the true glory of the 8640 series is the way it keeps the FM
>> deviation constant when more dividers are switched in. Who else but HP
>> would have used a differential gearbox?
>
>In the 1970's when the 8640 was designed, we did, and people like
>Collins did, but now we don't. There are very few pots or trimcaps in

>our circuits these days, too, for the same reason--and there are a lot
>of processors of various sorts, and lots of DACs and the like. I used
>to think the 8640 phase noise was pretty good, but it doesn't hold a
>candle to what we do these days.

True, but it was better than the first generation of synthesized boxes
that followed the 8640, so the less-fashionable 8640 series are still
very good value for money for amateurs. With HB crystal filters to
attenuate the noise sidebands even further, you can make good
spot-frequency measurements up to at least 144MHz (see SM5BSZ's website
- I'm currently editing an article by Leif, to appear in DUBUS in the
fall).

>My fun these days is in finding ways
>to make meaningful measurements 120dB below full scale with data from
>a 12-bit or 14-bit ADC. :-)

Yeah, g'luck with that...

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

433. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 11:42:02 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <53aihvkhgh1s9cmuv3drtr96kd84r696ei@4ax.com>
Source record: 34050
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Fri, 18 Jul 2003 07:16:07 -0700, W7TI <noway@nohow.com> wrote:

>On Fri, 18 Jul 2003 14:05:06 +0200, "Tom" <tstimac01@yahoo.com> wrote:
>
>>If you read my original post again or at least the topic, it says 0-12 (not
>>0, 12) MHz. And that would mean something in the range between 0 and 12. I
>>don't remember when and WHERE i said that i need 0 MHz oscilator. The only
>>one who talks about 0 MHz osc is you.
>
>_____
>
>Perhaps English is a second language for you, but when you say 0-12 that
>will be taken to mean those two frequencies and everything in between.

0 hz is hardly a 'frequency.'

434. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 11:42:03 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <q6aihvs5kpd5tl6qeq0a6ghmh9sub6vmi9@4ax.com>
Source record: 34051
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Fri, 18 Jul 2003 14:05:06 +0200, "Tom" <tstimac01@yahoo.com> wrote:

>Leigh W3NLB wrote:
>> 12 MHz is easy. 0 MHz is really difficult.
>
>If you read my original post again or at least the topic, it says 0-12 (not
>0, 12) MHz. And that would mean something in the range between 0 and 12. I
>don't remember when and WHERE i said that i need 0 MHz oscilator. The only
>one who talks about 0 MHz osc is you.
>
>Big thanks to all other people who gave me good starting points. I was
>thinking about some CMOS devices, but most of them are square output.

Feed the square output to a coil+capacitor in parallel and you'll get
a sine wave. Tune the this 'tank' circuit for harmonics of the
funamental and you can double, triple, quadruple and so on the
original square wave's frequency.

435. MRF 454 power Amplifier: Motorola AN762

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 13:36:51 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <bfbgdvkkh1@news.hccnet.nl>
Source record: 34052

Hi all,

During testing something went wrong: result no output. At first it operated flawless: a good 140 W out with 4 W in (FT817). It must have gone into oscillation because the resistors R1 and R2 were smoked. I used a transfer relay without further precautions (I know, never ever again: I will make the bias circuit switchable). Now the funny part: bias is easily adjustable as ever. Remove the load and it oscillates with heavy harmonics at about 2 MHz, taking about 3 amps. Iquiet about 200 milliamps. Both bases: +/-0.75 V. My guess: one of the finals is blown (base bonding evaporated). So I have to exchange them. Before disassembling this unit I'd like to get some advice and comments. Is it normal if one transistor fails that all output is gone? Or did something else fail (as well)? Then: if I need to buy new transistors: do I need to buy MRF 454 or MRF 458. The latter are in my actual amp (and seem to be cheaper) and said to similar but I don't have a data sheet.
Please advise,
Harke

436. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 15:56:55 UTC
From: Tom <tstimac01@yahoo.com>
Message-ID: <bfbppm$f69b$1@as201.hinet.hr>
Source record: 34053
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Paul Burridge wrote:
> Feed the square output to a coil+capacitor in parallel and you'll get
> a sine wave. Tune the this 'tank' circuit for harmonics of the
> funamental and you can double, triple, quadruple and so on the
> original square wave's frequency.

Thank you Paul! This is a good hint. Can you tell me in which book did you learn it? I would really like to get into this stuff.

Regards
Tom

437. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 15:59:02 UTC
From: Tom <tstimac01@yahoo.com>
Message-ID: <bfbppm$f69b$2@as201.hinet.hr>
Source record: 34054
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Rob Judd wrote:
> The ARRL Handbook (any edition).

On its way here...

> The Art of Electronics.

I have this one and im not too happy with oscillator chapter. However, this is still one of the best books i've seen.

Regards
Tom

438. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 16:20:03 UTC
From: Ken Knox <knox_k@operamail.com>
Message-ID: <oprskfnpdwkx6x2g@news.midmaine.com>
Source record: 34055
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Sat, 19 Jul 2003 06:47:32 -0700, W7TI <noway@nohow.com> wrote:

> On Sat, 19 Jul 2003 12:42:02 +0100, Paul Burridge
> <redscar@waitrose.notformail.com> wrote:
>
>> 0 hz is hardly a 'frequency.'
>
> ____
>
> Of course zero Hz is a frequency. Have you ever had a checkbook balance
> of zero? Is that not a balance? :-)
>

Frequently!!! :-)

--
Ken Knox
N1JRO

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

439. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 17:39:23 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F198376.A3C58CDF@rica.net>
Source record: 34056
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Paul Burridge wrote:

> Feed the square output to a coil+capacitor in parallel and you'll get
> a sine wave. Tune the this 'tank' circuit for harmonics of the
> funamental and you can double, triple, quadruple and so on the
> original square wave's frequency.

This works pretty good at the third and fifth harmonics, but there is
no second or fourth harmonic in a perfect square wave.

--
John Popelish

440. Audio preamp for LM 4808?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 18:54:27 UTC
From: blyoung@hal-pc.org
Message-ID: <33cb2455.0307191054.38c7eeb1@posting.google.com>
Source record: 34057

Does anybody have a suggestion for a good audio IC preamp to go ahead of an LM 4808 headphone driver? I have been using the LM 386 for home brewed receivers up to now, but I would like to go to the LM 4808 because it can run on 4.5 volts (three D cells), and it will drive my Sony stereo phones better than the LM 386. But it is a low gain device, so I need about 70 dB of audio gain from an audio preamp. One or two IC stages, that doesn't matter. I know that the LM 3808 is a surface mount chip, but I think I can solder it OK. Thanks. Bill Young WD5HOH

441. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 19:14:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhj651c06ga654@corp.supernews.com>
Source record: 34058
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

A perfectly symmetrical square wave doesn't contain any even harmonics. For best results when using this technique to generate even harmonics, the square wave needs to have a longer "on" period than "off" period or vice-versa.

Roy Lewallen, W7EL

Paul Burridge wrote:
>
> Feed the square output to a coil+capacitor in parallel and you'll get
> a sine wave. Tune the this 'tank' circuit for harmonics of the
> funamental and you can double, triple, quadruple and so on the
> original square wave's frequency.

442. Re: Homebrew in north Seattle/Everett area? Or a FAQ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 19:15:40 UTC
From: mzenier@eskimo.com
Message-ID: <bfejis$r3m$1@eskinews.eskimo.com>
Source record: 34090

In article <3200347.0307140933.7c7bb567@posting.google.com>,
Tom Bruhns <k7itm@aol.com> wrote:
>Harry George <hgg9140@seanet.com> wrote in message
>news:<m3smpmmike.fsf@wilma.local>...
>....
>>
>> Thanks, I'll check them out. I used to go to Vetco and Radar a lot.
>> I went to the old Vetco place (just off 520 past 405) last weekend and
>> found nothing (I see from the qsl webpage that it has moved, I'll try
>> to find it). Also, I went down to Radar on Western, saw their sign
>> saying moved to Bothel, went there, and found as you said that it is
>> no longer a surplus shop.
>>
>> I go to Boeing Surplus sometimes for sheet aluminum, and to Everett
>> Steel and Pipe for mild steel. Hadn't thought of UW Surplus (I used
>> to work for UW Equipment Inventory Accounting -- wonder if any of the
>> old gang is still there).
>
>Try Whitesides on SR9 in the Clearview area for scrap steel and
>aluminum. Lots of steel angle, etc. A few other metal and plastic
>material scraps.
>
>Vetco is now E. of where it used to be by maybe 3/4 of a mile or
>so...if you go to Fred Meyer there, you will be VERY close; it's in
>the FM complex, I think it's on the W. side. I guess Active is still
>there next to where Vetco used to be.

Last I went on that side of the lake, (April?), Active was in the
process of becoming Mode Electronics, a chain run out of Surrey, BC.

Other places on my "check to see if they're still alive" list are
Supertronix down on the West Valley Highway (just south of where
Longacres used to be) in Kent/Tuckwila?, and the surplus place
in Tacoma, Electronic Dimensions.

>I'm trying to talk myself into downsizing some, and might be able to
>fix you up with some interesting things, depending on just what it is
>you want to play with. There's also the possibility of loans of
>equipment sometimes. I live nearby...
>
>Cheers,
>Tom

443. Re: HP8640B output stage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 19:32:05 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307191132.2f705bb2@posting.google.com>
Source record: 34059

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:<WY$$JkLwiQG$EAG4@ifwtech.co.uk>...
> Tom Bruhns wrote:
...(someone wrote:
> >> There's a mechanical switch on the slide-rule tuning mechanism.)
> >
> >Presumably it's a bit different in mine, since there is no slide-rule
> >tuning mechanism.
>
> Beg your pardon - only the A model has the slide-rule dial, but the
> filter switch is probably the same.

Well, unless you consider a Schmitt trigger to be a mechanical switch,
mine's not the same...

...

> >My fun these days is in finding ways
> >to make meaningful measurements 120dB below full scale with data from
> >a 12-bit or 14-bit ADC. :-)
>
> Yeah, g'luck with that...

Works well if the ADC is linear enough and you have enough processing
gain. Maybe some day not too far down the road we'll have 20 bit and
24 bit 100Ms/s ADCs, but they're a bit rare right now.

Cheers,
Tom

444. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 19:37:01 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bfca2oaej1@bob.news.rcn.net>
Source record: 34060
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Tom" <tstimac01@yahoo.com> wrote in message
news:bfbppm$f69b$1@as201.hinet.hr...
> Paul Burridge wrote:
> > Feed the square output to a coil+capacitor in parallel and you'll get
> > a sine wave. Tune the this 'tank' circuit for harmonics of the
> > funamental and you can double, triple, quadruple and so on the
> > original square wave's frequency.
>
> Thank you Paul! This is a good hint. Can you tell me in which book did you
> learn it? I would really like to get into this stuff.

IMO you are being led astray. I don't see why the emphasis on frequency multiplication. It is fairly simple to make an LC oscillator cover a 2 to 1 frequency range, or even 3 to 1. That could mean 4 to 12 MHz in one tuning range and 1.3 to 4 in another. The problem is lower frequencies. These days it is hard to find a large-enough variable capacitor for operation down in the few-hundreds of kilohertz range, let alone lower.

I know of only two ways that will cover the whole zero to 12 MHz range without bandswitching or switched filters.

One is the direct digital synthesizer DDS. Single chip DDS units are available [Analog Devices Inc] fairly cheaply, but they are tiny and require a computer or equivalent to control them. You get "perfect" frequency accuracy and stability and a sine-wave output.

The other is a beat-frequency method with two oscillators operating considerably above 12 MHz. One crystal controlled, the other knob controlled tuning from the crystal frequency to 12 MHz higher. Feed them into a double-balanced mixer (MiniCircuits) followed by a low-pass filter that passes 0 to 12 MHz, and strongly rejects the crystal osc frequency and all higher. One knob, no switching, no computer needed for control - but also much poorer frequency accuracy and stability.

445. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 21:01:23 UTC
From: Hank Oredson <horedson@att.net>
Message-ID: <DkiSa.63226$3o3.4167400@bgtnsc05-news.ops.worldnet.att.net>
Source record: 34061
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Leigh W3NLB" <w3nlbREMOVETHIS@amsat.org> wrote in message
news:73tdhvks1u6u9jhm3hr6filnmtkps64ia8@4ax.com...
> On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:
>
> >Hello
> >
> >If anyone can recommend me a good book from which i will learn to construct
> >oscillator that for example covers range 0-12 MHz.
> >
> >Thanks in advance!
> >Tom
> >
>
> 12 MHz is easy. 0 MHz is really difficult.

I have a couple of those.
They put out significant power.

--

... Hank

Hank: http://horedson.home.att.net
W0RLI: http://w0rli.home.att.net

446. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 21:13:52 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <sf9jhvopmjbcnqoe15ib1cp1rnpjmnljcv@4ax.com>
Source record: 34065
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Sat, 19 Jul 2003 17:39:23 GMT, John Popelish <jpopelish@rica.net>
wrote:

>Paul Burridge wrote:
>
>> Feed the square output to a coil+capacitor in parallel and you'll get
>> a sine wave. Tune the this 'tank' circuit for harmonics of the
>> funamental and you can double, triple, quadruple and so on the
>> original square wave's frequency.
>
>This works pretty good at the third and fifth harmonics, but there is
>no second or fourth harmonic in a perfect square wave.

Good point, John. But fortunately, I've never generated a *perfect*
square wave! :-) In practice, it's probably more accurate to say that
the even harmonics are well down on the odds. Blame it on dv/dt.

447. Re: MRF 454 power Amplifier: Motorola AN762

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 21:13:53 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ev9jhvo8q3eq4j9glo7cg7egi80r0lrl8g@4ax.com>
Source record: 34066

On Sat, 19 Jul 2003 15:36:51 +0200, "Yrrah" <harke.smits@hccnet.nl>
wrote:

>Hi all,
>
>During testing something went wrong: result no output. At first it operated
>flawless: a good 140 W out with 4 W in (FT817). It must have gone into
>oscillation because the resistors R1 and R2 were smoked. I used a transfer
>relay without further precautions (I know, never ever again: I will make the
>bias circuit switchable). Now the funny part: bias is easily adjustable as
>ever. Remove the load and it oscillates with heavy harmonics at about 2 MHz,
>taking about 3 amps. Iquiet about 200 milliamps. Both bases: +/-0.75 V. My
>guess: one of the finals is blown (base bonding evaporated). So I have to
>exchange them. Before disassembling this unit I'd like to get some advice
>and comments. Is it normal if one transistor fails that all output is gone?
>Or did something else fail (as well)? Then: if I need to buy new
>transistors: do I need to buy MRF 454 or MRF 458. The latter are in my
>actual amp (and seem to be cheaper) and said to similar but I don't have a
>data sheet.

What sort of frequency do you plan to your PA at?

448. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 21:15:56 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <d6djhvg2fd1dsaff11vhnnnqjaoliudpu1@4ax.com>
Source record: 34067
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Sat, 19 Jul 2003 17:56:55 +0200, "Tom" <tstimac01@yahoo.com> wrote:

>Paul Burridge wrote:
>> Feed the square output to a coil+capacitor in parallel and you'll get
>> a sine wave. Tune the this 'tank' circuit for harmonics of the
>> funamental and you can double, triple, quadruple and so on the
>> original square wave's frequency.
>
>Thank you Paul! This is a good hint. Can you tell me in which book did you
>learn it? I would really like to get into this stuff.

Check out 'RF Circuit Design', by Chris Bowick. It's an excellent read
on the subject of RF in general.

449. Re: Audio preamp for LM 4808?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 21:21:10 UTC
From: Dan Tayloe <dtayloe@cox.net>
Message-ID: <3F19B646.99C9C55E@cox.net>
Source record: 34062

There is not much available in the 3v range that is really low noise. Lowest that you can get at any voltage is 0.9 nV/squarerootHz (LT1115, etc.). There is a 5v TI device that good to 3 nV/SqrtHz (OPA2228), but about the best you can do at 3v to 4.5v range is 8-9 nV/sqrtHz, at least in the audio range. Some low voltage op-amps specify lower noise, but usually upon further examination of the noise curves, that low noise is only at a couple hundred KHz.

I would recommend the TS924, which is a quad device. These 3v devices do not have much gain, 40 db maximum, compared to 80-120 db from other higher voltage devices, so you will need to string together several of them to get the proper gain and still keep distortion low.

I recommend the quad package so that you can use each of the four devices at a 8x gain each. This will total about 72 db for the four. Maybe use 1K input and 8.2K feedback. Keeping the input resistor to a smaller value will help reduce resistor induced noise.

Mouser carries the TS924 in both the DIP and the SOP package for a bit under $2. I like the SOP surface mount for deadbug construction use because it take ups a lot less space and because that size works really well with 1/8w resistors. I like to use #30 or #32 gauge enamel wire for hook up wire, burning the enamel off the end of the wire with a blob of solder. Stick the end of the wire in the blob so that the copper gets exposed directly to the heat.

To keep hiss at bay, I would recommend placing the volume control about 40 db from the speaker, and using high frequency gain roll off capacitors across the 8.2K feedback resistors, perhaps in the 0.0033 uF range.

Good luck and God bless!

- Dan, N7VE

Bill Young WD5HOH wrote:
>
> Does anybody have a suggestion for a good audio IC preamp to go ahead
> of an LM 4808 headphone driver? I have been using the LM 386 for home
> brewed receivers up to now, but I would like to go to the LM 4808
> because it can run on 4.5 volts (three D cells), and it will drive my
> Sony stereo phones better than the LM 386. But it is a low gain
> device, so I need about 70 dB of audio gain from an audio preamp. One
> or two IC stages, that doesn't matter. I know that the LM 3808 is a
> surface mount chip, but I think I can solder it OK. Thanks. Bill
> Young WD5HOH

450. Re: here's another oscillator problem. UPDATED

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 21:35:04 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F19B988.50506@hotmail.com>
Source record: 34063

Alex wrote:
> I'm trying to make a simple Hartley VFO. I've made one before no
> problem, but this one won't start, period. The only difference between
> this one and the last one is that I used a T50-2 core instead of an air
> core inductor. Is that likely to kill it?
>
> Also, last VFO I made, I tested it by feeding it and a signal generator
> into a product detector to listen for a tone, this one I'm trying to use
> a frequency counter to make things simpler. It reads crystal oscillators
> no problem, and I've even used it to read a VFO in another receiver, no
> problems.
>

I found my problem, the JFET in my oscillator had it's pins screwed up.
Now it's working fine, and i have a nice 40 meter receiver built. Next I
move on to the transmitter.

73,
Alex
VE3LEG

451. Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 21:50:49 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vhjf9thj2let63@corp.supernews.com>
Source record: 34064

I was at a hamfest looking for some mylar caps for a circuit that called for them. I got several opinions on how to tell one and finall gave up. Are there any sure fire ways to identiy a cap as mylar and why are they bettter than a silver mica or others. Does anyone have a short chart comparing the characteristics? How did we get by before mylar was used?
tnx
hank wd5jfr

452. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-19 23:54:28 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1058659062.771164@auth2.dns.griffin.net.uk>
Source record: 34068

what is it going to be used for???
audio i presume??
they are no better or worse than any other capacitor, they just have
different properties...ie silver mica is low loss (usually) at rf, where as
mylar is better for low frequencies and has a larger c for its size than
mica... (and much cheaper)..
oh they are quite often green in colour. (but not always,)usually with a
shiney appearence quite like dipped ceramics..sure way to id them is to buy
from a cataloge.ie RS. FARNELL. CPC or your USA equivalent..

simon g0zen
"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vhjf9thj2let63@corp.supernews.com...
> I was at a hamfest looking for some mylar caps for a circuit that called
for
> them. I got several opinions on how to tell one and finall gave up. Are
> there any sure fire ways to identiy a cap as mylar and why are they
bettter
> than a silver mica or others. Does anyone have a short chart comparing
the
> characteristics? How did we get by before mylar was used?
> tnx
> hank wd5jfr
>
>

453. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 00:37:38 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <mvlSa.88268$OZ2.18451@rwcrnsc54>
Source record: 34069

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vhjf9thj2let63@corp.supernews.com...
> I was at a hamfest looking for some mylar caps for a circuit that called
for
> them. I got several opinions on how to tell one and finall gave up. Are
> there any sure fire ways to identiy a cap as mylar and why are they
bettter
> than a silver mica or others. Does anyone have a short chart comparing
the
> characteristics? How did we get by before mylar was used?
> tnx
> hank wd5jfr

Hank -

Non-polarized polyester film (Mylar) capacitors are dipped in a hard epoxy
coating material
and provides excellent protection against moisture.
These type of capacitors are intended for general purpose DC applications.

NTE Capacitor selection guide
http://www.calcentron.com/PDF_Documents/nte_pdf/nte_capacitors.pdf

http://w1.859.telia.com/~u85920178/begin/componen.htm#types

http://zeus.cedcc.psu.edu/caps/allcaps.html#glass

http://www.twysted-pair.com/capidcds.htm

http://xtronics.com/kits/ccode.htm

w9gb

454. HW 101 for Navy Mars

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 01:09:47 UTC
From: Rick Disney <rgdisney@alltel.net>
Message-ID: <vZlSa.22228$J%2.2364318@news.alltel.net>
Source record: 34070

Greetings ,

Got my hands on a Heathkit HW-101..It's low preset is 3.5 and the center tuner only
adds 500 hz...Navy Mars operates at 4470.5. ..Any help?

73's

Rick KADIZ

455. Convert Astro 11 m amp to 6 AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 02:20:41 UTC
From: TLNixon@mchsi.com
Message-ID: <muujhv0v5036aprvi6t90uei591v0dcb7p@4ax.com>
Source record: 34071

I have a couple of Astro Little Devil 11 meter amps that came out of an estate.

Wondering of anyone ever succesfully converted one of these to 6 meters?

I'm using a Ten Tec 6 meter Transverter on my Kenwood TS-450S and could use a little more "UMPH".

I could use a schematic showing which trim caps are input and which are output if anyone might have one.

Terry

WB0VQP

456. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 03:52:57 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bfd3mpooe1@hercules.btinternet.com>
Source record: 34072

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vhjf9thj2let63@corp.supernews.com...
> I was at a hamfest looking for some mylar caps for a circuit that called
for
> them. I got several opinions on how to tell one and finall gave up. Are
> there any sure fire ways to identiy a cap as mylar and why are they
bettter
> than a silver mica or others. Does anyone have a short chart comparing
the
> characteristics? How did we get by before mylar was used?

Mylar caps aren't used very much. Metallised polyester are easier to find.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

457. Re: Convert Astro CB amp to 6 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 04:23:52 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <sPoSa.91135$sY2.43614@rwcrnsc51.ops.asp.att.net>
Source record: 34074

<TLNixon@mchsi.com> wrote in message
news:muujhv0v5036aprvi6t90uei591v0dcb7p@4ax.com...
> I have a couple of Astro Little Devil 11 meter amps that came out of
> an estate.
>
> Wondering of anyone ever succesfully converted one of these to 6
> meters?
>
> I'm using a Ten Tec 6 meter Transverter on my Kenwood TS-450S and
> could use a little more "UMPH".
>
> I could use a schematic showing which trim caps are input and which
> are output if anyone might have one.
>

Terry -

10 meters is 28 to 30 MHz and 6 meters is 50 to 54 MHz.

IF this is the Astro that uses the sweep tubes that are now $ 40 to $ 50
each ... Don't bother.
That is a money pit solution ... and sweep tubes if they do operate at 50
MHz have low output.
Most 11 meter amps were built fast and cheap for a quick buck.
At best - it may be a candidate for parts.

You have probably heard that there are suitable CB amp candidates for six
meter conversion;
the problem is, this will be very model-specific and NO general statement
really applies.

If the original design was truly linear (not just by virtue of a label, but
by virtue of correct electronic bias
and stabilization circuitry) and used devices rated for operation ABOVE 50
MHz,
chances are it can be converted by changing the input and output tuned
networks,
and possibly the RF decoupling circuitry (DC power to devices).

For solid state amplifiers that I see everywhere now that the sunspot cycle
is again down,
when suitable 50+ MHz transistors are used, simply looking those devices up
in their manufacturer's
data book (or application notes such as Motorola's) will reveal an actual,
tested and proven
50 MHz amplifier circuit which would be easy to copy.

IF the only circuit published by the device manufacturer is for an amplifier operating below 30 MHz,
that's a pretty good sign the devices won't provide any gain at 50 MHz...

BTW, a good 6 meter yagi (which is very easy to build and much smaller than 10 meter beams)
will yield more dB increase for less dollars than the amplifier.

Greg
w9gb

458. Re: Convert Astro 11 m amp to 6 AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 04:23:53 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <tPoSa.89802$OZ2.19122@rwcrnsc54>
Source record: 34073

<TLNixon@mchsi.com> wrote in message
news:muujhv0v5036aprvi6t90uei591v0dcb7p@4ax.com...
> I have a couple of Astro Little Devil 11 meter amps that came out of
> an estate.
>
> Wondering of anyone ever succesfully converted one of these to 6
> meters?
>
> I'm using a Ten Tec 6 meter Transverter on my Kenwood TS-450S and
> could use a little more "UMPH".
>
> I could use a schematic showing which trim caps are input and which
> are output if anyone might have one.
>
> Terry
>
> WB0VQP
>
Here is the web link for parts

http://www.kenselectronics.com/charles/linear.htm

w9gb

459. Re: Convert Astro 11 m amp to 6 AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 04:23:53 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <tPoSa.89967$GL4.25214@rwcrnsc53>
Source record: 34075

<TLNixon@mchsi.com> wrote in message
news:muujhv0v5036aprvi6t90uei591v0dcb7p@4ax.com...
> I have a couple of Astro Little Devil 11 meter amps that came out of
> an estate.
>
> Wondering of anyone ever succesfully converted one of these to 6
> meters?

IF you wanted to use this, I would change the tubes to the Russian GI-7B
Triode (which is rated up into the microwaves / 1 GHz)

http://www.nd2x.net/gi7b.html

http://www.nd2x.net/gi7-socket.html

http://www.nd2x.net/W4EMF.html

http://www.geocities.com/ko4nrbs/gi7bconversionrev1.doc

http://www.geocities.com/ko4nrbs/

460. UK 6 meter group web page

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 04:23:53 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <tPoSa.89969$GL4.25459@rwcrnsc53>
Source record: 34076

http://www.uksmg.org/archive.htm

461. Re: HW 101 for Navy Mars

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 04:41:51 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F1A1D9C.4DFF20A2@bellatlantic.net>
Source record: 34077

Rick Disney wrote:
>
> Greetings ,
>
> Got my hands on a Heathkit HW-101..It's low preset is 3.5 and the center
> tuner only
> adds 500 hz...Navy Mars operates at 4470.5. ..Any help?
>

Easiest would be to move the 3.5 - 4.0 band up to
say 4.2 - 4.7, but you would have to sacrifice
the original band.

You might be able to switch components the "pad" the
existing components in and out to get both the ham
band and Mars.

Start with getting the manual and schematic from:
http://bama.sbc.edu/heath.htm

Examine the schematic and rig to determine which
coils/capacitors are switched in for the 80 and
40 meter bands. You'll see that the circuit is the
same for each band, but the values of the components
are different. Remember to do this both for the
transmitter and receiver portions of the transceiver.

Once you have a firm understanding of how Heath
switches from one band to the other, you will be
able to "functionally" design (specify what components
to use, and where they need to go in the circuit, but
no component values determined yet) for your new band,
which should start at something like 4.2 or 4.3 mHz.

The manual probably has a theory of operations or
circuit description section which will help you
to understand those circuits.

Next, you establish component values that will make
your new circuit work at the design frequency -
4.2 or 4.3 mHz.

Next, determine how you can incorporate the new
components into the rig. Are you willing to give up
the 3.5 - 4.0 range, or any other band? Can you
add a switch to switch in new components, such that
you don't have to give up any existing band?

Essentially, you need to figure out whether major surgery is required, and whether you are willing to do it.

> 73's
>
> Rick KAï¿½DIZ

462. Re: Convert Astro 11 m amp to 6 AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 05:00:03 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F1A21DF.B881A14C@bellatlantic.net>
Source record: 34078

TLNixon@mchsi.com wrote:
>
> I have a couple of Astro Little Devil 11 meter amps that came out of
> an estate.
>
> Wondering of anyone ever succesfully converted one of these to 6
> meters?
>
> I'm using a Ten Tec 6 meter Transverter on my Kenwood TS-450S and
> could use a little more "UMPH".
>
> I could use a schematic showing which trim caps are input and which
> are output if anyone might have one.
>
> Terry
>
> WB0VQP

It's a non-starter, Terry. It could be done, but it is not
likely worth the effort and $. It is likely that the output
transistor(s) in the Astro won't play well at 50 mHz, and
the stray capacitance and inductance that posed no problem
at 27 mHz may drive you to distraction at 50.

Essentially, you'll need to change the input and output
tuned circuits. You won't be able to use the components
that are there now in those circuits, and you'll probably
need to change the transistor(s). And if you need to
change the transistors, you may well need to change the
"support" components that establish bias and stage
input levels.

463. Re: HW 101 for Navy Mars

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 05:10:24 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1983c41e3407d96989967@192.168.42.131>
Source record: 34079

In article <vZlSa.22228$J%2.2364318@news.alltel.net>, Rick Disney says...

> Greetings ,
>
> Got my hands on a Heathkit HW-101..It's low preset is 3.5 and the center
> tuner only
> adds 500 hz...Navy Mars operates at 4470.5. ..Any help?

I've not had experience with that specific radio, but... assuming it's a simple VFO, it should be a simple matter to tweak coil(s), capacitor(s), or both to bring the low end up a bit. If you're going to tweak coils, I suggest using a grid dip meter to find a good spot.

You should probably get hold of the manual for the unit first. Do a google search for 'W7FG vintage manuals.'

Good hunting.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

464. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 05:56:10 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F1A2EFA.A123CD44@ob-wan.com>
Source record: 34081
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Ken Knox wrote:
>
> On Sat, 19 Jul 2003 06:47:32 -0700, W7TI <noway@nohow.com> wrote:
>
> > On Sat, 19 Jul 2003 12:42:02 +0100, Paul Burridge
> > <redscar@waitrose.notformail.com> wrote:
> > >
> >> 0 hz is hardly a 'frequency.'
> > >
> > > ____
> > >
> > > Of course zero Hz is a frequency. Have you ever had a checkbook balance
> > > of zero? Is that not a balance? :-)
> > >
>
> Frequently!!! :-)

I believe this proves that negative frequencies exist!!

Rob

465. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 06:28:29 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F1A368D.6E76983@ob-wan.com>
Source record: 34082
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

R J Carpenter wrote:
>
> "Tom" <tstimac01@yahoo.com> wrote in message
> news:bfbppm$f69b$1@as201.hinet.hr...
> > Paul Burridge wrote:
> > > Feed the square output to a coil+capacitor in parallel and you'll get
> > > a sine wave. Tune the this 'tank' circuit for harmonics of the
> > > funamental and you can double, triple, quadruple and so on the
> > > original square wave's frequency.
> >
> > Thank you Paul! This is a good hint. Can you tell me in which book did you
> > learn it? I would really like to get into this stuff.
>
> IMO you are being led astray. I don't see why the emphasis on frequency
> multiplication. It is fairly simple to make an LC oscillator cover a 2 to 1
> frequency range, or even 3 to 1. That could mean 4 to 12 MHz in one tuning
> range and 1.3 to 4 in another. The problem is lower frequencies. These days
> it is hard to find a large-enough variable capacitor for operation down in
> the few-hundreds of kilohertz range, let alone lower.
>
> I know of only two ways that will cover the whole zero to 12 MHz range
> without bandswitching or switched filters.
>
> One is the direct digital synthesizer DDS. Single chip DDS units are
> available [Analog Devices Inc] fairly cheaply, but they are tiny and require
> a computer or equivalent to control them. You get "perfect" frequency
> accuracy and stability and a sine-wave output.

<snip beat freq method>

If Tom - or anyone else - wants to do this the DDS way, there's a
0-10MHz function generator project in Australian Silicon Chip magazine,
May 2003 edition. It's a stand-alone box and delivers the following
specs:

Waveform Generation: 32-bit DDS, 10-bit DAC
Distortion: <1% @ 1kHz
Frequency Range: 1Hz to 10MHz in 1Hz steps
Frequency Display: "Sliding Window" 7-digit
(EEPROM frequency retention)
User Input: Three push buttons
Sinewave Output: 0-5V p-p adjustable, 50 ohm
Squarewave output: CMOS/TTL compatible, 50% duty cycle
Output Connectors: RCA (Cinch)

Power: 9VAC 1--mA plugpack

This project is designed to replace the earlier DDS generator described in Electronics Australia magazine August 1996. Copies of the article, or back-issues of Silicon Chip, can be ordered from http://www.siliconchip.com.au and they also have a list of kit sources online.

Rob

466. Re: MRF 454 power Amplifier: Motorola AN762

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 07:47:16 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <bfdga8btv1@news.hccnet.nl>
Source record: 34080

What is was ment for: 2-30 MHz. I've made a conventional 30 MHz low pass filter at the output.
Paul Burridge <redscar@waitrose.notformail.com> schreef in berichtnieuws ev9jhvo8q3eq4j9glo7cg7egi80r0lrl8g@4ax.com...
>

467. I need help to build a Microphone preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 09:25:29 UTC
From: Andy <dx90@blueyonder.co.uk>
Message-ID: <betSa.3212$Df6.1985@news-binary.blueyonder.co.uk>
Source record: 34083

Hi all

I am looking for a diagram for an easy to build microphone preamp suitable for the Icom SM-20 microphone. I am not pleased with the output on ssb from my Icom IC-706 MK1 (original).Any help with this would be great.

73 Andy - m1bep

468. Re: MRF 454 power Amplifier: Motorola AN762

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 12:14:04 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3F1A878C.2D0A1306@bloomer.net>
Source record: 34084

Eh? You probably should have switchable (band specific) output filters
to reduce harmonics to legal levels. With just one low pass filter set
around 30 MHz, when you run on 80 meters, you would have sizeable output
on 40M, 20M, 10M, etc.

Just some ideas....

Scott
N0EDV

Yrrah wrote:
>
> What is was ment for: 2-30 MHz. I've made a conventional 30 MHz low pass
> filter at the output.
> Paul Burridge <redscar@waitrose.notformail.com> schreef in berichtnieuws
> ev9jhvo8q3eq4j9glo7cg7egi80r0lrl8g@4ax.com...
> >

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

469. Re: I need help to build a Microphone preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 14:46:29 UTC
From: Old DXer <"Old DXer"@connectnet.net>
Message-ID: <9XxSa.4618$ff.3725@fed1read01>
Source record: 34085

Use google and find lots of preamp ideas. http://www.google.com/

Example: http://www.qsl.net/yo5ofh/projects/preamp2.gif

"Andy" <dx90@blueyonder.co.uk> wrote in message
news:betSa.3212$Df6.1985@news-binary.blueyonder.co.uk...
> Hi all
>
> I am looking for a diagram for an easy to build microphone preamp suitable
> for the Icom SM-20 microphone. I am not pleased with the output on ssb
from
> my Icom IC-706 MK1 (original).Any help with this would be great.
>
> 73 Andy - m1bep
>
>

470. Re: HW 101 for Navy Mars

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 15:14:51 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F1AB3F4.294DC0C@ieee.org>
Source record: 34086

Rick Disney wrote:

> Greetings ,
>
> Got my hands on a Heathkit HW-101..It's low preset is 3.5 and the center
> tuner only
> adds 500 hz...Navy Mars operates at 4470.5. ..Any help?
>
> 73's
>
> Rick KAï¿½DIZ

Each band has a crystal oscillator that sets the band of frequencies. Change
that
crystal to a different one that will cover the frequency you want.

Bill K7NOM

471. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 15:25:01 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0307200725.2c55d953@posting.google.com>
Source record: 34087

The next level from paper dielectric was mylar. Mylars can be epoxy
dipped usually green dipped, polypropolene is widely used orange
dipped epoxy, and the asian rim caps are brown dipped epoxy. That's
one good way to tell by the color of the epoxy.

73
ray KC8OJU@arrl.net
my yahoo addy don't work

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:<vhjf9thj2let63@corp.supernews.com>...
> I was at a hamfest looking for some mylar caps for a circuit that called for
> them. I got several opinions on how to tell one and finall gave up. Are
> there any sure fire ways to identiy a cap as mylar and why are they bettter
> than a silver mica or others. Does anyone have a short chart comparing the
> characteristics? How did we get by before mylar was used?
> tnx
> hank wd5jfr

472. Re: MAking PC board using Silkscreen

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 15:29:03 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0307200729.55c99c3@posting.google.com>
Source record: 34088

Yes, many years ago we made downconverters for the 70cm band, we made
hundreds of boards with silkscreen method.

73
ray KC8OJU@arrl.net

af4z@cfl.rr.com (Don Winn) wrote in message
news:<GIGRa.30271$k85.1275656@twister.tampabay.rr.com>...
> A group of local ham would like to make some simple boards that have large
> traces and pads. Traces are 100mils wide and pads are 150mils. It's a single
> sided board.
> It will be cheaper to go with a silkscreen over the photo etch method? Can
> anyone recommend a screen kit that would work for this project. The boards are
> 12 inches long and 3-4 inches wide. Pre-sensitized copper clad board is very
> expensive.We need to make 12-15 boards.
>
> DOn AF4Z

473. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 16:56:07 UTC
From: averyfineman@aol.com
Message-ID: <20030720125607.04554.00001183@mb-m20.aol.com>
Source record: 34089

In article <3F198376.A3C58CDF@rica.net>, John Popelish <jpopelish@rica.net>
writes:

>Paul Burridge wrote:
>
>> Feed the square output to a coil+capacitor in parallel and you'll get
>> a sine wave. Tune the this 'tank' circuit for harmonics of the
>> funamental and you can double, triple, quadruple and so on the
>> original square wave's frequency.
>
>This works pretty good at the third and fifth harmonics, but there is
>no second or fourth harmonic in a perfect square wave.

Even with an imperfect square wave, the even harmonics will have
so little energy content that it is difficult to filter those out and
amplify them...while excluding adjacent odd harmonics.

If multiplications need to be done, use a pulse not a square wave.
That way both odd and even harmonics have some closeness in
energy. The odds don't grossly overpower the evens. Unfortunately,
to get an even amplitude spread of harmonics, the pulse width has
to be short...and the shorter the width, the less average power and
thus less harmonic energy content. It's a compromise.

The best bet to achieve (relatively easily) a "0" to 12 MHz signal
source is to (as has been suggested already) make something like
a 40 to 52 MHz variable oscillator and beat it with a 40 MHz crystal
controlled oscillator. At the mixer output, run it into a lowpass
filter with a design cutoff frequency of around 15 to 18 MHz. That
way there is some decent attenuation on the stopband region slope
of the lowpass. There's a compromise on the lowpass type: If a
Butterworth it is the most forgiving of parts tolerances. If a Chebyshev,
the stopband region has more attenuation but that depends on the
passband ripple...ripple will effect the flatness of the desired output but
a low ripple value means the stopband attenuation is less. An elliptic
function could be chosen so that one of the stopband nulls is right at
the fixed crystal controlled oscillator frequency.

Just some thoughts...

Len Anderson
retired (from regular hours) electronic engineer person

474. IC706 Headset adapter?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 20:38:01 UTC
From: R Packer II <rpackerii@neo.rr.com>
Message-ID: <J4DSa.14196$ib2.3529168@twister.neo.rr.com>
Source record: 34091

I have a Flightcom headset that I picked up off of eBay for a small penny, and I was wondering if I can interface it into an IC706 for working contests/DX/everyday ops? It isn't a mkii or anything if that matters. I know the headphone part of it can just plug in to the phones jack, but how would I modify the mic to work with it? I am willing to tear apart the mic to interface it, but I am unsure of what ohms the mic cartridge in the headset is. It has a stereo style plug on it, so I can only assume it is a powered element. Any help would be appreciated. 73!

Ron - kc8ulu

475. Re: FS: ARRL HANDBOOK 1976 w/pic $10ppd

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 20:52:30 UTC
From: scottndess@aol.com
Message-ID: <20030720165230.23795.00000227@mb-m27.aol.com>
Source record: 34092

i just got the book "The Radio Handbook 1936 for amatures and experementers"
from an old publisher i found on the web..i love collecting old books!

476. New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 20:56:18 UTC
From: scottndess@aol.com
Message-ID: <20030720165618.23795.00000228@mb-m27.aol.com>
Source record: 34093

hello all im new to the amautre world and i was thinking of makeing my own first radio..i have some old books about how they did it way back in the day..but am flabergasted about todays techniques.i have taken some electronics classes in college..if anyone is able to help or would have any advise i would be gratly apprecitive. i live in northwest georgia..if anyone is from this area that could show me how,that would also be great..

Thanks

Scott.
Scottndess@aol.com

477. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 21:05:08 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <vrvlhv45v8df1okquo3f8tjotg90utfabe@4ax.com>
Source record: 34094

On 20 Jul 2003 08:25:01 -0700, ray_psi@yahoo.com (ray) wrote:

>The next level from paper dielectric was mylar. Mylars can be epoxy
>dipped usually green dipped, polypropolene is widely used orange
>dipped epoxy, and the asian rim caps are brown dipped epoxy. That's
>one good way to tell by the color of the epoxy.
>
>73
>ray KC8OJU@arrl.net
>my yahoo addy don't work
>
>
>
>"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:<vhjf9thj2let63@corp.supernews.com>...
>> I was at a hamfest looking for some mylar caps for a circuit that called for
>> them. I got several opinions on how to tell one and finall gave up. Are
>> there any sure fire ways to identiy a cap as mylar and why are they bettter
>> than a silver mica or others. Does anyone have a short chart comparing the
>> characteristics? How did we get by before mylar was used?

And dark red? Or is that the 'brown' you refer to? Some colour-blind
fellows confuse the two...

478. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 22:05:11 UTC
From: Old DXer <"Old DXer"@connectnet.net>
Message-ID: <rmESa.4793$ff.3099@fed1read01>
Source record: 34095

Try Build Your Own Intelligent Amateur Radio Transceiver by Randy Lee Henderson Buy the Book Today!

URL:
http://www.amazon.com/exec/obidos/ASIN/0070282641/amateurradioandd/104-5223791-3894306

"ScottnDess" <scottndess@aol.com> wrote in message news:20030720165618.23795.00000228@mb-m27.aol.com...
> hello all im new to the amautre world and i was thinking of makeing my own
> first radio..i have some old books about how they did it way back in the
> day..but am flabergasted about todays techniques.i have taken some electronics
> classes in college..if anyone is able to help or would have any advise i would
> be gratly apprecitive. i live in northwest georgia..if anyone is from this area
> that could show me how,that would also be great..
>
> Thanks
>
> Scott.
> Scottndess@aol.com

479. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 22:21:45 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307201421.c18e84e@posting.google.com>
Source record: 34096

"Leon Heller" <leon_heller@hotmail.com> wrote in message
news:<bfd3mpooe1@hercules.btinternet.com>...
> "Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
> news:vhjf9thj2let63@corp.supernews.com...
> > I was at a hamfest looking for some mylar caps for a circuit that called
> for
> > them. I got several opinions on how to tell one and finall gave up. Are
> > there any sure fire ways to identiy a cap as mylar and why are they
> bettter
> > than a silver mica or others. Does anyone have a short chart comparing
> the
> > characteristics? How did we get by before mylar was used?
>
> Mylar caps aren't used very much. Metallised polyester are easier to find.
>
> Leon

Erk??!! Mylar is a DuPont brand name for polyester, actually.
"Mylarï¿½ is an extraordinarily strong polyester film that grew out of
the development
of Dacronï¿½ in the early 1950s."

Mylars (polyesters) are generally good for audio work. They can
contribute a small amount of distortion, but that's unlikely to be an
issue in ham work. They have higher loss (dissipation factor) than
polypropylenes, and the latter should be used in applications where
there is appreciable AC current such as in switching power supplies.
It's very hard to ID them from just the appearance. You may be able
to look up a manufacturer's part number, and if you wanted, you could
measure some parameter such as temperature coefficient, which
generally is a good indicator of the dielectric. But I submit that
it's not worth it! If you can identify it as a film capacitor (as
opposed to an electrolytic, ceramic, or mica), and the application
says that Mylar is good, then probably what you have will be fine.
Polyester and polypropylene are, I believe, far and away the most
common film caps, and polyprop should serve very nicely anywhere a
polyester is called for.

Sometimes internal construction is important; a design may call for a
"non-inductive" capacitor. Then you probably should buy the right
thing, to be sure, or at least measure the cap at high enough
frequency to see if it has significant inductance.

Cheers,
Tom

480. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 22:27:01 UTC
From: Joshua P Luben <josh@ebard.net>
Message-ID: <3f1b1734$1@nntp0.pdx.net>
Source record: 33997

Get a CD-ROM from ARRL of the past few years QST articles. There are some pretty simple to build receivers and transmitters.

Then get yourself an ARRL handbook, it will be your best reference for a long time to come.

Since you're just begginning, start simple. Work on direct conversion receivers using SBL-1 mixers and LM386 audio op-amps. Keep them simple; once you get one working, tinker with it, add on to it. Most importantly, if it doesn't work--ask very specific questions.

josh

"ScottnDess" <scottndess@aol.com> wrote in message news:20030720165618.23795.00000228@mb-m27.aol.com...
> hello all im new to the amautre world and i was thinking of makeing my own
> first radio..i have some old books about how they did it way back in the
> day..but am flabergasted about todays techniques.i have taken some electronics
> classes in college..if anyone is able to help or would have any advise i would
> be gratly apprecitive. i live in northwest georgia..if anyone is from this area
> that could show me how,that would also be great..
>
> Thanks
>
> Scott.
> Scottndess@aol.com

481. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 22:53:18 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bff72q$ir@library1.airnews.net>
Source record: 33998

"Joshua P Luben" <josh@ebard.net> wrote in message
news:3f1b1734$1@nntp0.pdx.net...
> Get a CD-ROM from ARRL of the past few years QST articles. There are some
> pretty simple to build receivers and transmitters.
>
> Then get yourself an ARRL handbook, it will be your best reference for a
> long time to come.
>
> Since you're just begginning, start simple. Work on direct conversion
> receivers using SBL-1 mixers and LM386 audio op-amps. Keep them simple;
once
> you get one working, tinker with it, add on to it. Most importantly, if it
> doesn't work--ask very specific questions.

NE602 front-ends are even simpler than SBL-1 front ends. Contrary to popular belief in some circles, you can still get the NE602 in 8-pin DIP, new, from Philips: the new name, for an improved part, is SA612AN. (The N suffix means 8-pin DIP.)

You can find most of the "Amidon" toroids on eBay: the key is to search for MicroMetals (the actual manufacturer). www.kitsandparts.com also sells the popular toroids in 25-count quantities, for CHEAP.

Ocean State Electronics has a lot of useful stuff. www.oselectronics.com (I think).

I'd add a copy of "W1FB's Design Notebook" to that CD-ROM and the ARRL Handbook. If you can find DeMaw & Hayward's "Solid State Design for the Radio Amateur", grab it. Check www.qrpbooks.com; they may still have a few copies.

482. Re: HW 101 for Navy Mars

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 23:11:17 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <pkFSa.107902$N7.14678@sccrnsc03>
Source record: 33999

"Rick Disney" <rgdisney@alltel.net> wrote in message
news:vZlSa.22228$J%2.2364318@news.alltel.net...
> Greetings ,
>
> Got my hands on a Heathkit HW-101..It's low preset is 3.5 and the center
> tuner only
> adds 500 hz...Navy Mars operates at 4470.5. ..Any help?
>
> 73's
>
> Rick KA&#65533;DIZ
>

Rick -

I would also suggest that you review the article "Optimizing the Heathkit
HW-101" by
Mark Graalman WB8JKR (Adobe Acrobat)
http://members.tripod.com/NRWILLIAMSON/Hw101.pdf

Photo
http://oak.cats.ohiou.edu/~postr/bapix/HW101.html

Improving the HW-101
http://www.fvh.accessus.net/~dwentz/heathkit/mods/heathkit-mod-hw101mods_steve_ray_k4jpn.h
tml

Partial manual and schematic (BAMA)
http://bama.sbc.edu/heath.htm

g. beat
w9gb

483. Re: HW 101 for Navy Mars

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 23:11:17 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <pkFSa.108200$Ph3.13852@sccrnsc04>
Source record: 34000

"Rick Disney" <rgdisney@alltel.net> wrote in message
news:vZlSa.22228$J%2.2364318@news.alltel.net...
> Greetings ,
>
> Got my hands on a Heathkit HW-101..It's low preset is 3.5 and the center
> tuner only
> adds 500 hz...Navy Mars operates at 4470.5. ..Any help?
>
> 73's
>
> Rick KA&#65533;DIZ
>
.... I forgot the service bulletins
http://www.qsl.net/kb7rgg/heath/Service_Bulletins/sb-hw101.doc

w9gb

484. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 23:28:33 UTC
From: averyfineman@aol.com
Message-ID: <20030720192833.21428.00001176@mb-m23.aol.com>
Source record: 34002

In article <vhjf9thj2let63@corp.supernews.com>, "Henry Kolesnik"
<wd5jfr@oklahoma.net> writes:

>I was at a hamfest looking for some mylar caps for a circuit that called for
>them. I got several opinions on how to tell one and finall gave up. Are
>there any sure fire ways to identiy a cap as mylar and why are they bettter
>than a silver mica or others. Does anyone have a short chart comparing the
>characteristics? How did we get by before mylar was used?
>tnx
>hank wd5jfr

I would suggest looking at the Cornell-Dubilier or Illinois Capacitor
catalogs (both have websites, too). There you will find out more interior
whys and wherefores of capacitor types and their insulation and
construction.

The "wound" (as in winding) type used to be aluminum foil in a paper
strip sandwich. Mylar film was substituted for paper for better
environmental performance. Other plastic film types are used such as
polypropylene and polystyrene, even Teflon. With development of
deposited metalization, the aluminum foil was replaced with direct
deposit of metal on the film...which cost less to produce.

There are some notable differences in dielectric material versus temp-
erature performance with both positive and negative temperature
coefficients possible depending on material _and_ construction. You
have to see manufacturer's literature to get full details on that.

There is no real identification of the interior construction based on the
exterior appearance, lead placement, or color of the outside. Those are
all manufacturer's choices and there is no EIA standard on esthetics.

Mylar capacitors, as all the other film types, generally have higher
insulation resistance than paper, thus they are more suitable for tube
circuits' or FETs' high impedances. High withstanding voltages (300
VDC and more) are fairly easy to get with both paper and film types,
but that also leads to large sizes.

Silver-mica (usually called "dipped mica" due to the exterior coating)
is generally better above a MHz due to higher Q...but many ceramic
dielectric capacitors (very high dielectric constant) can be just as good.
The "ceramics" can be made with "zero", positive, or negative
temperature coefficients...and the common lower-voltage bypass-use
types have a high negative tempco but are cheaper than most. All of
those have good Q at a MHz and higher compared to the wrapped
paper/film variety.

There are two basic types of wrapped (actually rolled) capacitors. One has the conductring material within the width of the paper or film...the other (almost always using aluminum foil) has each end extending out from the dielectric so that the leads can have all of the foil crimped on them. The latter results in a much lower internal inductance compared to the former and is a very important consideration for "RF" circuits.

With the miniaturization of SMT, the "co-fired" construction is leading to very small high-capacitance values where metalized ceramic plates are fired together in sandwiches. See the "Blue Cell" trademark construction method used by several, including Mini-Circuits. In some cases entire stripline structures, including capacitors, can be made as one unit.

Capacitors are chosen for a circuit depending on their capacity, working voltage, temperature coefficient, Q, insulation resistance, lead placement, and general characteristics. You should KNOW the circuit and what it needs to determine what you can use...or follow some article's description precisely, putting your faith in the author and editors. :-) [I've been both
author and editor...]

Len Anderson
retired (from regular hours) electronic engineer person

485. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 23:28:34 UTC
From: averyfineman@aol.com
Message-ID: <20030720192834.21428.00001177@mb-m23.aol.com>
Source record: 34001

In article <sf9jhvopmjbcnqoe15ib1cp1rnpjmnljcv@4ax.com>, Paul Burridge
<redscar@waitrose.notformail.com> writes:

>On Sat, 19 Jul 2003 17:39:23 GMT, John Popelish <jpopelish@rica.net>
>wrote:
>
>>Paul Burridge wrote:
>>
>>> Feed the square output to a coil+capacitor in parallel and you'll get
>>> a sine wave. Tune the this 'tank' circuit for harmonics of the
>>> funamental and you can double, triple, quadruple and so on the
>>> original square wave's frequency.
>>
>>This works pretty good at the third and fifth harmonics, but there is
>>no second or fourth harmonic in a perfect square wave.
>
>Good point, John. But fortunately, I've never generated a *perfect*
>square wave! :-) In practice, it's probably more accurate to say that
>the even harmonics are well down on the odds. Blame it on dv/dt.

Hmmm...I'd "blame" M. Fourier for any of that, not the "dv/dt."

A different dV/dt, more specifically rise and fall times of the edges of a
"square wave" can determine the strength or weakness of harmonics,
both odd and even. Make the rise and fall times longer and ALL the
harmonics reduce in energy, approximately proportional. Calculation
of harmonic content is rather simple with a personal computer. If anyone
wants such a program, I'll e-mail it as an attachment (works at DOS level
even in Win98).

Len Anderson
retired (from regular hours) electronic engineer person

486. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-20 23:52:10 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vhmapf7nh5p56d@corp.supernews.com>
Source record: 34003

Other questions now come to mind. Why are paper caps usually tubular but
mylar or poly are rolled but on a very flat oval cross section? I've been
told to stay away from the green and brown dipped caps that come from asian
areas as they can be a source of problems.
tnx
hank wd5jfr
"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vhjf9thj2let63@corp.supernews.com...
> I was at a hamfest looking for some mylar caps for a circuit that called
for
> them. I got several opinions on how to tell one and finall gave up. Are
> there any sure fire ways to identiy a cap as mylar and why are they
bettter
> than a silver mica or others. Does anyone have a short chart comparing
the
> characteristics? How did we get by before mylar was used?
> tnx
> hank wd5jfr
>
>

487. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 00:08:04 UTC
From: "John S. MacKay" <k35454@direct.ca>
Message-ID: <vhmbn61ijpte74@corp.supernews.com>
Source record: 34004

"ScottnDess" <scottndess@aol.com> wrote in message
news:20030720165618.23795.00000228@mb-m27.aol.com...
> hello all im new to the amautre world and i was thinking of makeing my own
> first radio..i have some old books about how they did it way back in the
> day..but am flabergasted about todays techniques.i have taken some
electronics
> classes in college..if anyone is able to help or would have any advise i
would
> be gratly apprecitive. i live in northwest georgia..if anyone is from this
area
> that could show me how,that would also be great..
>
> Thanks
>
> Scott.
> Scottndess@aol.com

What college teaches the spelling of the word "amature"? On second
thought, don't bother.

488. Re: HW 101 for Navy Mars

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 00:58:25 UTC
From: fmmck@aol.com
Message-ID: <20030720205825.06200.00000187@mb-m03.aol.com>
Source record: 34005

<< Got my hands on a Heathkit HW-101..It's low preset is 3.5 and the center tuner only
adds 500 hz...Navy Mars operates at 4470.5. ..Any help? >>

Rick-

The tuned circuits may be close enough if you change the 80 Meter heterodyne oscillator crystal. I assume you can read the frequency on the crystal if you don't have documentation. If you can find one 500 KHz higher, it should make your range 4.0 to 4.5 MHz. Close may be good enough!

The only problem may be that the oscillator circuit used for the heterodyne crystals, requires high-Q crystals. That was one of the weak points in the design of the HW-100/SB-100 series.

73, Fred, K4DII

489. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 04:52:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhmsc7apu1bjb8@corp.supernews.com>
Source record: 34006

NE602s are indeed simple, but a poor choice for a direct conversion receiver. It's really important for a DC receiver mixer to retain good linearity and balance with large signals. Otherwise, strong AM signals will be demodulated and their audio will appear in the background (or foreground!). Doubly balanced mixers like the SBL-1 or one you can easily make from a couple of ferrite cores and 4 silicon or hot carrier diodes are much less sensitive to this problem than an NE602. In some circles, DC receivers have a bad reputation, and one reason is that people aren't aware of this problem so use inappropriate components.

The problem is particularly acute on 40 meter, which it's difficult or impossible to filter out strong AM broadcast stations before they get to the mixer.

Roy Lewallen, W7EL

John R. Strohm wrote:
> "Joshua P Luben" <josh@ebard.net> wrote in message
> news:3f1b1734$1@nntp0.pdx.net...
>
>>Get a CD-ROM from ARRL of the past few years QST articles. There are some
>>pretty simple to build receivers and transmitters.
>>
>>Then get yourself an ARRL handbook, it will be your best reference for a
>>long time to come.
>>
>>Since you're just begginning, start simple. Work on direct conversion
>>receivers using SBL-1 mixers and LM386 audio op-amps. Keep them simple;
>
> once
>
>>you get one working, tinker with it, add on to it. Most importantly, if it
>>doesn't work--ask very specific questions.
>
>
> NE602 front-ends are even simpler than SBL-1 front ends. Contrary to
> popular belief in some circles, you can still get the NE602 in 8-pin DIP,
> new, from Philips: the new name, for an improved part, is SA612AN. (The N
> suffix means 8-pin DIP.)
>
> You can find most of the "Amidon" toroids on eBay: the key is to search for
> MicroMetals (the actual manufacturer). www.kitsandparts.com also sells the
> popular toroids in 25-count quantities, for CHEAP.
>
> Ocean State Electronics has a lot of useful stuff. www.oselectronics.com (I

> think).
>
> I'd add a copy of "W1FB's Design Notebook" to that CD-ROM and the ARRL
> Handbook. If you can find DeMaw & Hayward's "Solid State Design for the
> Radio Amateur", grab it. Check www.qrpbooks.com; they may still have a few
> copies.
>
>

490. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 04:58:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhmsnht7in0e16@corp.supernews.com>
Source record: 34007

Does anybody actually make paper dielectric capacitors any more? I thought they'd been gone for a couple of decades now.

Roy Lewallen, W7EL

491. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 06:11:34 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <quLSa.65103$0v4.4365292@bgtnsc04-news.ops.worldnet.att.net>
Source record: 34008

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vhmsnht7in0e16@corp.supernews.com...
> Does anybody actually make paper dielectric capacitors any more? I
> thought they'd been gone for a couple of decades now.
>
> Roy Lewallen, W7EL
>

Sure. For whatever reason, some audiophiles still want them:

http://www.welbornelabs.com/jupiter.htm

Paper caps show up in other places:

http://www.evox-rifa.com/technote_pdf/rfi_fact.pdf

Frank Dresser

492. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 06:45:26 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <a_LSa.65119$0v4.4366657@bgtnsc04-news.ops.worldnet.att.net>
Source record: 34009

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vhmapf7nh5p56d@corp.supernews.com...
> Other questions now come to mind. Why are paper caps usually tubular but
> mylar or poly are rolled but on a very flat oval cross section? I've been
> told to stay away from the green and brown dipped caps that come from
asian
> areas as they can be a source of problems.
> tnx
> hank wd5jfr

Plastic film caps can be rolled into a round tube. Bob's Antique Radios &
Supplies has them:

http://www.radioantiques.com/supplies.html

These are much like the old Sprague Yellow Jackets. Similiar or identical
caps are at Antique Electronic Supply.

As far as I know, the flat oval style is only used for radial lead
capacitors. I suppose there's an advantage in trading width for height in
PC board construction.

Frank Dresser

493. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 06:55:20 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <3p1nhv8naed3oo961t7aut9gjd7ppac3fk@4ax.com>
Source record: 34011

On 20 Jul 2003 23:28:34 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

>In article <sf9jhvopmjbcnqoe15ib1cp1rnpjmnljcv@4ax.com>, Paul Burridge
><redscar@waitrose.notformail.com> writes:
>
>>On Sat, 19 Jul 2003 17:39:23 GMT, John Popelish <jpopelish@rica.net>
>>wrote:
>>
>>>Paul Burridge wrote:
>>>
>>>> Feed the square output to a coil+capacitor in parallel and you'll get
>>>> a sine wave. Tune the this 'tank' circuit for harmonics of the
>>>> funamental and you can double, triple, quadruple and so on the
>>>> original square wave's frequency.
>>>
>>>This works pretty good at the third and fifth harmonics, but there is
>>>no second or fourth harmonic in a perfect square wave.
>>
>>Good point, John. But fortunately, I've never generated a *perfect*
>>square wave! :-) In practice, it's probably more accurate to say that
>>the even harmonics are well down on the odds. Blame it on dv/dt.
>
> Hmmm...I'd "blame" M. Fourier for any of that, not the "dv/dt."

Sorry. The reference to the dv/dt was supposed to appear directly
after the quip about the "perfect square wave" - rather than blaming
Fourier, perhaps my text editing should be held culpable. :-)
Anyway, Len, by all means send me a copy of your program. All these
little utilities will doubtless prove their value at some future time.
Thanks.

494. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 07:13:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhn4k9ip0jmc7c@corp.supernews.com>
Source record: 34010

Thanks for the info! The audiophile connection isn't surprising considering their general nostalgia for archaic technology. Let me guess -- the wax-coated ones are surely best because of the soft sound they impart. But I see that paper *is* still a viable dielectric for capacitors requiring the best self-healing properties. A quick scan of the web seems to indicate that's their remaining market. I see that plastic dielectrics are being touted for good self-healing properties, and at least one vendor uses a combination paper-polypropylene dielectric. So it looks like paper might be getting slowly pushed out. But there's no doubt they're still being made and used, all right.

I've just been lucky and not had to deal directly with components for AC mains RF suppression, except potted units.

Roy Lewallen, W7EL

Frank Dresser wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vhmsnht7in0e16@corp.supernews.com...
>
>>Does anybody actually make paper dielectric capacitors any more? I
>>thought they'd been gone for a couple of decades now.
>>
>>Roy Lewallen, W7EL
>>
>
>
> Sure. For whatever reason, some audiophiles still want them:
>
> http://www.welbornelabs.com/jupiter.htm
>
> Paper caps show up in other places:
>
> http://www.evox-rifa.com/technote_pdf/rfi_fact.pdf
>
> Frank Dresser
>
>
>
>
>

495. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 09:45:57 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <9xSSa.1814$D67.89228@newsfep1-win.server.ntli.net>
Source record: 34017

> Does anybody actually make paper dielectric capacitors any more? I
> thought they'd been gone for a couple of decades now.
==========
They might no longer be made ,but many still reside in junk boxes .
With less homebrewing compared with say 15 yrs ago , they regularly appear
at club junk sales.

When considering to use them for valve (tube) based circuits I always test
them against their duty with an MFJ antenna analyser (a very useful
instrument with lots of different facilities)

Frank GM0CSZ / KN6WH

496. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 10:39:48 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bfgjb9aip1@bob.news.rcn.net>
Source record: 34013

One of the worst mistakes most beginner amateurs make is to aim for "small".

That takes skills you don't have. Trying to cram everything into a small package will get you couplings you don't want and will result in all sorts of problems.

You should aim for "simple", but you already knew that.

497. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 11:30:45 UTC
From: scottndess@aol.com
Message-ID: <20030721073045.24718.00000228@mb-m28.aol.com>
Source record: 34012

>First thing you should do is get a spell checker. I refuse to reply to
>crap like that. Sentences start with a capital letter and have a space
>between the end of one and the start of the next. And only one period.
>
>You went to college?
>
>Our civilization is doomed.
>
>--
>Bill, W7TI
>
>

I figured I'd geat a response like this. It's quite alright tho. Yes i went to college, does it matter much of how i type? Throwing flames is not how to help a pesrosn out. I wish some of you could understand that flamewars is how people get turned away from something that they might actually enjoy. If you cant say something nice,dont say anything at all.
Remember the " Golden rule" , and I will remember it as well.

498. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 12:21:56 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bfglt5$e3q9r$1@ID-61331.news.uni-berlin.de>
Source record: 34014

> NE602 front-ends are even simpler than SBL-1 front ends. Contrary to
> popular belief in some circles, you can still get the NE602 in 8-pin DIP,
> new, from Philips: the new name, for an improved part, is SA612AN. (The N
> suffix means 8-pin DIP.)
>

I don't think it's exactly like that.

The NE602 was manufactured by Signetics. Philips bought Signetics in 1975 from its previous parent company Corning Glass WOrks. In 1991 Philips Semiconductors became a separate company within the Philips group, and Signetics was integrated into Philips Semiconductors in 1993 to give greater product recognition in the US. From what I understand Signetics was aquired from Philips in 1995 by the Keo Pyung (KP) Group, and subsequently transferred to private ownership.

Anyway, a few years ago legend has it that there was a fire at a Signetics semiconductor manufacture plant in Korea, destroying (amongst other things) the master die and several year's worth of NE602 stocks. This is what gave rise to the rumour amongst radio amateurs already hit by dicontinuation of other mixers, that the NE602 had been discontinued.

In fact it hadn't, Philips continued production of the NE602 as part SA602. Philips also offered a less expensive but slightly inferior equivalent, the SA612. Later, a new manufacturing process was developed producing better performance and reliability, and at the same time minor changes were made to the SA602/612 circuit to improve performance. The new devices are part numbers SA602A and SA612A. The N suffix is for 8-pin DIP, D suffix for 8-Pin SO Surface Mount.

So, both the SA602A and the SA612A are still in production by Philips, the 602 being slightly superior to the 612.

Incidentally, despite the datasheet sating the internal oscillator can be used up to 200MHz, I am having a lot of success using it in a VCO covering range 140-300MHz. See some preliminary pictures of my spectrum analyser project http://www.hanssummers.com/electronics/equipment/spectrumanalyser/.

Hans G0UPL

499. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 12:40:20 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <UaRSa.65386$0v4.4384966@bgtnsc04-news.ops.worldnet.att.net>
Source record: 34015

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vhn4k9ip0jmc7c@corp.supernews.com...
> Thanks for the info!

Your're welcome!

[snip]

>The audiophile connection isn't surprising
> considering their general nostalgia for archaic technology. Let me guess
> -- the wax-coated ones are surely best because of the soft sound they
> impart.

Probably. The web page says:

"A paper, foil and beeswax design for a sweet, sweet sound."

Looks about the same to me, but I'm not an audiophile.

I didn't notice any indication of which wire connects to the outer foil. Connecting the outer foil to the low impedance side of the circuit isn't critical, but I'd think it's at least as important as the presumed advantage of paper over plastic.

> So it looks like paper might be getting slowly pushed out.
> But there's no doubt they're still being made and used, all right.
>
> I've just been lucky and not had to deal directly with components for AC
> mains RF suppression, except potted units.
>
> Roy Lewallen, W7EL
>

I have some metallic film line bypass caps from Digi-Key. They weren't specific about just what film was used, but they are reasonably compact and they don't show any leakage at 600V. I don't think there's any paper in them. Paper doesn't seem to age well. I don't know if there's really much advantage in a lower percentage of carbon. For all I know, the balance is made up with oxygen and hydrogen, just itchin' to cause mischief after a few internal arcs. But I'm not a capacitor film engineer, either.

Frank Dresser

500. FA:EBAY-PARTS,XFMRS,SCOPE...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 12:56:43 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <fqRSa.65406$0v4.4386301@bgtnsc04-news.ops.worldnet.att.net>
Source record: 34016

B&K scope
Antique capactors and resistors
Misc ceramic standoffs-small
Radio Knobs-3 spoke
Thord. driver xfmr
Stancor mic-grid xfmr
Powerstat variac-240 v
8 and 15 H chokes

see above under seller: heytubeguy

73

501. spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 14:35:08 UTC
From: payam79b@yahoo.com
Message-ID: <1e2005ff.0307210635.5abf491a@posting.google.com>
Source record: 34018

hi, where can i find practical high fre spectrum analyser circuit?
thanks

502. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 14:45:31 UTC
From: Troy <troyml@yahoo.com>
Message-ID: <Xns93BF63453A5C8troymlnospamyahoocom@207.217.77.101>
Source record: 34019

W7TI <noway@nohow.com> wrote in
news:3eunhv889440mlu01fsa8m7kclrkgffd0h@4ax.com:

> Yes, Scott, it does matter how you type. The sooner you realize it,
> the better your life will become.
>
> If you submit a resume using your current skills, you will be spending
> a lot of time at the unemployment office.
>
> Believe it or not, I *am* applying the Golden Rule right now.
>

I agree that how you present yourself in the written word means a great deal. But I too would be very interested in following this thread for the information he is seeking. If the replies are only for him, reply by email, if you have information the group can benefit from, myself in particular, please reply to the group.

Troy, KC0EJO

503. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 14:49:49 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F1BFD8D.8C45C685@ob-wan.com>
Source record: 34021

Frank Dresser wrote:
>
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vhmsnht7in0e16@corp.supernews.com...
> > Does anybody actually make paper dielectric capacitors any more? I
> > thought they'd been gone for a couple of decades now.
> >
> > Roy Lewallen, W7EL
> >
>
> Sure. For whatever reason, some audiophiles still want them:
>
> http://www.welbornelabs.com/jupiter.htm
>
> Paper caps show up in other places:
>
> http://www.evox-rifa.com/technote_pdf/rfi_fact.pdf

I doubt any self-respecting audio designer would use them now, but
people restoring older gear often want to retain originality.

Rob

504. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 14:50:16 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bfguj9$en1oi$1@ID-61331.news.uni-berlin.de>
Source record: 34020

"payam" <payam79b@yahoo.com> wrote in message
news:1e2005ff.0307210635.5abf491a@posting.google.com...
> hi, where can i find practical high fre spectrum analyser circuit?
> thanks

If by High Frequency you mean up to 30MHz, mine is quite practical and goes up to about 140MHz (http://www.hanssummers.com/electronics/equipment/spectrumanalyser/). If you want UHF then try a google for "homebrew spectrum analyser", brings loads of good links.

72 Hans G0UPL

505. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 15:09:12 UTC
From: scottndess@aol.com
Message-ID: <20030721110912.14622.00000342@mb-m04.aol.com>
Source record: 34022

I never thought of it in that sense. Sorry if i came off being harsh. I hope your job hunting goes well, but yes i aim to make a "simple" radio as someone had stated earlier in this post. I have looked at the books and the CD's and i must thank you for the redirection.

Thanks Once Again
Scott.

506. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 15:20:20 UTC
From: Old DXer <"Old DXer"@connectnet.net>
Message-ID: <UwTSa.5635$ff.418@fed1read01>
Source record: 34023

Poor mans Spectrum Analyzer at URL:
http://www.science-workshop.com/

"payam" <payam79b@yahoo.com> wrote in message
news:1e2005ff.0307210635.5abf491a@posting.google.com...
> hi, where can i find practical high fre spectrum analyser circuit?
> thanks

507. Re: IC706 Headset adapter?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 15:40:45 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1985a958d8070632989970@192.168.42.131>
Source record: 34024

In article <J4DSa.14196$ib2.3529168@twister.neo.rr.com>, R Packer II says...

> I have a Flightcom headset that I picked up off of eBay for a small penny,
> and I was wondering if I can interface it into an IC706 for working
> contests/DX/everyday ops? It isn't a mkii or anything if that matters. I
> know the headphone part of it can just plug in to the phones jack, but how
> would I modify the mic to work with it? I am willing to tear apart the mic
> to interface it, but I am unsure of what ohms the mic cartridge in the
> headset is. It has a stereo style plug on it, so I can only assume it is a
> powered element. Any help would be appreciated. 73!

I dealt with a similar issue when I installed the audio panel into my mobile for use with a 706 and two other radios as well. My headset of choice, being a standard telephone type, required DC bias to operate.

The essence of the problem is that, since the Flightcom's mic circuit is doubtless designed to simulate a carbon microphone element, you will indeed need some form of DC bias. The simplest method I can imagine for getting it going is to use about a 5.6 Kohm resistor, and a 1:1 audio isolation transformer. Radio Schlock has a neat little 1:1 transformer that's 600:600 ohm for about $5.

Wire the resistor in series with one side of the transformer and the mic element, and supply +12V and ground. Route the leads from the other side of the transformer into the Icom's mic input.

Alternatively, if you have more than one radio to control, you can do what I did and get an old aircraft-type audio panel. Such will easily drive your headset, and provide a nice DC-blocked audio output for the mic circuit.

73 de KC7GR

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

508. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 15:54:25 UTC
From: Old DXer <"Old DXer"@connectnet.net>
Message-ID: <S0USa.5638$ff.1743@fed1read01>
Source record: 34025

I interviewed many folks for tech writing positions that required writing skills as well as a knowledge of electronics.

Those resumes with spelling and grammar errors were set aside and were the last ones considered.

My friend who interviewed folks for engineering and technician positions did likewise.

Many employment agencies throw out the resumes with spelling and grammar errors when they have numerous applications . Maybe right or wrong as they may have missed a well qualified candidate -- but that's what they do.

RE: your own radio, again go to Amazon.com and look up "Build Your Own Intelligent Amateur Radio Transceiver by Randy Lee Henderson

---
"Troy" <troyml@yahoo.com> wrote in message
news:Xns93BF63453A5C8troymlnospamyahoocom@207.217.77.101...
> W7TI <noway@nohow.com> wrote in
> news:3eunhv889440mlu01fsa8m7kclrkgffd0h@4ax.com:
>
> > Yes, Scott, it does matter how you type. The sooner you realize it,
> > the better your life will become.
> >
> > If you submit a resume using your current skills, you will be spending
> > a lot of time at the unemployment office.
> >
> > Believe it or not, I *am* applying the Golden Rule right now.
> >
>
> I agree that how you present yourself in the written word means a great
> deal. But I too would be very interested in following this thread for
> the information he is seeking. If the replies are only for him, reply by
> email, if you have information the group can benefit from, myself in
> particular, please reply to the group.
>
> Troy, KC0EJO

509. Re: MRF 454 power Amplifier: Motorola AN762

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 16:32:11 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <bfh3e2sut1@news.hccnet.nl>
Source record: 34026

Certainly, but this amp has yet to see an antenna. It will be used at 28 MHz
only in the near future.
Scott <acepilot@bloomer.net> schreef in berichtnieuws
3F1A878C.2D0A1306@bloomer.net...
>

510. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 17:29:45 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307210929.35337f34@posting.google.com>
Source record: 34027

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:<vhmapf7nh5p56d@corp.supernews.com>...
> Other questions now come to mind. Why are paper caps usually tubular but
> mylar or poly are rolled but on a very flat oval cross section? I've been
> told to stay away from the green and brown dipped caps that come from asian
> areas as they can be a source of problems.

?? As Roy said, you probably won't find many modern paper caps.

Polyester (aka Mylar) caps come in a wide array of shapes. You can
get them as round, axial leaded parts in either molded or
shrink-sleeve packages; as rectangular-cased "radial" leaded parts; as
dipped radial leaded parts, and even (in large values) with screw
terminals. You can get them in surface-mount packages. It's really
pretty difficult to tell what's inside by the look of things outside.

FWIW, I've been conducting a long-term experiment on a couple
polyester and a couple polypropylene caps to find the self-discharge
time constant. The caps I'm testing are WIMA MKP10 polyprops and M/C
708D1 polyesters, both 0.1uF. The polyesters are exhibiting a time
constant around 4 years, and the polyprops are up in the neighborhood
of 50 years. In other words, modern caps are quite a bit lower
leakage than you'd expect from the info in sources like "Reference
Data for Engineers," and unless you are doing some very low current
work, better than you're likely to ever need, in terms of dielectric
resistance. That was NOT the case in the old days! But there are
other things to worry about. Dielectric absorption can cause trouble.
There are small nonlinearities that are a problem in very low
distortion equipment. Dissipation factor is important especially when
dealing with fairly high RMS currents. Stability can be a factor in
some designs. And of course, voltage rating and tolerance are obvious
ones. I'd guess with a little web-searching, you can find some
guidance about selecting caps with respect to these and other factors.

Cheers,
Tom

511. Re: help with homebrew receiver!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 18:06:31 UTC
From: Melvyn T Phillips <melvyn@g7onh.fsnet.co.uk>
Message-ID: <bfha58$199$1@newsg3.svr.pol.co.uk>
Source record: 34028

Using a 470uf would alter the filter frequency, but using a 35 volt cap
shouldn't make much difference.
If the cap is the wrong way round, it would BLOW I would have thought,
not just get hot.
It does appear that there is TOO MUCH voltage on the circuit?
Check your EMF...what are you using - mains or battery?
Hope you find the fault soon?
Regards....Melvyn.

TC Dufresne wrote:

> Hi:
> I am having a problem with a "Simple Receiver for Beginners". It is from a
> design that was featured in an old (1981) ARRL handbook. It is a DC
> receiver, looks like alot of fun, but it isn't fun now.
> Here is the problem.
>
> 1) No oscillation! I can't find it (the VFO) on my DX-398 receiver at all,
> or on my Radio Shack freq counter.
> 2) The power (+ side) electrolytic is supposed to be a 500uF, 16 volt. I am
> using a 470uF 35 volt. It gets really hot!! Short somewhere?!?!?!
>
> The VFO is REALLY simple, it has one transistor and about 7 other parts. I
> can't seem to see what is wrong, and I have tried.
>
> I would sure appreciate some Elmer'ing here!
> ANY help would be much appreciated. I have the above mentioned tools at my
> command, a multimeter, and an old Heathkit "scope. (which I really don't
> know how to use.
>
> Any chance?
> Thanks in advance,
> Tom
> KCï¿½GXX
>
>
>
>

512. Re: Parts source in Los Angeles area

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 18:09:49 UTC
From: Al Lorona <al_lorona@agilent.com>
Message-ID: <3F1C2C6D.1707B39D@agilent.com>
Source record: 34029

W7TI wrote:
>
> Can anyone recommend a good surplus and/or used parts house in the LA
> area? Looking mostly for components or mil surplus assemblies which can
> be parted out.
>
> Remember J. J. Glass from back in the '50s and '60s? That would be
> ideal. :-)
>
> Tnx in advance,
>
> --
> 73, Bill W7TI
> --
> Bill, W7TI

Hi, Bill,

Pay a visit to C & H Surplus, on Colorado Blvd. in Pasadena.

Regards,

Al W6LX

513. Re: Convert Astro CB amp to 6 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 19:21:52 UTC
From: Philip de Cadenet <Philstheboss@thebbc.fslife.co.uk>
Message-ID: <dcKqHOJQ1DH$Ewu7@philstheboss.freeserve.co.uk>
Source record: 34030

Greg,

>IF the only circuit published by the device manufacturer is for an amplifier
>operating below 30 MHz,
>that's a pretty good sign the devices won't provide any gain at 50 MHz...
>
>BTW, a good 6 meter yagi (which is very easy to build and much smaller than
>10 meter beams)
>will yield more dB increase for less dollars than the amplifier.
Not totally true.

We use a THA15/SD1726 (30MHz bi-polar 150w pep) producing 220w in our FM
PA in continuous duty service in the 87.5-108MHz broadcast band.

Yes, it needs plenty of drive and the heat sink require plenty of air
but at $30 USD a hit it's one economical and rugged amp.

Here it is: http://www.transmittersrus.com/shop/powerRF220.htm

I totally agree with you on the antenna.

(((73)))
--
Philip de Cadenet G4ZOW
Transmitters 'R' Us
http://www.transmittersrus.com

514. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 19:32:26 UTC
From: Dave Bushong <dbushong@spamcop.nett>
Message-ID: <edXSa.6277$KZ.3004870@news1.news.adelphia.net>
Source record: 34031
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Rob Judd wrote:

> Ken Knox wrote:
>
>>On Sat, 19 Jul 2003 06:47:32 -0700, W7TI <noway@nohow.com> wrote:
>>
>>
>>>On Sat, 19 Jul 2003 12:42:02 +0100, Paul Burridge
>>><redscar@waitrose.notformail.com> wrote:
>>>
>>>
>>>>0 hz is hardly a 'frequency.'
>>>
>>>_____
>>>
>>>Of course zero Hz is a frequency. Have you ever had a checkbook balance
>>>of zero? Is that not a balance? :-)
>>>
>>
>>Frequently!!! :-)
>
>
> I believe this proves that negative frequencies exist!!
>
> Rob

Yes, it does. I just now sent you a message from the future on a
negative frequency. You should be getting it yesterday.

Hey, I should make a movie! Called "Frequency"!

73,
Dave
KZ1O

--

Please yank that last "t" from my email address.
It's "net", not "nett". You know how to do that,
but the spammers won't.

515. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 19:34:55 UTC
From: Dave Bushong <dbushong@spamcop.nett>
Message-ID: <zfXSa.6278$KZ.3005688@news1.news.adelphia.net>
Source record: 34032
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hank Oredson wrote:

> "Leigh W3NLB" <w3nlbREMOVETHIS@amsat.org> wrote in message
> news:73tdhvks1u6u9jhm3hr6filnmtkps64ia8@4ax.com...
>
>>On Thu, 17 Jul 2003 19:11:57 +0200, "Tom" <tstimac01@yahoo.com> wrote:
>>
>>
>>>Hello
>>>
>>>If anyone can recommend me a good book from which i will learn to construct
>>>oscillator that for example covers range 0-12 MHz.
>>>
>>>Thanks in advance!
>>>Tom
>>>
>>
>>12 MHz is easy. 0 MHz is really difficult.
>
>
>
> I have a couple of those.
> They put out significant power.
>

I'm still stringing up my 0 MHz half-wave dipole. 468/f

db
kz1o

--

Please yank that last "t" from my email address.
It's "net", not "nett". You know how to do that,
but the spammers won't.

516. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 21:37:49 UTC
From: "J. Yazel" <jyazel@nls.net>
Message-ID: <q6nohv4qcpl3jvofcljt5j0g27k927t4k0@4ax.com>
Source record: 34033

>I figured I'd geat a response like this. It's quite alright tho. Yes i went to
>college, does it matter much of how i type? Throwing flames is not how to help
>a pesrosn out. I wish some of you could understand that flamewars is how people
>get turned away from something that they might actually enjoy. If you cant say
>something nice,dont say anything at all.
>Remember the " Golden rule" , and I will remember it as well.
==========

I might want to help you with a problem in the future.

However, if I can't uderstand you, it probably will not be possible.

Jack W8RAG

517. Re: Audio preamp for LM 4808?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 21:50:29 UTC
From: blyoung@hal-pc.org
Message-ID: <33cb2455.0307211350.20b15c0c@posting.google.com>
Source record: 34034

DanTayloe: Thanks for the information about the TS924. I looked at some information on the TS924 on the web including a suggested circuit for the TS924 as a headphone driver. Why do I need the LM4808? Why not use three of the four amplifiers in the quad as voltage amplifiers and the fourth as the headphone driver? I would then need each amplifier to have a voltage gain of 16 rather than 8, and the noise situation might be somewhat worse. I see that the TS924 is capable of driving 16 Ohm phones which should be what I need. Thanks. Bill Young WD5HOH

Dan Tayloe <dtayloe@cox.net> wrote in message news:<3F19B646.99C9C55E@cox.net>...
> There is not much available in the 3v range that is really low noise.
> Lowest that you can get at any voltage is 0.9 nV/squarerootHz (LT1115,
> etc.). There is a 5v TI device that good to 3 nV/SqrtHz (OPA2228), but
> about the best you can do at 3v to 4.5v range is 8-9 nV/sqrtHz, at least
> in the audio range. Some low voltage op-amps specify lower noise, but
> usually upon further examination of the noise curves, that low noise is
> only at a couple hundred KHz.
>
> I would recommend the TS924, which is a quad device. These 3v devices
> do not have much gain, 40 db maximum, compared to 80-120 db from other
> higher voltage devices, so you will need to string together several of
> them to get the proper gain and still keep distortion low.
>
> I recommend the quad package so that you can use each of the four
> devices at a 8x gain each. This will total about 72 db for the four.
> Maybe use 1K input and 8.2K feedback. Keeping the input resistor to a
> smaller value will help reduce resistor induced noise.
>
> Mouser carries the TS924 in both the DIP and the SOP package for a bit
> under $2. I like the SOP surface mount for deadbug construction use
> because it take ups a lot less space and because that size works really
> well with 1/8w resistors. I like to use #30 or #32 gauge enamel wire
> for hook up wire, burning the enamel off the end of the wire with a blob
> of solder. Stick the end of the wire in the blob so that the copper
> gets exposed directly to the heat.
>
> To keep hiss at bay, I would recommend placing the volume control about
> 40 db from the speaker, and using high frequency gain roll off
> capacitors across the 8.2K feedback resistors, perhaps in the 0.0033 uF
> range.
>
> Good luck and God bless!
>

> - Dan, N7VE
>
> Bill Young WD5HOH wrote:
> >
> > Does anybody have a suggestion for a good audio IC preamp to go ahead
> > of an LM 4808 headphone driver? I have been using the LM 386 for home
> > brewed receivers up to now, but I would like to go to the LM 4808
> > because it can run on 4.5 volts (three D cells), and it will drive my
> > Sony stereo phones better than the LM 386. But it is a low gain
> > device, so I need about 70 dB of audio gain from an audio preamp. One
> > or two IC stages, that doesn't matter. I know that the LM 3808 is a
> > surface mount chip, but I think I can solder it OK. Thanks. Bill
> > Young WD5HOH

518. Superheterodyne LO question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 22:12:44 UTC
From: Liam Ness <working@the.factory>
Message-ID: <kqnohvgfpjfn6vu13v7oh4233p5j403bvp@4ax.com>
Source record: 34035

I am trying to get a handle on superhet design and keep getting stuck on the local oscillator portion. I've been wading through the ARRL handbook and some other resources, but I can follow exactly how the LO signal is created. Is the signal generated entirely in the radio, or is the signal generated from the RF picked up from the antenna, or am I so off base that neither explaination is right?
As an example, if I wanted to make a single frequency receiver could I just use an external fixed oscillator for the LO signal?

TIA

Liam

519. Re: Superheterodyne LO question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 22:39:55 UTC
From: dplatt@radagast.org
Message-ID: <vhoqtrcjnl2hfb@corp.supernews.com>
Source record: 34036

In article <kqnohvgfpjfn6vu13v7oh4233p5j403bvp@4ax.com>,
Liam Ness <working@the.factory> wrote:

>I am trying to get a handle on superhet design and keep getting stuck
>on the local oscillator portion. I've been wading through the ARRL
>handbook and some other resources, but I can follow exactly how the LO
>signal is created. Is the signal generated entirely in the radio, or
>is the signal generated from the RF picked up from the antenna, or am
>I so off base that neither explaination is right?

The word "local" gives the key. The signal is local to the
receiver... it's either generated inside the receiver, or in an
external oscillator which is tightly tied to the receiver.

Many different methods can be used to generate the LO. It could be
from a fixed-frequency crystal. It could be from a "pullable"
crystal. It could be from an LC or RC oscillator (either single
frequency, or adjustable). It could be synthesized using a
fixed-frequency crystal, a divider, and a phase-locked loop. It could
be derived (directly or indirectly) from some high-precision external
source.

If I recall correctly, one common technique can be seen in a standard
superhet AM transistor radio ("standard" some years ago, I'm sure
things have changed since then). These often used a two-section
variable capacitor. One section acts as part of an LC tuned filter,
whose center frequency is tuned to the station you want. Another
section acts as part of an LC oscillator, which creates the LO signal
at a frequency 455 kHz above the station frequency. The LO signal,
and the [preamplified?] tuned RF signal from the station, are mixed
and the 455 kHz intermediate-frequency product is then run through one
or more IF-filter stages.

Part of the trick with this design is knowing how to construct and
trim the two sections of the capacitor, so that the center frequencies
of the tuned filter and the LO oscillator stay 455 kHz apart.

[Those with more, and more current knowledge than mine are invited to
correct whatever errors I've made in this recounting!]

>As an example, if I wanted to make a single frequency receiver could I
>just use an external fixed oscillator for the LO signal?

Yes.

--
Dave Platt <dplatt@radagast.org> AE6EO

Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

520. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 22:45:35 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19860ce7530e5a54989692@news-central.giganews.com>
Source record: 34037

In article <ljrahvo3j8nc2hsasv0i9j66unqnkda0qb@4ax.com>,
pbreed@NoSpam.com says...
> Can anyone reccomend a good small surface mount FM receiver chip that is currently availible?
>
>
> Is it possible to do FM reception with a Direct conversion RX and some simple DSP?
>
>
> Paul (Kl7JG)
>

I really like the Philips SA604AD (http://www-us.semiconductors.philips.com/pip/SA604AD.html). It's easy to use, it's got plenty of internal gain, and it works well at a variety of IFs, from 455 kHz to 10.7 or 21.4 MHz.

I've built several decent-performing receiver sections for NBFM audio, NBFM FSK data, and WBFM (broadcast) audio with the SA604 and various filters available from Digi-Key.

Naturally, everybody that sells them appears to be out of stock right now.

-- jm

---

http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

---

521. Re: Superheterodyne LO question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 22:51:30 UTC
From: Old DXer <"Old DXer"@connectnet.net>
Message-ID: <S7_Sa.5798$ff.3319@fed1read01>
Source record: 34040

A local oscillator is local, that is -- it is an oscillator in the receiver that generates a signal to heterodyne (beat) with the incoming signal to produce plus and minus difference signals, the minus usually being the Intermediate freq (IF). See URL:
http://www.see.ed.ac.uk/~gjrp/EE3/Comms/Lecture6/sld005.htm

>" As an example, if I wanted to make a single frequency receiver could I just use an external fixed oscillator for the LO signal?

Yes many a superhet has a fixed LO particularily VHF and up older designs -- used xtal or xtals -- with a crystal oscillator circuit for stability, but a tuneable LO or now a days a synthesixed LO is more common.

Have fun

"Liam Ness" <working@the.factory> wrote in message
news:kqnohvgfpjfn6vu13v7oh4233p5j403bvp@4ax.com...
> I am trying to get a handle on superhet design and keep getting stuck
> on the local oscillator portion. I've been wading through the ARRL
> handbook and some other resources, but I can follow exactly how the LO
> signal is created. Is the signal generated entirely in the radio, or
> is the signal generated from the RF picked up from the antenna, or am
> I so off base that neither explaination is right?
> As an example, if I wanted to make a single frequency receiver could I
> just use an external fixed oscillator for the LO signal?
>
> TIA
>
> Liam

522. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 22:52:55 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19860ea62292690989693@news-central.giganews.com>
Source record: 34038

In article <1e2005ff.0307210635.5abf491a@posting.google.com>,
payam79b@yahoo.com says...
> hi, where can i find practical high fre spectrum analyser circuit?
> thanks
>

The W7ZOI homebrew spectrum analyzer article is not to be missed:

http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)

You'll find this design vastly superior to the "poor man's spectrum
analyzer" projects out there that are based on CATV tuners.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

523. Re: Superheterodyne LO question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-21 22:54:46 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19860f0eb0151a27989694@news-central.giganews.com>
Source record: 34039

In article <kqnohvgfpjfn6vu13v7oh4233p5j403bvp@4ax.com>,
working@the.factory says...
> I am trying to get a handle on superhet design and keep getting stuck
> on the local oscillator portion. I've been wading through the ARRL
> handbook and some other resources, but I can follow exactly how the LO
> signal is created. Is the signal generated entirely in the radio, or
> is the signal generated from the RF picked up from the antenna, or am
> I so off base that neither explaination is right?

It's normally generated entirely within the receiver. There are more
ways of generating an LO signal than you can count. (Unfortunately, the
ARRL Handbook's organization isn't always as beginner-friendly as it
could be.)

> As an example, if I wanted to make a single frequency receiver could I
> just use an external fixed oscillator for the LO signal?

Yep.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

524. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 00:02:08 UTC
From: Joel <joel@cyberbest.com>
Message-ID: <qa%Sa.296$L44.43504736@twister1.starband.net>
Source record: 34041

I built the 'Poor Man's Spectrum Analyzer' a whole lot of years ago. While it does work, it leaves a lot to be desired.. The resolution isn't very good and I would hate to make any judgments on equipment performance based on it. I think it's an interesting project and I'll just leave it at that.

Joel AG4QC

525. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 00:10:59 UTC
From: scottndess@aol.com
Message-ID: <20030721201059.06702.00000334@mb-m06.aol.com>
Source record: 34042

I already said i was sorry. What else do you want me to do?

526. Re: Convert Astro CB amp to 6 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 00:12:33 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <Rj%Sa.103521$GL4.26823@rwcrnsc53>
Source record: 34043

"Philip de Cadenet" <Philstheboss@thebbc.fslife.co.uk> wrote in message
news:dcKqHOJQ1DH$Ewu7@philstheboss.freeserve.co.uk...
> Greg,
>
> We use a THA15/SD1726 (30MHz bi-polar 150w pep) producing 220w in our FM
> PA in continuous duty service in the 87.5-108MHz broadcast band.
>
> Yes, it needs plenty of drive and the heat sink require plenty of air
> but at $30 USD a hit it's one economical and rugged amp.
>
> Here it is: http://www.transmittersrus.com/shop/powerRF220.htm
>

That's odd, since the SD1450 specifications were for the commercial FM
broadcast industry (88 - 108 MHz),
and is rated at 150 watts for 18 watts drive. Price is virtually the
ame - maybe its higher for you in UK

Greg
w9gb

527. Re: Parts source in Los Angeles area

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 01:28:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhp4plmihs6863@corp.supernews.com>
Source record: 34044

Is that the one that's run by the little old lady? I hear she's a real
terror.

Roy Lewallen, W7EL

W7TI wrote:
> On Mon, 21 Jul 2003 11:09:49 -0700, Al Lorona <al_lorona@agilent.com>
> wrote:
>
>
>>Hi, Bill,
>>
>>Pay a visit to C & H Surplus, on Colorado Blvd. in Pasadena.
>>
>>Regards,
>>
>>Al W6LX
>
>
> ____
>
> Thanks Al, will check them out.
>

528. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 01:54:00 UTC
From: Hank Oredson <horedson@att.net>
Message-ID: <YO0Ta.65967$3o3.4394407@bgtnsc05-news.ops.worldnet.att.net>
Source record: 34045
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"W7TI" <noway@nohow.com> wrote in message
news:em2phvsftqdqk172785vsob6n9c1qv2uo7@4ax.com...
> On Mon, 21 Jul 2003 19:34:55 GMT, Dave Bushong <dbushong@spamcop.nett>
> wrote:
>
> >I'm still stringing up my 0 MHz half-wave dipole. 468/f
> >
> >db
> >kz1o
>
> ____
>
> You will never finish. Sorry. :-)
>
> --
> Bill, W7TI

It could be shortened by the use of N turn loading coils, where N -> infinity.

--

... Hank

Hank: http://horedson.home.att.net
W0RLI: http://w0rli.home.att.net

529. Re: Mylar cap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 02:48:44 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <6rsmhvgfsn6a6es04svrbs8kug5m3ivmp6@4ax.com>
Source record: 34046

On Sun, 20 Jul 2003 03:52:57 +0000 (UTC) "Leon Heller"
<leon_heller@hotmail.com> wrote:

>Mylar caps aren't used very much. Metallised polyester are easier to find.

I think Mylar is simply a brand name for a particular brand of
polyester.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA
---

530. Re: New Amateur seeks to make his own small radio.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 03:04:55 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <oD-dnTkpl6NPNIGiXTWJkQ@comcast.com>
Source record: 33947

Many people have done well with a kit as their first project.
http://www.tentec.com/rcvrkit.htm is a reputable manufacturer with a broad line ranging from simple to elaborate. The instructions are pretty complete. In addition, you may be able to find specific designs critiqued on the Web by people who have modified them. This is an example of a report on a Ten-tec transceiver:
http://www.io.com/~n5fc/tt1340.html

Be aware that the really simple designs often have significant limitations.

Tom, N3IJ

"ScottnDess" <scottndess@aol.com> wrote in message
news:20030720165618.23795.00000228@mb-m27.aol.com...
> hello all im new to the amautre world and i was thinking of makeing my own
> first radio..i have some old books about how they did it way back in the
> day..but am flabergasted about todays techniques.i have taken some
electronics
> classes in college..if anyone is able to help or would have any advise i
would
> be gratly apprecitive. i live in northwest georgia..if anyone is from this
area
> that could show me how,that would also be great..
>
> Thanks
>
> Scott.
> Scottndess@aol.com

531. Re: Parts source in Los Angeles area

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 04:16:30 UTC
From: Dan Rae <rae4@KILLSPAMix.netcom.com>
Message-ID: <bfidquggv1@slb0.atl.mindspring.net>
Source record: 33948

Apex on the San Fernando Road is worth a visit, just be sure you're not there during a major seismic event, you'd not get out alive!

W7TI wrote:
> Can anyone recommend a good surplus and/or used parts house in the LA
> area?

532. Re: Superheterodyne LO question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 04:18:09 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.19865ad8a11c5637989976@192.168.42.131>
Source record: 33949

In article <kqnohvgfpjfn6vu13v7oh4233p5j403bvp@4ax.com>, Liam Ness says...

> I am trying to get a handle on superhet design and keep getting stuck
> on the local oscillator portion. I've been wading through the ARRL
> handbook and some other resources, but I can follow exactly how the LO
> signal is created. Is the signal generated entirely in the radio, or
> is the signal generated from the RF picked up from the antenna, or am
> I so off base that neither explaination is right?

As its name implies, the local oscillator is exactly that: Local to the radio itself. In other words, your first statement is correct.

> As an example, if I wanted to make a single frequency receiver could I
> just use an external fixed oscillator for the LO signal?

Sure, you could, but why bother? The only place I've seen external LO's used is in specialized test equipment, like tracking generators.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

533. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 05:10:00 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bfihhl$970@library2.airnews.net>
Source record: 33951

"John Miles" <jmiles@pop.removethistomailme.net> wrote in message
news:MPG.19860ce7530e5a54989692@news-central.giganews.com...
> In article <ljrahvo3j8nc2hsasv0i9j66unqnkda0qb@4ax.com>,
> pbreed@NoSpam.com says...
> > Can anyone reccomend a good small surface mount FM receiver chip that is
currently availible?
> >
> >
> > Is it possible to do FM reception with a Direct conversion RX and some
simple DSP?
> >
> >
> > Paul (Kl7JG)
> >
>
> I really like the Philips SA604AD (http://www-
> us.semiconductors.philips.com/pip/SA604AD.html). It's easy to use, it's
> got plenty of internal gain, and it works well at a variety of IFs, from
> 455 kHz to 10.7 or 21.4 MHz.
>
> I've built several decent-performing receiver sections for NBFM audio,
> NBFM FSK data, and WBFM (broadcast) audio with the SA604 and various
> filters available from Digi-Key.
>
> Naturally, everybody that sells them appears to be out of stock right
> now.

I'm pretty sure Philips has discontinued that part.

534. WTB : ITC SA-1000 Spectrum Analyzer Manuals/circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 05:17:09 UTC
From: Doug <doug@ozhelpservices.com>
Message-ID: <pN3Ta.7896$OM3.5628@news-server.bigpond.net.au>
Source record: 33950
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am looking to buy user and maintenance manuals/circuits for the ITC
SA-1000 (100KHz - 1GHz) Spectrum Analyzer (circa early 1990's)
I understand that ITC was based in California and are now defunct. If you
can assist with photocopies or PDF format, please advise cost and
availability.

Thanks
Doug VK4ADC
vk4adc@ozhelpservices.com

535. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 07:19:58 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bfioiu$faega$1@ID-61331.news.uni-berlin.de>
Source record: 33952

>
> The W7ZOI homebrew spectrum analyzer article is not to be missed:
>
> http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
> http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
>
> You'll find this design vastly superior to the "poor man's spectrum
> analyzer" projects out there that are based on CATV tuners.

The W7ZOI project is very interesting. I'm interested in what ways you think it's superior to the poor man's spectrum analysers based on CATV tuners? The latter surely have greater frequency coverage. But in what ways are they inferior and can you quantify it?

Hans G0UPL

>
> -- jm
>

536. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 08:23:29 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <qVygaXDBSPH$EA5C@ifwtech.co.uk>
Source record: 33956

Hans Summers wrote:
>>
>> The W7ZOI homebrew spectrum analyzer article is not to be missed:
>>
>> http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
>> http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
>>
>> You'll find this design vastly superior to the "poor man's spectrum
>> analyzer" projects out there that are based on CATV tuners.
>
>The W7ZOI project is very interesting. I'm interested in what ways you think
>it's superior to the poor man's spectrum analysers based on CATV tuners? The
>latter surely have greater frequency coverage. But in what ways are they
>inferior

A spectrum analyser is simply a frequency-swept receiver with a
dB-scaled output to a screen. To give meaningful results, that receiver
must have a very high dynamic range with very low spurious responses.

The problem is that real incoming signals and the analyser's spurious
responses all look very much the same on the screen. When you can't
trust what the analyser says, it becomes very hard to understand what's
really going on.

As with lots of beginner-level test equipment, it sometimes needs an
expert to understand it!

CATV tuners and low-level NE602 mixers are simply not the building
blocks for a high dynamic range receiver. The W7ZOI design uses much
more appropriate building blocks so its readouts are much more
trustworthy.

>and can you quantify it?
>
Very easily, in the same ways as you test a receiver for strong-signal
handling.... but most graphically by looking at the same spectra with
two analysers side-by-side. The one showing fewest signals is the one
you can rely on most.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

537. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 08:42:26 UTC
From: Markus L <m867142@yahoo.com>
Message-ID: <3f1cf8f2$0$8308$4d4ebb8e@read-nat.news.nl.uu.net>
Source record: 33953

"John R. Strohm" <strohm@airmail.net> wrote in message

> > I really like the Philips SA604AD
> I'm pretty sure Philips has discontinued that part.

No, it's in production. If difficult to obtain, find similar products here:
http://www.semiconductors.philips.com/similar/SA604AD.html

Markus
HB9BRJ / AE6MG

538. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 09:05:31 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F1CFE5B.60C8F9DA@ob-wan.com>
Source record: 33954

Hans Summers wrote:
>
> >
> > > NE602 front-ends are even simpler than SBL-1 front ends. Contrary to
> > > popular belief in some circles, you can still get the NE602 in 8-pin DIP,
> > > new, from Philips: the new name, for an improved part, is SA612AN. (The N
> > > suffix means 8-pin DIP.)
> >
>
> I don't think it's exactly like that.
>
> The NE602 was manufactured by Signetics. Philips bought Signetics in 1975
> from its previous parent company Corning Glass WOrks. In 1991 Philips
> Semiconductors became a separate company within the Philips group, and
> Signetics was integrated into Philips Semiconductors in 1993 to give greater
> product recognition in the US. From what I understand Signetics was aquired
> from Philips in 1995 by the Keo Pyung (KP) Group, and subsequently
> transferred to private ownership.
>
> Anyway, a few years ago legend has it that there was a fire at a Signetics
> semiconductor manufacture plant in Korea, destroying (amongst other things)
> the master die and several year's worth of NE602 stocks. This is what gave
> rise to the rumour amongst radio amateurs already hit by dicontinuation of
> other mixers, that the NE602 had been discontinued.
>
> In fact it hadn't, Philips continued production of the NE602 as part SA602.
> Philips also offered a less expensive but slightly inferior equivalent, the
> SA612. Later, a new manufacturing process was developed producing better
> performance and reliability, and at the same time minor changes were made to
> the SA602/612 circuit to improve performance. The new devices are part
> numbers SA602A and SA612A. The N suffix is for 8-pin DIP, D suffix for 8-Pin
> SO Surface Mount.
>
> So, both the SA602A and the SA612A are still in production by Philips, the
> 602 being slightly superior to the 612.
>
> Incidentally, despite the datasheet sating the internal oscillator can be
> used up to 200MHz, I am having a lot of success using it in a VCO covering
> range 140-300MHz. See some preliminary pictures of my spectrum analyser
> project http://www.hanssummers.com/electronics/equipment/spectrumanalyser/.

Hans,

Looks interesting. Back in the early '90s I built a similar project,
described in Electronics Australia magazine some time in 1992. It used a

TV tuner as the front end and an NE602 as the converter, and displays the signal on any old CRO.

Strangely, I only just got it out of hiding a few days ago and fixed a fault with one of the rotary switches. It hasn't been used in many years but I recently gave away my AM/FM tuner, and I remembered that this Spectrum Analyzer has the neat ability to tune in and play FM radio, which is why I bothered to get it going again.

It covers the ranges 88-108MHz, 138-225MHz and 470-870MHz which as you can see is discontinuous. This is because of the tuner, but nowadays you can get tuners that don't have gaps in their coverage.

Electronics Australia no longer exists, sadly; it closed in 2001 after an illustrious 80 years or so, having begun as "Radio & Hobbies" in the '20s. However, reprints of almost all articles are available from http://www.siliconchip.com.au for about AU$10.00

Rob

539. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 09:35:25 UTC
From: "Martin, VK2UMJ" <vk2umj@REMOVEyahoo.com.au>
Message-ID: <bfj09e$9a9$1@austar-news.austar.net.au>
Source record: 33955

"W7TI" <noway@nohow.com> wrote in message
news:dn1phvc1utoj5pt65749hbun4npjm3kpks@4ax.com...
> On 22 Jul 2003 00:10:59 GMT, scottndess@aol.com (ScottnDess) wrote:
>
> >I already said i was sorry. What else do you want me to do?
> >
>
> ----------
>
> You just don't get it do you?
>
> Nobody wants your apology. I/we want you to learn proper English. The
> rules of English exist for a reason - to facilitate communication.
>
> I'm probably wasting my time with this, but it annoys me no end to see
> someone who has some potential throw it away with such rotten grammar.
>
> Enough said, I'm through. Do it or not, your choice.
>
> --
> Bill, W7TI
>

Did I miss something here? I thought this was the
'rec.radio.amateur.homebrew' newsgroup, and not the
'rec.strictly.correct.grammar&spelling' group.

Are we really so damn petty that we must carry on like spoilt little brats
just because his spelling or grammar is not perfect? Is that what our hobby
is all about? No wonder amateur radio is dying out.

Get a damn life! Yes, OK, his spelling and grammar was annoying, but so is
more than half of the people who post to newsgroups. I don't recall
absolutely correct spelling & grammar being a mandatory requirement for
entry to internet newsgroups, or amateur radio for that matter. And what
the hell has his resume got to do with a posting in a newsgroup? I wasn't
aware that he WAS applying for a job here!

Grow up, please, and get a life outside your office of divine intervention!

73's and very best wishes

Martin, VK2UMJ

PS - I sincerely hope my spelling and grammar met the high standards of this
newsgroup.....

or, should that be: i sinserley hope me speling and gramar are good enuf for ya news group, mate....

540. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 10:21:15 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bfj36s$f9ok7$1@ID-61331.news.uni-berlin.de>
Source record: 33957

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:qVygaXDBSPH$EA5C@ifwtech.co.uk...
> Hans Summers wrote:
> >>
> >> The W7ZOI homebrew spectrum analyzer article is not to be missed:
> >>
> >> http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
> >> http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
> >>
> >> You'll find this design vastly superior to the "poor man's spectrum
> >> analyzer" projects out there that are based on CATV tuners.
> >
> >The W7ZOI project is very interesting. I'm interested in what ways you
think
> >it's superior to the poor man's spectrum analysers based on CATV tuners?
The
> >latter surely have greater frequency coverage. But in what ways are they
> >inferior
>
> A spectrum analyser is simply a frequency-swept receiver with a
> dB-scaled output to a screen. To give meaningful results, that receiver
> must have a very high dynamic range with very low spurious responses.
>
> The problem is that real incoming signals and the analyser's spurious
> responses all look very much the same on the screen. When you can't
> trust what the analyser says, it becomes very hard to understand what's
> really going on.
>
> As with lots of beginner-level test equipment, it sometimes needs an
> expert to understand it!
>
> CATV tuners and low-level NE602 mixers are simply not the building
> blocks for a high dynamic range receiver. The W7ZOI design uses much
> more appropriate building blocks so its readouts are much more
> trustworthy.

I used two SA602A mixers in my design (see
http://www.hanssummers.com/electronics/equipment/spectrumanalyser/) and get
about 60 or 70dB of on-screen dynamic range. The SA602A approach does have
the advantage of similicity, at the cost of reduced performance. I use one
SA602A with the on-chip oscillator as the VCO swept from 145 to 290MHz with
145MHz IF output. The 2nd SA602A has 153MHz fixed on-chip oscillator and
mixes down to the 8MHz 2nd IF.

Spurious responses in my analyser from strong signals aren't usually a problem except at the upper end of the frequency coverage. The W7ZOI analyser covers 0-70MHz, mine 0-140MHz. It would be very interesting to compare my design against a W7ZOI analyser over the same frequency range, i.e. place a 70MHz low pass filter ahead of my analyser. I suspect spurious reponses would be comparable, but on-screen dynamic range somewhat less in my analyser.

My analyser Mk2 is already under construction and will aim to provide masses more features, greater coverage, and improved dynamic range performance.

>
> >and can you quantify it?
> >
> Very easily, in the same ways as you test a receiver for strong-signal
> handling.... but most graphically by looking at the same spectra with
> two analysers side-by-side. The one showing fewest signals is the one
> you can rely on most.

What if you don't have another analyser ;-) Part of my intention with my simple analyser was to build something straightforward but still extremely useful, and do so without access to much other test equipment. When I have the Mk2 up and running it will be interesting to compare.

73, Hans G0UPL

541. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 11:12:04 UTC
From: Tom <tstimac01@yahoo.com>
Message-ID: <bfj8a6$7kp$1@ls219.htnet.hr>
Source record: 33963
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dave Bushong wrote:
>> I believe this proves that negative frequencies exist!!
>
> Yes, it does. I just now sent you a message from the future on a
> negative frequency. You should be getting it yesterday.

Errm.... can i get a copy ?

542. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 11:21:59 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bfja98$s88$1@bob.news.rcn.net>
Source record: 33959

"W3JDR" <joe@roccis.com> wrote in message
news:bs9Ta.24713$7O.11302@nwrdny01.gnilink.net...
> Anyone know of a PIC-based frequency locked loop for VFO control? I'm
> looking for something that can be programmed with a frequency word, and
then
> it aquires and maintains the frequency. I've seen frequency 'stabilizers'
> but most of them just hold the frequency once it's been manually set.
There
> are also PIC-assisted DDS designs, but these are more complex thatn I
want,
> use more power then I'd like, and are not as clean as a simple voltage
> controlled oscillator.

A number of the MicroChip MPs have 16-bit internal counters that claim to run as high as 50 MHz. The carry out of that counter could be used to cause an interrupt to extend the number of bits in the count.

But you would need to precede the count chain with a gate of known and accurate count-window duration. I've thought about the subject and would try a 74AC-series flip-flop as the "gate". The gating control signal would be applied to its DC-reset. A 74HC4060 running with a "32" kHz clock crystal could provide the gating signal. Properly biasing the flip-flop's clock input might result in fairly good sensitivity.

These MicroChip MPs have a pulse-width-modulated [PWM] output, but it's only 8- or 10-bit resolution. It could be dithered for more resolution, but that would require an even greater time-constant in the AFC applied to the VCO - probably intolerable. A simple, inaccurate, 8-bit D-to-A chip might be used for rough AFC voltage, with interpolation using the PWM.

WARNING: All the above is just hand-waving.

73 de bob w3otc

543. PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 11:44:07 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <bs9Ta.24713$7O.11302@nwrdny01.gnilink.net>
Source record: 33958

Anyone know of a PIC-based frequency locked loop for VFO control? I'm looking for something that can be programmed with a frequency word, and then it aquires and maintains the frequency. I've seen frequency 'stabilizers' but most of them just hold the frequency once it's been manually set. There are also PIC-assisted DDS designs, but these are more complex thatn I want, use more power then I'd like, and are not as clean as a simple voltage controlled oscillator.
It seems to me that the PIC should be able to measure the frequency, determine the error, and operate a very simple charge-pump/VCO to put the frequency where it wants.

Joe
W3JDR

544. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 13:11:06 UTC
From: kitradioco@aol.com
Message-ID: <20030722091106.18556.00000398@mb-m18.aol.com>
Source record: 33960

The
Kit Radio Company
Invites you to visit our web site
http://hometown.aol.co.uk/kitradioco/uk.htm

545. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 13:23:38 UTC
From: scottndess@aol.com
Message-ID: <20030722092338.02925.00000257@mb-m01.aol.com>
Source record: 33961

>
>The
>Kit Radio Company
>Invites you to visit our web site
>http://hometown.aol.co.uk/kitradioco/uk.htm

Thank you!!

Scott

546. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 13:58:03 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <4cgqhvkkr0dlgq3qi9mlpkja016unfo9fv@4ax.com>
Source record: 33962

>My analyser Mk2 is already under construction and will aim to provide masses
>more features, greater coverage, and improved dynamic range performance.

Why not go for the minicircuits +14dBm high level mixers ? ... their quite lossy (around 9dB loss) but that can be over come. They do need a fair bit of LO drive though (50mW) but that's no real problem these days, a couple of +18dBm MMIC's (ERA's etc) in push pull mode should guarantee that level of power and hopefully give you 3db more than needed so you can use 3dB pad's around the mixer.

Clive

547. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 15:14:17 UTC
From: Old DXer <"Old DXer"@connectnet.net>
Message-ID: <dxcTa.7869$ff.4997@fed1read01>
Source record: 33964
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Careful -- you may end up in swaddling clothes and have to do it all over
again.
Kirk Over!!
Picard - Make It So!

"Tom" <tstimac01@yahoo.com> wrote in message
news:bfj8a6$7kp$1@ls219.htnet.hr...
> Dave Bushong wrote:
> >> I believe this proves that negative frequencies exist!!
> >
> > Yes, it does. I just now sent you a message from the future on a
> > negative frequency. You should be getting it yesterday.
>
> Errm.... can i get a copy ?
>
>

548. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 15:33:07 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bfjlfj$f85di$1@ID-61331.news.uni-berlin.de>
Source record: 33965

Tnx, it's certainly one of the things I'm considering. That's more effort
than an LC tank on a couple of SA602 pins. But I guess for higher
performance you need higher complexity.

73 Hans G0UPL

<c.a.m@antijunk3.blueyonder.co.uk> wrote in message
news:4cgqhvkkr0dlgq3qi9mlpkja016unfo9fv@4ax.com...
>
> >My analyser Mk2 is already under construction and will aim to provide
masses
> >more features, greater coverage, and improved dynamic range performance.
>
> Why not go for the minicircuits +14dBm high level mixers ? ... their quite
lossy
> (around 9dB loss) but that can be over come. They do need a fair bit of
LO
> drive though (50mW) but that's no real problem these days, a couple of
+18dBm
> MMIC's (ERA's etc) in push pull mode should guarantee that level of power
and
> hopefully give you 3db more than needed so you can use 3dB pad's around
the
> mixer.
>
> Clive
>

549. FS: PARTING OUT HQ-129X, Many good parts available, inc TUBES

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 16:04:20 UTC
From: rlucch2098@aol.com
Message-ID: <20030722120420.04994.00000347@mb-m26.aol.com>
Source record: 33966

Hi All;
HQ-129X Receiver parts available, All Less:
Knobs, Audio & Power Xformers, Front Panel, Dials, Cabinet, Meter!
Hows about the complete tubes set for $15.00ppd?
Need other stuff like cans, capacitor cover, main tuning cap, etc, please
E-Mail me.
Thanks es 73..........RICH-WA2RQY RLUCCH2098@aol.com
Web-Page URL> HTTP://members.aol.com/rlucch2098/index.html

550. FS: RCA RC-22 TUBE & SC-10 Transistor REFERENCE MANUALS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 16:26:06 UTC
From: rlucch2098@aol.com
Message-ID: <20030722122606.04994.00000354@mb-m26.aol.com>
Source record: 33967

Hi All;
I have for sale these two(2) great RCA Referance manuals.
All you really need to know is in them.
1) RCA RC-22 receiving tube manual, 544 pages in 12 chapters, Pic>>
http://www.myradioroom.com/rcatubemanual.jpg
2)- RCA SC-10 Transistor Manual, 304 pages, 13 chapters, Pic>>
http://www.myradioroom.com/rcaxsistorman.jpg
Price is $50.00ppd for both.
If you need only one of them, e-mail me please!
Tnx & 73......
Rich WA2RQY

551. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 18:06:54 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307221006.87859d7@posting.google.com>
Source record: 33968

"W3JDR" <joe@roccis.com> wrote in message
news:<bs9Ta.24713$7O.11302@nwrdny01.gnilink.net>...
> Anyone know of a PIC-based frequency locked loop for VFO control? I'm
> looking for something that can be programmed with a frequency word, and then
> it aquires and maintains the frequency. I've seen frequency 'stabilizers'
> but most of them just hold the frequency once it's been manually set. There
> are also PIC-assisted DDS designs, but these are more complex thatn I want,
> use more power then I'd like, and are not as clean as a simple voltage
> controlled oscillator.
> It seems to me that the PIC should be able to measure the frequency,
> determine the error, and operate a very simple charge-pump/VCO to put the
> frequency where it wants.
>
> Joe
> W3JDR

Given that you have a PIC available for the job, why not let it do a phase-locked loop instead of just a frequency locked loop? The key difference in implementation is the number of bits you need to actually deal with in the counter, but with the control you want to exercise, you probably already were going to have to deal with quite a few bits. The PLL (properly done) should have significantly lower spurs than a FLL. Depending on the resolution you want, you may be best off doing a "fractional-N" implementation. Wish I had lots of time on my hands; it would be a fun thing to work on! I recall thinking about something _very_ similar not long ago. You can also get very low power, tiny PLL chips that do almost everything for you, including fractional-N (though not frac-N the way I'd do it with a PIC). I could probably be available for some off-line consultation with more details about my thoughts.

Cheers,
Tom

552. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 19:42:04 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bfk42c$ee4$1@titan.btinternet.com>
Source record: 33969

"W3JDR" <joe@roccis.com> wrote in message
news:bs9Ta.24713$7O.11302@nwrdny01.gnilink.net...
> Anyone know of a PIC-based frequency locked loop for VFO control? I'm
> looking for something that can be programmed with a frequency word, and
then
> it aquires and maintains the frequency. I've seen frequency 'stabilizers'
> but most of them just hold the frequency once it's been manually set.
There
> are also PIC-assisted DDS designs, but these are more complex thatn I
want,
> use more power then I'd like, and are not as clean as a simple voltage
> controlled oscillator.
> It seems to me that the PIC should be able to measure the frequency,
> determine the error, and operate a very simple charge-pump/VCO to put the
> frequency where it wants.
>

I've seen a couple of MCU-controlled "Huff and Puff" stabilisers on the web.

You'll find a couple here:

http://www.hanssummers.com/radio/huffpuff/contents.htm

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

553. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 20:06:35 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <fPgTa.18220$0F4.7884@nwrdny02.gnilink.net>
Source record: 33970

As I said in my original post, there are plenty of 'stabilizers' available for the taking. I have also seen a few PIC frequency counter implementations that don't need any external gating. There are also plenty of PLL chips which would do the job. However, I have not seen a software application for the PIC that does it all without (hardly any) external hardware...this should be possible.

What I want to do is create a tiny, low-power, stable & accurate HF frequency source module. I think I can implement it with 2 packages...the PIC and a VCO made out of biased-up CMOS inverters. I want to be able to 'hard-code' a frequency in some cases (fixed-frequency oscillator), or send an arbitrary frequency word for variable frequency control in other cases (VFO). This would be a very useful 'building-block' for making HF communications gear.

The important factors for my applications are good tuning resolution, reasonable lock-up time, and minimal phase noise. Of course, defining 'how good is good enough' is somewhat subjective. Whether it's done as a PLL or an FLL is somewhat semantic as most PLL synthesizer's really don't control the short-term phase real well anyway.

Joe
W3JDR

"W3JDR" <joe@roccis.com> wrote in message
news:bs9Ta.24713$7O.11302@nwrdny01.gnilink.net...
> Anyone know of a PIC-based frequency locked loop for VFO control? I'm
> looking for something that can be programmed with a frequency word, and
then
> it aquires and maintains the frequency. I've seen frequency 'stabilizers'
> but most of them just hold the frequency once it's been manually set.
There
> are also PIC-assisted DDS designs, but these are more complex thatn I
want,
> use more power then I'd like, and are not as clean as a simple voltage
> controlled oscillator.
> It seems to me that the PIC should be able to measure the frequency,
> determine the error, and operate a very simple charge-pump/VCO to put the
> frequency where it wants.
>
> Joe
> W3JDR
>
>

554. Re: Convert Astro CB amp to 6 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 20:12:49 UTC
From: Philip de Cadenet <Philstheboss@thebbc.fslife.co.uk>
Message-ID: <RVO5FHEBrZH$EwP9@philstheboss.freeserve.co.uk>
Source record: 33971

Greg,

>> We use a THA15/SD1726 (30MHz bi-polar 150w pep) producing 220w in our FM
>> PA in continuous duty service in the 87.5-108MHz broadcast band.
>>
>> Yes, it needs plenty of drive and the heat sink require plenty of air
>> but at $30 USD a hit it's one economical and rugged amp.
>>
>> Here it is: http://www.transmittersrus.com/shop/powerRF220.htm
>>
>
>That's odd, since the SD1450 specifications were for the commercial FM
>broadcast industry (88 - 108 MHz),
>and is rated at 150 watts for 18 watts drive. Price is virtually the
>ame - maybe its higher for you in UK
Where did you get the SD1450 from!

Check out our device here:

http://www.angliac.com/st/data_from_st/2846.pdf

Give it a minute to load as it's a PDF page.

(((73)))
--
Philip de Cadenet G4ZOW
Transmitters 'R' Us
http://www.transmittersrus.com

555. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 21:22:35 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19874afa7b17d606989695@news-central.giganews.com>
Source record: 33972

In article <3f1cf8f2$0$8308$4d4ebb8e@read-nat.news.nl.uu.net>, m867142
@yahoo.com says...
> "John R. Strohm" <strohm@airmail.net> wrote in message
>
> > > I really like the Philips SA604AD
> > I'm pretty sure Philips has discontinued that part.
>
> No, it's in production. If difficult to obtain, find similar products here:
> http://www.semiconductors.philips.com/similar/SA604AD.html
>
> Markus
> HB9BRJ / AE6MG

Good point. There are lots of functional alternatives, like the SA615D
(in stock at Arrow Electronics). Sounds like an even better chip than
the SA604.

-- jm

---

http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

---

556. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 21:29:25 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19874c936dade774989696@news-central.giganews.com>
Source record: 33973

In article <bfioiu$faega$1@ID-61331.news.uni-berlin.de>,
Hans.Summers@Tudor.Com says...
> >
> > The W7ZOI homebrew spectrum analyzer article is not to be missed:
> >
> > http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
> > http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
> >
> > You'll find this design vastly superior to the "poor man's spectrum
> > analyzer" projects out there that are based on CATV tuners.
>
> The W7ZOI project is very interesting. I'm interested in what ways you think
> it's superior to the poor man's spectrum analysers based on CATV tuners? The
> latter surely have greater frequency coverage. But in what ways are they
> inferior and can you quantify it?

Apart from what Ian said, it's also really important to have a stable
LO. If you don't -- i.e., you're relying on an inadequately-stabilized
cable TV tuner -- you can only tell if a signal is present or absent.
You can't tell much about its stability and noise level, or look for
close-in IMD products. Narrow resolution bandwidths require stable LOs.

I haven't used a W7ZOI analyzer myself, but it ought to be at least an
order of magnitude more stable than any CATV implementation. It would
indeed be interesting to see a spec-for-spec comparison between the two.

Either way, they make great educational projects. :)

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

557. Re: FS: RCA RC-22 TUBE & SC-10 Transistor REFERENCE MANUALS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 22:05:04 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <3F1DB510.5010708@PAMyahoo.ca>
Source record: 33974

RLucch2098 wrote:
> Hi All;
> I have for sale these two(2) great RCA Referance manuals.
> All you really need to know is in them.
> 1) RCA RC-22 receiving tube manual, 544 pages in 12 chapters, Pic>>
> http://www.myradioroom.com/rcatubemanual.jpg
> 2)- RCA SC-10 Transistor Manual, 304 pages, 13 chapters, Pic>>
> http://www.myradioroom.com/rcaxsistorman.jpg
> Price is $50.00ppd for both.
> If you need only one of them, e-mail me please!
> Tnx & 73......
> Rich WA2RQY

Oh my goodness,I have a fortune in my basement...
Eskay...

558. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 22:34:48 UTC
From: Tom <tstimac01@yahoo.com>
Message-ID: <bfke2t$h8u$1@ls219.htnet.hr>
Source record: 33975
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Old DXer wrote:
>> > Yes, it does. I just now sent you a message from the future on a
>> > negative frequency. You should be getting it yesterday.
>> Errm.... can i get a copy ?

> Careful -- you may end up in swaddling clothes and have to do it all over
> again.
> Kirk Over!!
> Picard - Make It So!

Ok, see you on USS Eldridge. I can't wait to finally meet Tesla, Townsend
Brown and Einstein. They must be somewhere on the ship!

559. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 22:46:47 UTC
From: Elmer E Ing <"Elmer E Ing"@tutor.org>
Message-ID: <r9jTa.9929$ff.7744@fed1read01>
Source record: 33976
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Tom" <tstimac01@yahoo.com> wrote in message
news:bfke2t$h8u$1@ls219.htnet.hr...
> Old DXer wrote:
> >> > Yes, it does. I just now sent you a message from the future on a
> >> > negative frequency. You should be getting it yesterday.
> >> Errm.... can i get a copy ?
>
> > Careful -- you may end up in swaddling clothes and have to do it all
over
> > again.
> > Kirk Over!!
> > Picard - Make It So!
>
> Ok, see you on USS Eldridge. I can't wait to finally meet Tesla, Townsend
> Brown and Einstein. They must be somewhere on the ship!
>
>
I refuse to go to Philadelphia -- however rumor has it that USS Eldridge is
in Greece -- Suda Bay Naval Station in Crete.-- see URL:

http://www.think-aboutit.com/Misc/current_whereabouts_of_the_uss_e.htm

560. Re: RCA RC-22 TUBE & SC-10 Transistor REFERENCE MANUALS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 23:03:07 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <LojTa.67220$3o3.4484133@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33977

"RLucch2098" <rlucch2098@aol.com> wrote in message
news:20030722122606.04994.00000354@mb-m26.aol.com...
> Hi All;
> I have for sale these two(2) great RCA Referance manuals.
> All you really need to know is in them.
> 1) RCA RC-22 receiving tube manual, 544 pages in 12 chapters, Pic>>
> http://www.myradioroom.com/rcatubemanual.jpg
> 2)- RCA SC-10 Transistor Manual, 304 pages, 13 chapters, Pic>>
> http://www.myradioroom.com/rcaxsistorman.jpg
> Price is $50.00ppd for both.
> If you need only one of them, e-mail me please!
> Tnx & 73......
> Rich WA2RQY

Heh heh, for $50.00, you should hand deliver them to the buyer, halfway
across the USA. These manuals go for around $10.00 or less on Ebay.
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Time is what keeps everything from happening all at once.

561. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-22 23:17:41 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bfkh3g$18q@library1.airnews.net>
Source record: 33978

"Markus L" <m867142@yahoo.com> wrote in message
news:3f1cf8f2$0$8308$4d4ebb8e@read-nat.news.nl.uu.net...
> "John R. Strohm" <strohm@airmail.net> wrote in message
>
> > > I really like the Philips SA604AD
> > I'm pretty sure Philips has discontinued that part.
>
> No, it's in production. If difficult to obtain, find similar products
here:
> http://www.semiconductors.philips.com/similar/SA604AD.html

You're right, of course. That's the surface-mount version of the part. I
was thinking about the DIP version, which has been discontinued.

562. Re: Audio preamp for LM 4808?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 00:26:08 UTC
From: Dan Tayloe <dtayloe@cox.net>
Message-ID: <3F1DD620.5986109@cox.net>
Source record: 33979

I have used the TS924 as a headphone driver and it works fine. I have usually used two stages though, one to drive one ear piece, and the second to drive the other. 16 ohm headphones really are 8 ohms if both sides are driven from the same amplifier.

However, you could probably get away with what you are talking about though, using one stage as a 1x gain headphone driver, and each of the other three stages as 16x gain stages. This will have the effect of increasing the distortion, although probably not to a noticeable degree.

I like using a 3v supply. Operating at a lower voltage saves power, and as an headphone amplifier, it limits the maximum loudness that a signal can appear at into your headphones, which is still rather loud.

- Dan, N7VE

Bill Young WD5HOH wrote:
>
> DanTayloe: Thanks for the information about the TS924. I looked at
> some information on the TS924 on the web including a suggested circuit
> for the TS924 as a headphone driver. Why do I need the LM4808? Why
> not use three of the four amplifiers in the quad as voltage amplifiers
> and the fourth as the headphone driver? I would then need each
> amplifier to have a voltage gain of 16 rather than 8, and the noise
> situation might be somewhat worse. I see that the TS924 is capable of
> driving 16 Ohm phones which should be what I need. Thanks. Bill
> Young WD5HOH
>
> Dan Tayloe <dtayloe@cox.net> wrote in message news:<3F19B646.99C9C55E@cox.net>...
> > There is not much available in the 3v range that is really low noise.
> > Lowest that you can get at any voltage is 0.9 nV/squarerootHz (LT1115,
> > etc.). There is a 5v TI device that good to 3 nV/SqrtHz (OPA2228), but
> > about the best you can do at 3v to 4.5v range is 8-9 nV/sqrtHz, at least
> > in the audio range. Some low voltage op-amps specify lower noise, but
> > usually upon further examination of the noise curves, that low noise is
> > only at a couple hundred KHz.
> >
> > I would recommend the TS924, which is a quad device. These 3v devices
> > do not have much gain, 40 db maximum, compared to 80-120 db from other
> > higher voltage devices, so you will need to string together several of
> > them to get the proper gain and still keep distortion low.
> >
> > I recommend the quad package so that you can use each of the four
> > devices at a 8x gain each. This will total about 72 db for the four.
> > Maybe use 1K input and 8.2K feedback. Keeping the input resistor to a

> > smaller value will help reduce resistor induced noise.
> >
> > Mouser carries the TS924 in both the DIP and the SOP package for a bit
> > under $2. I like the SOP surface mount for deadbug construction use
> > because it take ups a lot less space and because that size works really
> > well with 1/8w resistors. I like to use #30 or #32 gauge enamel wire
> > for hook up wire, burning the enamel off the end of the wire with a blob
> > of solder. Stick the end of the wire in the blob so that the copper
> > gets exposed directly to the heat.
> >
> > To keep hiss at bay, I would recommend placing the volume control about
> > 40 db from the speaker, and using high frequency gain roll off
> > capacitors across the 8.2K feedback resistors, perhaps in the 0.0033 uF
> > range.
> >
> > Good luck and God bless!
> >
> > - Dan, N7VE
> >
> > Bill Young WD5HOH wrote:
> > >
> > > Does anybody have a suggestion for a good audio IC preamp to go ahead
> > > of an LM 4808 headphone driver? I have been using the LM 386 for home
> > > brewed receivers up to now, but I would like to go to the LM 4808
> > > because it can run on 4.5 volts (three D cells), and it will drive my
> > > Sony stereo phones better than the LM 386. But it is a low gain
> > > device, so I need about 70 dB of audio gain from an audio preamp. One
> > > or two IC stages, that doesn't matter. I know that the LM 3808 is a
> > > surface mount chip, but I think I can solder it OK. Thanks. Bill
> > > Young WD5HOH

563. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 00:45:22 UTC
From: Eamon Skelton <Xnospam@oceanfree.net>
Message-ID: <pan.2003.07.23.00.45.22.304910@oceanfree.net>
Source record: 33980

On Tue, 22 Jul 2003 11:44:07 +0000, W3JDR wrote:

> Anyone know of a PIC-based frequency locked loop for VFO control? I'm
> looking for something that can be programmed with a frequency word, and then
> it aquires and maintains the frequency. I've seen frequency 'stabilizers'
> but most of them just hold the frequency once it's been manually set. There
> are also PIC-assisted DDS designs, but these are more complex thatn I want,
> use more power then I'd like, and are not as clean as a simple voltage
> controlled oscillator.

Mine is at http://homepage.eircom.net/~ei9gq/stab.html
Have a look at Hans Summers and Richard Hoskings web-pages.

> It seems to me that the PIC should be able to measure the frequency,
> determine the error, and operate a very simple charge-pump/VCO to put the
> frequency where it wants.
>
> Joe
> W3JDR

What you are describing is a conventional PLL. PIC based
stabilisers or 'frequency locked loops' usually have very
long gate times for counting the frequency and a fairly
narrow frequency control range. My circuit uses a 100mS
gate time and a control range of +/- a couple of KHz.

If you want to cover a larger frequency range with your
VCO, you will need to use a much shorter gate time to
keep tight control of the VCO frequency. This will
increase the tuning steps and will also increase the
phase noise on the VCO output. You soon run into the
the same trade offs and compromises that you get with
any PLL design.

A PLL/DDS combination seems to be the best way to
go. I recently built a 21MHz VFO for a 10M transceiver.
The 21MHz VCO is mixed with the output from a 17MHz
crystal oscillator. The resulting 4MHz signal is
phase locked with a 4MHz signal from an AD9835 DDS
chip. The DDS is controlled by a PIC16F84. I use the
10M rig to drive a homebrew transverter for 144MHz.
I am delighted with the results. The RX is free from
the usual birdies you get with a DDS VFO. The phase
noise is low enough that I can operate within a few
KHz of some very strong local stations on 2M SSB.

73, Ed. EI9GQ.

--

Remove 'X' to reply by e-mail
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Linux 2.4.21

564. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 01:06:37 UTC
From: averyfineman@aol.com
Message-ID: <20030722210637.09580.00001613@mb-m13.aol.com>
Source record: 33981

In article <fPgTa.18220$0F4.7884@nwrdny02.gnilink.net>, "W3JDR"
<joe@roccis.com> writes:

>The important factors for my applications are good tuning resolution,
>reasonable lock-up time, and minimal phase noise. Of course, defining 'how
>good is good enough' is somewhat subjective. Whether it's done as a PLL or
>an FLL is somewhat semantic as most PLL synthesizer's really don't control
>the short-term phase real well anyway.

Short-term phase stability almost always lies in the VCO design with
some disturbance possible by an incorrect loop filter. That has little
to do whether the VCO is used with a PLL or DDS.

To be phase-stable (i.e., reduce short-term jitter), the VCO supply rails
should be bypassed adequately well up into the RF range of the VCO
and the control voltage line absolutely free from any loop-induced
pickup almost to the VCO's RF range. Iron powder or ferrite beads,
even slabs of the stuff, can halp on the control line. Stability also
involves using whatever active device in the oscillator at its optimum
lowest-noise point...that's device dependent and not all manufacturers
supply such data.

In truth, I've never had experience with the PLL or DDS dividers as an
integral part of the frequency control determining processor. I've always
had to work some to make the external-divider kind lay down and be
nice. I would imagine there's more fun and games with a combined
type using a Microchip processor being both controller and divider. :-)

Len Anderson
retired (from regular hours) electronic engineer person

565. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 01:06:39 UTC
From: averyfineman@aol.com
Message-ID: <20030722210639.09580.00001614@mb-m13.aol.com>
Source record: 33982

In article <qVygaXDBSPH$EA5C@ifwtech.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> writes:

>Hans Summers wrote:
>>>
>>> The W7ZOI homebrew spectrum analyzer article is not to be missed:
>>>
>>> http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
>>> http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
>>>
>>> You'll find this design vastly superior to the "poor man's spectrum
>>> analyzer" projects out there that are based on CATV tuners.
>>
>>The W7ZOI project is very interesting. I'm interested in what ways you think
>>it's superior to the poor man's spectrum analysers based on CATV tuners? The
>>latter surely have greater frequency coverage. But in what ways are they
>>inferior
>
>A spectrum analyser is simply a frequency-swept receiver with a
>dB-scaled output to a screen. To give meaningful results, that receiver
>must have a very high dynamic range with very low spurious responses.

"Meaningful results" are subjective to the hobbyist.

NO analyzer means NO results.

If I were designing a spectrum analyzer for the electronic instrument
market, I would shoot for at least meeting Hewlett-Packard Agilent
or Rhode&Schwarz specifications...R&D budget willing. That's a bit
steep for the hobbyist area.

>The problem is that real incoming signals and the analyser's spurious
>responses all look very much the same on the screen. When you can't
>trust what the analyser says, it becomes very hard to understand what's
>really going on.

Sigh. A spectrum analyzer, almost ALL of them, is one of the easier
instruments to characterize from the outside, using other instruments.
Frequency span, logarithmic linearity, passband of the final IF are all
relatively easy to determine from the outside.

So what if a spectrum analyzer isn't "perfect?" It is much, much
better than having NO spectrum analyzer.

The majority of spectrum analyzer input signal levels are most likely
to be UNDER -10 dbm. That input level is not - generally - going to
cause all kinds of "imperfections" in the viewed spectrum.

>As with lots of beginner-level test equipment, it sometimes needs an
>expert to understand it!

I disagree. There are any number of application notes free for the downloading on the Internet, from Agilent they are copies of older (two decades at least) FREE paper application notes. Agilent also has free application notes on the basic building blocks within an analyzer and much information on the characteristics of those blocks.

>CATV tuners and low-level NE602 mixers are simply not the building
>blocks for a high dynamic range receiver. The W7ZOI design uses much
>more appropriate building blocks so its readouts are much more
>trustworthy.

Yes, its possible to "conquer" the dreaded too-high-signal IM mountain peaks with high-level mixers and higher-milliWatt first LOs. See Mini-Circuits' catalog as one place for modules.

I haven't seen the "W7ZOI design" so I won't critique it at all. Having used spectrum analyzers for about 4 decades, the high-input-level IM bogeyman seldom goes "boo!" for most spectrum observation. That includes transmitter output monitoring.

>>and can you quantify it?
>>
>Very easily, in the same ways as you test a receiver for strong-signal
>handling.... but most graphically by looking at the same spectra with
>two analysers side-by-side. The one showing fewest signals is the one
>you can rely on most.

Have you priced the used spectrum analyzers lately? Do you expect others to have ready access to "another" spectrum analyzer?

In checking my own little special-purpose IF strip Sweeper (a quasi-spectrum-analyzer), I am fortunate to have a pair of H-P rotary step attenuators (salvaged, checked for calibration by another) to determine if the Log response curve of the Analog Devices chip is correct...rather very basic stuff. Unfortunately, the accuracy of the external attenuator is about the same as the AD accuracy. I'd love to have a Weinschel Precision Bench Attenuator to use as a comparison, but don't, can't afford one.

I do have a very good pair of H-P signal generators (very much previously owned) which have been put in order by a good friend of mine. With the help of an outboard lowpass filter (easy to make) which is also characterised by response testing using a linear detector, I can guarantee an RF signal with all harmonics down 60 dbc. The RF power output of those generators is also separately characteriseable/calibrateable within 2 db of absolute level at the high-power output (0 dbm) all the way down to -120 dbm, probably lower. The lower levels are determined by a waveguide-below-cutoff internal attenuator which hardly ever jumps out of calibration unless the mechanicals get goofy. The Weinschel attenuation standard uses the same basic below-cutoff principle.

With all of the above (two generators, overlapping ranges) I can absolutely guarantee a true "two-tone" testing setup for an analyzer to determine what the 1 db or the 3 db IM values are of any receiver front end. So far, I've never ever seen any cause for concern with any input level up to -10 dbm. Have I ever done any such? Of course, even checking out a used (and rare) Tektronix spectrum analyzer plug-in on a borrow.

I have YET to encounter any receiver input that goes higher than -10 dbm equivalent input with the one exception of being within two blocks of local AM broadcast station KMPC pushing 50 KW into their antennas. I'm sure there are all kinds of "exceptions" to that and I'm sure there will be commentary coming back on that. :-)

I'm not going to get in about the relationship of sweep rate and final SA IF resolution...which are VERY important in SA work, particularly in relatively narrowband observations. Close-proximity signals can "hide" if wide resolution IFs are in place...that "hiding" visible at input RF levels
well below ANY intermodulation distortion level. The resolution aspect of practical SA design is a separate matter but should not be forgotten..

When push comes to shove in all this, I'd say that SOME KIND of spectrum analyzer is a LOT better than NONE. EOF.

Len Anderson
retired (from regular hours) electronic engineer person

566. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 01:28:00 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <AwlTa.11632$634.3093@nwrdny03.gnilink.net>
Source record: 33983

Ed,

You said:

>> If you want to cover a larger frequency range with your
> VCO, you will need to use a much shorter gate time to
> keep tight control of the VCO frequency. This will
> increase the tuning steps and will also increase the
> phase noise on the VCO output. You soon run into the
> the same trade offs and compromises that you get with
> any PLL design.
>

I don't completely agree. there are several ways to skin this cat. One might be to implement a simple R-2R D-A converter in the PIC to do coarse frequency tuning according to a lookup table, and let the 'huff & puff' stabilizer do the fine corrections. No different than manually setting the tuning capacitor on the VFO and then enabling the stabilizer.

Having said that, there are PIC firmware designs that implement a 40+ MHz counter with 10hz resolution and 100 msec count interval. Combine this with a simple charge pump, and I don't see an FLL with any worse performance than a hardware PLL. Admittedly it's not as good as a DDS for resolution/speed, but it might have advantages for simplicity, power consumption, spectral purity and cost.

Bottom line is, I know most of the other ways to generate a clean & stable programmable RF source. What I wanted to find out is if anyone had done it with a PIC and little else. You came close with your stabilizer, but it can only stabilize, not acquire.

Joe

567. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 07:53:47 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bfleub$fttrn$1@ID-61331.news.uni-berlin.de>
Source record: 33984

"John Miles" <jmiles@pop.removethistomailme.net> wrote in message
news:MPG.19874c936dade774989696@news-central.giganews.com...
> In article <bfioiu$faega$1@ID-61331.news.uni-berlin.de>,
> Hans.Summers@Tudor.Com says...
> > >
> > > The W7ZOI homebrew spectrum analyzer article is not to be missed:
> > >
> > > http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
> > > http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
> > >
> > > You'll find this design vastly superior to the "poor man's spectrum
> > > analyzer" projects out there that are based on CATV tuners.
> >
> > The W7ZOI project is very interesting. I'm interested in what ways you
think
> > it's superior to the poor man's spectrum analysers based on CATV tuners?
The
> > latter surely have greater frequency coverage. But in what ways are they
> > inferior and can you quantify it?
>
> Apart from what Ian said, it's also really important to have a stable
> LO. If you don't -- i.e., you're relying on an inadequately-stabilized
> cable TV tuner -- you can only tell if a signal is present or absent.
> You can't tell much about its stability and noise level, or look for
> close-in IMD products. Narrow resolution bandwidths require stable LOs.
>
> I haven't used a W7ZOI analyzer myself, but it ought to be at least an
> order of magnitude more stable than any CATV implementation. It would
> indeed be interesting to see a spec-for-spec comparison between the two.

The W7ZOI analyser uses a mini-circuits VCO. I couldn't find any stability
data on the minicricuits website, do you know of a source?
I suppose oscillator phase noise is also important. I'm interested in why a
minicircuits VCO should be an order of magnitude more stable than a CATV or
UHF TV tuner's VCO? I have a UHF tuner here (470-862MHz). The tuning voltage
(approx 1-25V) is stabilised by a simple zener diode arrangement. Even when
left on for hours tuned to a TV station, no re-tuning is necessary. As far
as I can tell there is no AFC employed.

>
> Either way, they make great educational projects. :)
>

Agreed!

Hans G0UPL

568. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 09:14:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vhskfo59dp0t76@corp.supernews.com>
Source record: 33985

Oscillator phase noise will show up as noise sidebands on the signals you're measuring. They'll limit your ability to use your spectrum analyzer to judge the noise that's really coming from the signals. As a very good and professional engineer who spent a number of years designing some of the best commercial spectrum analyzers made, Wes most certainly paid a great deal of attention to phase noise and dynamic range, two of the most important potentially limiting factors of spectrum analyzer performance.

Roy Lewallen, W7EL

Hans Summers wrote:

> . . .
> I suppose oscillator phase noise is also important. . .

569. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 09:22:42 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F1E53E2.83D4DE6B@ob-wan.com>
Source record: 33987
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Tom wrote:
>
> Old DXer wrote:
> >> > Yes, it does. I just now sent you a message from the future on a
> >> > negative frequency. You should be getting it yesterday.
> >> Errm.... can i get a copy ?
>
> > Careful -- you may end up in swaddling clothes and have to do it all over
> > again.
> > Kirk Over!!
> > Picard - Make It So!
>
> Ok, see you on USS Eldridge. I can't wait to finally meet Tesla, Townsend
> Brown and Einstein. They must be somewhere on the ship!

Sure. They're down in the games room, watching the 3D television that
Philo T. Farnsworth just invented. :)

570. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 10:00:16 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <sreBVMRwylH$EAbJ@ifwtech.co.uk>
Source record: 33986

Avery Fineman wrote:
>In article <qVygaXDBSPH$EA5C@ifwtech.co.uk>, "Ian White, G3SEK"
><G3SEK@ifwtech.co.uk> writes:
>>
>>A spectrum analyser is simply a frequency-swept receiver with a
>>dB-scaled output to a screen. To give meaningful results, that receiver
>>must have a very high dynamic range with very low spurious responses.
>
> "Meaningful results" are subjective to the hobbyist.
>
I'm an amateur, not a professional, but have paid my dues in this area. I have helped develop, and have built and used, two generations of HF (0 - <100MHz) spectrum analysers of the NE602 persuasion. Then a basket-case Texscan 0-1GHz box came along which I rescued and used for VHF work. That was followed by the HP-141 series analyser which I'm currently using (and can now be bought for much less than the price of a new rig). I also developed a 0-1.5GHz tracking generator for the 141 boxes. Through friends, I have some limited access to modern professional equipment, and know how to use it.

My experience with the NE602 type is that it's great as a "fun" analyser, but you can very quickly outgrow it. Yes, it will give you general indications, like "Is that oscillator working?" or "Is that final output stage generating harmonics?" Those indications even have some numbers of MHz and dB attached.

> NO analyzer means NO results.
>
Of course I'd rather have that much information than no analyser at all. (Len, if you happen not to mention something that is completely obvious, I still assume that you're completely aware of it. Kindly extend the same courtesy to me.)

But once you have a "fun" analyser giving you basic indications, it inevitably draws you into asking more searching questions, like "How much of a harmonic problem do I really have?" That's where fun analysers come unstuck, because you don't know how much of those indicated harmonics are real, and how much is being generated in the analyser itself.

An important practical crunch point for amateurs is "Does this transmitter meet the FCC requirement for 60dB minimum harmonic suppression?" Now you discover the big difference between 60-70dB on-screen dynamic range, and 60-70dB *spurious-free* dynamic range. The first is easy - the second is damned hard to guarantee in a HB design.

If you get to that point - and many people will - then you'll wish you'd taken the extra trouble to build an analyser that you could trust a little more. The NE602 type categorically will not hack that kind of problem, because the equipment under test is probably much cleaner than it is! The W7ZOI type may just do it, with care, and the same is true of the 141 generation. Only the best modern analysers will ace the problem without needing careful attention from the user.

The simple rule of thumb is:

1. If the performance of your test equipment is better - in whatever ways are important for the measurement in hand - than the performance of the equipment under test (EUT) then the results will be reliable enough for amateur work.

2. If your test equipment is comparable with the EUT, you'll get useful indications.

3. If your test equipment is worse than the EUT, what you're actually testing is the testgear itself! You'll learn nothing useful about the EUT, and may actually be misled.

So aim for zone 1, settle for zone 2 if you must, but stay out of zone 3.

>>>and can you quantify it?
>>>
>>Very easily, in the same ways as you test a receiver for strong-signal
>>handling.... but most graphically by looking at the same spectra with
>>two analysers side-by-side. The one showing fewest signals is the one
>>you can rely on most.
>
> Have you priced the used spectrum analyzers lately? Do you expect
> others to have ready access to "another" spectrum analyzer?
>
That comment was mostly to make the point that the cleanest display is the most real.

The absolute standard of comparison is the perfect spectrum analyser with no spurious responses. That is an *idea* to which anyone has ready access, any time.

Before I ever had a real spectrum analyser, I got a lot of good mileage out of thinking "Now if I had a spectrum analyser, what would it probably be showing me here?" That isn't empty dreaming - it's a highly *practical* way of focusing your thinking on a problem in the here-and-now.

When I built the first "fun" analyser (which had to wait until the hardware collection had expanded to include a good oscilloscope) I found it quite disappointing, because it still wasn't showing me reality. I was still having to think "Now if I had a *good* spectrum analyser, what would it probably be showing me here?"

Over the years, more and more of the mental testgear has been changed into hardware, but the mental spectrum analyser still gets switched on quite frequently - it has instant warmup and it also works very well in the bath and, er, the other places where I do my best thinking!

Out in the workshop, the real hardware adds real-life numbers to the ideas, and also checks that there isn't anything happening that I hadn't thought of.

>
>>As with lots of beginner-level test equipment, it sometimes needs an
>>expert to understand it!
>
> I disagree. There are any number of application notes free for the
> downloading on the Internet, from Agilent they are copies of older
> (two decades at least) FREE paper application notes. Agilent also
> has free application notes on the basic building blocks within an
> analyzer and much information on the characteristics of those blocks.
>
That's not the point. You are talking about the availability of information, which is not in dispute. I am talking about understanding and applying it.

By the time you've absorbed the available information - especially the information about the *imperfections* of spectrum analysers, so you can understand how much of what you see on-screen is real - you're not a beginner any more. It will have been a useful learning experience... but perhaps not the one you'd have chosen right then.

Being a beginner in any area is hard work. When you're ttrying to learn what it's all about, the last thing you need is to have to fight poor equipment as well. Musical instruments are very much the same - so-called "beginner" instruments are actually quite hard work for anyone to play; in contrast, a better-quality (read: expensive) instrument feels almost like it's playing itself.

Unfortunately, budget reasons mean that beginners will almost always have to learn on instruments (test or music) that are hard to use. We have to accept that, but for heaven's sake let's not pretend to make a virtue of it!

In this particular case, there does exist a very good, reliable, second-level design (the W7ZOI). It's a little more expensive to build than the entry-level stuff, but not significantly more complex. It's very well designed, so while you're building it you'll learn some very useful things from a top amateur (and former professional) RF designer. It's also modular, so you can build it in stages, and upgrade various parts as and when you want.

Bottom line: having played with the entry-level NE602 stuff myself, my advice would be:

* If you only want a "fun" analyser, then go for it and have fun.

* But if you want the analyser as a tool to help you develop good radio gear, go direct to the W7ZOI design.

For a VHF/UHF HB design - which is obviously going to be a lot more complex, and really is an advanced project - search Google for: "S57MV spectrum analyser" (without the quotes, and also look for the American "analyzer" spelling).

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

571. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 12:31:39 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f1e8043$0$23586$5a62ac22@freenews.iinet.net.au>
Source record: 33988

This is an intriguing discussion
The problem with a FLL will be as Joe and Ed say - that to get reasonable resolution in a FLL , you have to count a lot of pulses and this takes a while. You are comparing one count to the next - ie one count is equivalent to the reference, while the next count is equivalent to the VCO signal. In my design (which is based on Ed's originally) the gate time is 100msec, which means the comparison freq and therefore resolution is about 10 Hz, and therefore the lockup time is pretty slow. I presume it would be possible to have the loop capture lock, but I have not explored this. The loop filter would have to be carefuly designed and I suspect lockup time would be pretty long. I think a better idea would be as Joe says to have the coarse resolution set by a DAC and a coarse tuning varicap without any loop. The fine resolution could then be set by a second freq locked system with a swing of say 5 KHz as in our current system. You would have to have a voltage tunable VFO which means phase noise might not be so good.

I have been thinking about an alternative for HF, which is somewhat more complex, but should give excellent phase noise performance. I would use a microwave synthesizer usin DDS/PLL techniques for say 1000-1500 MHz
See http://www.qsl.net/ke5fx/synth.html for a suitable design. This could then be fed to a programmable divider - a second LMX2326 could be used with the main divider output being the output of the synth. The rest of the second PLL chip (reference divider/phase comparator etc) would not be used. The programmable divider is set to give an output anywhere in the HF (or VHF for that matter) spectrum as desired. The phase noise performance of this synth at microwaves is in the order of -90dBc/Hz at 10KHz offset.Dividing it from say 1200 MHz to 30 MHz would improve this by 20log N where N is the division ratio to give phase noise of better than -130 dBc/Hz at 10 KHz offset, with almost infinite resolution and digital settability. The only downside is computational overhead for the processor, but this shouldnt be a problem with modern micros. Current drain could be reduced over the current design when the new AD DDS chips become available (AD9951 etc) Anyone have any comments?

Richard

W3JDR <joe@roccis.com> wrote in message news:AwlTa.11632$634.3093@nwrdny03.gnilink.net...
Ed,

You said:

>> If you want to cover a larger frequency range with your
> VCO, you will need to use a much shorter gate time to
> keep tight control of the VCO frequency. This will
> increase the tuning steps and will also increase the
> phase noise on the VCO output. You soon run into the
> the same trade offs and compromises that you get with
> any PLL design.
>

I don't completely agree. there are several ways to skin this cat. One might be to implement a simple R-2R D-A converter in the PIC to do coarse frequency tuning according to a lookup table, and let the 'huff & puff' stabilizer do the fine corrections. No different than manually setting the tuning capacitor on the VFO and then enabling the stabilizer.

Having said that, there are PIC firmware designs that implement a 40+ MHz counter with 10hz resolution and 100 msec count interval. Combine this with a simple charge pump, and I don't see an FLL with any worse performance than a hardware PLL. Admittedly it's not as good as a DDS for resolution/speed, but it might have advantages for simplicity, power consumption, spectral purity and cost.

Bottom line is, I know most of the other ways to generate a clean & stable programmable RF source. What I wanted to find out is if anyone had done it with a PIC and little else. You came close with your stabilizer, but it can only stabilize, not acquire.

Joe

572. Re: Convert Astro CB amp to 6 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 12:40:51 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <mnvTa.115126$sY2.51896@rwcrnsc51.ops.asp.att.net>
Source record: 33989

"Philip de Cadenet" <Philstheboss@thebbc.fslife.co.uk> wrote in message
news:RVO5FHEBrZH$EwP9@philstheboss.freeserve.co.uk...
> Greg,
>
> >> We use a THA15/SD1726 (30MHz bi-polar 150w pep) producing 220w in our
FM
> >> PA in continuous duty service in the 87.5-108MHz broadcast band.
> >>
> >> Yes, it needs plenty of drive and the heat sink require plenty of air
> >> but at $30 USD a hit it's one economical and rugged amp.
> >>
> >> Here it is: http://www.transmittersrus.com/shop/powerRF220.htm
> Check out our device here:
>
> http://www.angliac.com/st/data_from_st/2846.pdf
>
> Give it a minute to load as it's a PDF page.
>

So you drop from 20 Gp (db) at 30 MHz to 8 Gp (db) at 100 MHz
Would not have been my choice.

BTW, is your equipment FCC type accepted for USA usage on the commercial FM
frequencies (as required)

GB

573. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 13:21:14 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bfm24b$efe99$1@ID-61331.news.uni-berlin.de>
Source record: 33990

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:sreBVMRwylH$EAbJ@ifwtech.co.uk...
> Avery Fineman wrote:
> >In article <qVygaXDBSPH$EA5C@ifwtech.co.uk>, "Ian White, G3SEK"
> ><G3SEK@ifwtech.co.uk> writes:
> >>

[...]

>
> But once you have a "fun" analyser giving you basic indications, it
> inevitably draws you into asking more searching questions, like "How
> much of a harmonic problem do I really have?" That's where fun analysers
> come unstuck, because you don't know how much of those indicated
> harmonics are real, and how much is being generated in the analyser
> itself.

I think it does much better than just give general indications. It certainly has opened my eyes to a whole new world inaccessible to me before having the analyser. It's comparable to the change in my hobby life when I aquired my first oscilloscope. You still enjoy the hobby with no oscilloscope, but when you get one you feel like you'd been blind before, and can't imagine life without it.

The other day I looked at the 39.5MHz IF in an old television tuned to a UK TV station signal. I could see the video and sound subcarriers clearly identifiable. Tuning the TV I could move the signals out of the Surface Acoustic Wave (SAW) filter skirts and get a good idea of the shape of the filter's response curve. Before I might have read about that stuff in theory, now I can actually see it!

Under many cases it will be possible to identify any spurious signals generated within the analyser itself. The input attenuator (in my case 0-63dB in 1dB steps) allows quite accurate measurement of the magnitude of frequency components, and also allows reduction of strong signals. In many cases this can be used to eliminate many of the spuri.

Or, if the signal being monitored is a VFO output for example, or another variable frequency source, changing the frequency will often identify the spurious signals. For example I might increase the VFO frequency, causing the fundamental frequency peak to move left to right on the screen. If I see some other peak move in the opposite direction, or if I see a peak moving across the display very quickly, I know I've seen a spurious response.

Much of the spurious response problems come at the high end of the frequency coverage range. For lower frequency work one could insert an additional

easily-constructed low pass filter and eliminate much of the problem.

So yes, no doubt the more effort you put in and the more complex the spectrum analyser, the better the results obtainable. But even with a simple analyser there's so much you can do.

>
> An important practical crunch point for amateurs is "Does this
> transmitter meet the FCC requirement for 60dB minimum harmonic
> suppression?" Now you discover the big difference between 60-70dB
> on-screen dynamic range, and 60-70dB *spurious-free* dynamic range. The
> first is easy - the second is damned hard to guarantee in a HB design.

I could be wrong but I thought the FCC requirement was 40dB minimum harmonic suppression, or 30dB for transmitters with output powers 5W or less? That's well within the range of even a simple spectrum analyser. I doubt I'd have any problem ensuring an HF QRP rig met FCC requirements with my analsyer.

>
> If you get to that point - and many people will - then you'll wish you'd
> taken the extra trouble to build an analyser that you could trust a
> little more. The NE602 type categorically will not hack that kind of
> problem, because the equipment under test is probably much cleaner than
> it is! The W7ZOI type may just do it, with care, and the same is true of
> the 141 generation. Only the best modern analysers will ace the problem
> without needing careful attention from the user.

I'm already working on my Mk2 analyser. Not because I'm unhappy with the measurements of the Mk1, but because I had so much fun with it, ending up building it for its own sake, and not ready to stop having fun yet.

>
> The simple rule of thumb is:
>
> 1. If the performance of your test equipment is better - in whatever
> ways are important for the measurement in hand - than the performance of
> the equipment under test (EUT) then the results will be reliable enough
> for amateur work.
>
> 2. If your test equipment is comparable with the EUT, you'll get useful
> indications.
>
> 3. If your test equipment is worse than the EUT, what you're actually
> testing is the testgear itself! You'll learn nothing useful about the
> EUT, and may actually be misled.
>
> So aim for zone 1, settle for zone 2 if you must, but stay out of zone
> 3.

Not sure I agree completely - if the EUT is *supposed* to be in your zone 3, but is not functioning properly, then even a simple spectrum analyser could help you find the fault. It wouldn't help you make precise receiver

performance measurements on it when you corrected the fault, but would help with diagnosis.

[...]

>
> Bottom line: having played with the entry-level NE602 stuff myself, my
> advice would be:
>
> * If you only want a "fun" analyser, then go for it and have fun.
>
> * But if you want the analyser as a tool to help you develop good radio
> gear, go direct to the W7ZOI design.

Don't forget the W7ZOI analyser covers 0-70MHz only. You can double that with a NE602 design. Nevertheless I liked the W7ZOI analyser a lot.

>
> For a VHF/UHF HB design - which is obviously going to be a lot more
> complex, and really is an advanced project - search Google for: "S57MV
> spectrum analyser" (without the quotes, and also look for the American
> "analyzer" spelling).

Sounded interesting, but a google search as described turned up 0 results. In fact a search for S57MV on its own got 0 results. Do you have any other references?

73

Hans G0UPL

>
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

574. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 14:45:18 UTC
From: mikea@mikea.ath.cx
Message-ID: <bfm71u$t59$8@puck.litech.org>
Source record: 33991

Ian White, G3SEK <G3SEK@ifwtech.co.uk> wrote:

> For a VHF/UHF HB design - which is obviously going to be a lot more
> complex, and really is an advanced project - search Google for: "S57MV
> spectrum analyser" (without the quotes, and also look for the American
> "analyzer" spelling).

I just tried the suggested Google search, and came up dry -- using
both spellings: analyzer/analyser. Since I cut-and-pasted "S57MV"
from your post, I doubt that it was a spelling error.

Any suggestions?

--
I don't need speed-reading,
I need speed-bookcase-building.
(with thanks to Nancy Lebovitz)

575. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 15:23:45 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <BwC6T7CBiqH$EAvJ@ifwtech.co.uk>
Source record: 33992

Hans Summers wrote:

[snipped much on which we either agree, or can amicably agree to differ]

Certainly, build something rather than nothing - as Hans says, it will really open your eyes!

>>
>> For a VHF/UHF HB design - which is obviously going to be a lot more
>> complex, and really is an advanced project - search Google for: "S57MV
>> spectrum analyser" (without the quotes, and also look for the American
>> "analyzer" spelling).
>
>Sounded interesting, but a google search as described turned up 0
>results. In fact a search for S57MV on its own got 0 results. Do you
>have any other references?
>
Sorry, it was S53MV. A lot of the older information has disappeared off the web, and is now only to be found on the site of VHF Communications magazine where SM3MV's original article appeared.

http://www.vhfcomm.co.uk/articles.htm

Since the article is said to be too big for the web site (and the web articles have no diagrams anyway) it seems that you cannot learn anything useful about this excellent project without buying a back-issue of the magazine :-(

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

576. Info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 16:42:39 UTC
From: Duncan Walters <pentode@ntlworld.com>
Message-ID: <4WyTa.258$c17.278603@newsfep1-win.server.ntli.net>
Source record: 33993

Has anyone got any data/information on the
MSM5525RS chip?
It was manufactured by Oki in the early 1990's
but sadly is obsolete now.
If anyone has a good one gathering dust , please let
me know as I would like to purchase it.
I would also like to know if it is functionally same
(pin for pin) as the MSM5525.
Any information or leads would be greatly appreciated.

Duncan G4DFV

577. Design for really small speech processor?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 18:34:50 UTC
From: dplatt@radagast.org
Message-ID: <vhtlaam1s0uq5a@corp.supernews.com>
Source record: 33994

Anybody have any suggestions for commercially-available SMT ICs which could be used to put together a physically-small compressor / speech processor design? I'm thinking of something small enough to be installed in-line with a standard 4-pin microphone plug, no more than perhaps 3" long - or perhaps even installed inside a dynamic or electret hand-mic housing. Low power (run off of the rig's 9 VDC supply to the electret mic if possible).

Seems to me that it'd require a preamp stage (SMT fixed-gain instrumentation amp would do?), an AGC/VCA arrangement, and an output driver and attenuator.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

578. Re: Design for really small speech processor?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 18:50:22 UTC
From: Jim <kc1rm@tds.net>
Message-ID: <ONATa.21839$vx3.6057257@kent.svc.tds.net>
Source record: 33995

Analog Devices SSM2165

www.analog.com

http://www.analog.com/UploadedFiles/Data_Sheets/2864404SSM2165_b.pdf

Jim, KC1RM

"Dave Platt" <dplatt@radagast.org> wrote in message
news:vhtlaam1s0uq5a@corp.supernews.com...
> Anybody have any suggestions for commercially-available SMT ICs which
> could be used to put together a physically-small compressor / speech
> processor design? I'm thinking of something small enough to be
> installed in-line with a standard 4-pin microphone plug, no more than
> perhaps 3" long - or perhaps even installed inside a dynamic or
> electret hand-mic housing. Low power (run off of the rig's 9 VDC
> supply to the electret mic if possible).
>
> Seems to me that it'd require a preamp stage (SMT fixed-gain
> instrumentation amp would do?), an AGC/VCA arrangement, and an output
> driver and attenuator.
>
> --
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579. Re: Design for really small speech processor?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 20:21:54 UTC
From: dplatt@radagast.org
Message-ID: <vhtrj2l2jr0q22@corp.supernews.com>
Source record: 33996

In article <ONATa.21839$vx3.6057257@kent.svc.tds.net>,
Jim <kc1rm@tds.net> wrote:

>Analog Devices SSM2165

Holy Fudd! Thanks, Jim - that looks like most of the application
wrapped up in just one chip. The SSM2166 looks as if it has a few
additional bells & whistles which might be useful.

It's nice to see that Analog Devices is still keeping the SSM line
alive. Some nice stuff there...

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
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580. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 22:23:46 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <SVDTa.11986$634.5198@nwrdny03.gnilink.net>
Source record: 33897

Richard,
It's an intriguing idea for applications where very high performance can be paid for with circuit complexity, power, & cost, but I was looking for something extremely low power and simple. I still believe my idea can be implemented with a PIC, a crystal, and a hex CMOS inverter package that implements the VCO, buffer, and charge pump.

Joe
W3JDR
"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f1e8043$0$23586$5a62ac22@freenews.iinet.net.au...
This is an intriguing discussion
The problem with a FLL will be as Joe and Ed say - that to get reasonable resolution in a FLL , you have to count a lot of pulses and this takes a while. You are comparing one count to the next - ie one count is equivalent to the reference, while the next count is equivalent to the VCO signal. In my design (which is based on Ed's originally) the gate time is 100msec, which means the comparison freq and therefore resolution is about 10 Hz, and therefore the lockup time is pretty slow. I presume it would be possible to have the loop capture lock, but I have not explored this. The loop filter would have to be carefuly designed and I suspect lockup time would be pretty long. I think a better idea would be as Joe says to have the coarse resolution set by a DAC and a coarse tuning varicap without any loop. The fine resolution could then be set by a second freq locked system with a swing of say 5 KHz as in our current system. You would have to have a voltage tunable VFO which means phase noise might not be so good.

I have been thinking about an alternative for HF, which is somewhat more complex, but should give excellent phase noise performance. I would use a microwave synthesizer usin DDS/PLL techniques for say 1000-1500 MHz
See http://www.qsl.net/ke5fx/synth.html for a suitable design. This could then be fed to a programmable divider - a second LMX2326 could be used with the main divider output being the output of the synth. The rest of the second PLL chip (reference divider/phase comparator etc) would not be used. The programmable divider is set to give an output anywhere in the HF (or VHF for that matter) spectrum as desired. The phase noise performance of this synth at microwaves is in the order of -90dBc/Hz at 10KHz offset.Dividing it from say 1200 MHz to 30 MHz would improve this by 20log N where N is the division ratio to give phase noise of better than -130 dBc/Hz at 10 KHz offset, with almost infinite resolution and digital settability. The only downside is computational overhead for the processor, but this shouldnt be a problem with modern micros. Current drain could be reduced over the current design when the new AD DDS chips become available (AD9951 etc)
Anyone have any comments?

Richard

W3JDR <joe@roccis.com> wrote in message news:AwlTa.11632$634.3093@nwrdny03.gnilink.net...
Ed,

You said:

>> If you want to cover a larger frequency range with your
> VCO, you will need to use a much shorter gate time to
> keep tight control of the VCO frequency. This will
> increase the tuning steps and will also increase the
> phase noise on the VCO output. You soon run into the
> the same trade offs and compromises that you get with
> any PLL design.
>

I don't completely agree. there are several ways to skin this cat. One might be to implement a simple R-2R D-A converter in the PIC to do coarse frequency tuning according to a lookup table, and let the 'huff & puff' stabilizer do the fine corrections. No different than manually setting the tuning capacitor on the VFO and then enabling the stabilizer.

Having said that, there are PIC firmware designs that implement a 40+ MHz counter with 10hz resolution and 100 msec count interval. Combine this with a simple charge pump, and I don't see an FLL with any worse performance than a hardware PLL. Admittedly it's not as good as a DDS for resolution/speed, but it might have advantages for simplicity, power consumption, spectral purity and cost.

Bottom line is, I know most of the other ways to generate a clean & stable programmable RF source. What I wanted to find out is if anyone had done it with a PIC and little else. You came close with your stabilizer, but it can only stabilize, not acquire.

Joe

581. Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 22:52:55 UTC
From: sha99@streamyx.com
Message-ID: <637584a6.0307231452.4aaaf3f@posting.google.com>
Source record: 33898

Dear sir,

As I understood that a regenerative radio has a feed-back loop at the detector stage, while Q-multiplier has it at IF strip. Has any body tried the feed-back loop at RF stage itself.

I'm thinking of homebrewing a "tunable preselector" with a very narrow bandwidth. If we can implant the Q-multiplier concept into the tunable preselector, it should be very much cheaper than building one from a combination of coroidal cores to get the best Q factor.

Best regards,
Amin

582. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-23 23:07:54 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f1f157c$0$48888$edfadb0f@dtext02.news.tele.dk>
Source record: 33899

Hello Amin

> I'm thinking of homebrewing a "tunable preselector" with a very narrow
> bandwidth. If we can implant the Q-multiplier concept into the tunable
> preselector, it should be very much cheaper than building one from a
> combination of coroidal cores to get the best Q factor.

The idea is known as a regenerative preselector and there is a
lot of them on the net.

Regards Max

583. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 00:07:55 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f1f2372$0$23613$5a62ac22@freenews.iinet.net.au>
Source record: 33900

Joe
I work with Atmel AVR chips at present - I dont think there is any clear advantage over the PIC's - it is just that I am up to speed with a development system etc.I would be interested in working on such an idea. The current VFO counter stabilzer already has much of the software and hardware developed - eg the LCD interface etc. The system would be simple enough if it worked to have a dedicated VFO for each band of interest, selectable by software. I was thinking of using a coax transmission line for the resonator.
In the stabilizer design, the "charge pump" is simply two diodes from two I/O lines, buffered by a voltage follower
I imagine that lockup time will be an issue, especially if you want the system to be tunable ala an amateur rig.
I guess there is no reason why you need to count the full resolution of the signal for the FLL. An 8 bit count should be enough, in which case you could use the controller's inbuilt counter without a prescaler, depending on the VFO freq. This should speedup lock time. I guess you could even have an adaptive lock algorithm in software with a progressive increase in resolution.
It might suit my quest to build a low power ultraportable SSB HF transceiver.

Richard

W3JDR <joe@roccis.com> wrote in message news:SVDTa.11986$634.5198@nwrdny03.gnilink.net...
Richard,
It's an intriguing idea for applications where very high performance can be paid for with circuit complexity, power, & cost, but I was looking for something extremely low power and simple. I still believe my idea can be implemented with a PIC, a crystal, and a hex CMOS inverter package that implements the VCO, buffer, and charge pump.

Joe
W3JDR
"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f1e8043$0$23586$5a62ac22@freenews.iinet.net.au...
This is an intriguing discussion
The problem with a FLL will be as Joe and Ed say - that to get reasonable resolution in a FLL , you have to count a lot of pulses and this takes a while. You are comparing one count to the next - ie one count is equivalent to the reference, while the next count is equivalent to the VCO signal. In my design (which is based on Ed's originally) the gate time is 100msec, which means the comparison freq and therefore resolution is about 10 Hz, and therefore the lockup time is pretty slow. I presume it would be possible to have the loop capture lock, but I have not explored this. The loop filter would have to be carefuly designed and I suspect lockup time would be pretty long. I think a better idea would be as Joe says to have the coarse resolution set by a DAC and a coarse tuning varicap without any loop. The fine resolution could then be set by a second freq locked system with a swing of say 5 KHz as in our current system. You would have to have a voltage tunable VFO which means phase noise might not be so good.

I have been thinking about an alternative for HF, which is somewhat more complex, but should give excellent phase noise performance. I would use a microwave synthesizer usin DDS/PLL techniques for say 1000-1500 MHz
See http://www.qsl.net/ke5fx/synth.html for a suitable design. This could then be fed to a programmable divider - a second LMX2326 could be used with the main divider output being the output of the synth. The rest of the second PLL chip (reference divider/phase comparator etc) would not be used. The programmable divider is set to give an output anywhere in the HF (or VHF for that matter) spectrum as desired. The phase noise performance of this synth at microwaves is in the order of -90dBc/Hz at 10KHz offset.Dividing it from say 1200 MHz to 30 MHz would improve this by 20log N where N is the division ratio to give phase noise of better than -130 dBc/Hz at 10 KHz offset, with almost infinite resolution and digital settability. The only downside is computational overhead for the processor, but this shouldnt be a problem with modern micros. Current drain could be reduced over the current design when the new AD DDS chips become available (AD9951 etc) Anyone have any comments?

Richard

W3JDR <joe@roccis.com> wrote in message news:AwlTa.11632$634.3093@nwrdny03.gnilink.net...
Ed,

You said:

>> If you want to cover a larger frequency range with your
> VCO, you will need to use a much shorter gate time to
> keep tight control of the VCO frequency. This will
> increase the tuning steps and will also increase the
> phase noise on the VCO output. You soon run into the
> the same trade offs and compromises that you get with
> any PLL design.
>

I don't completely agree. there are several ways to skin this cat. One might be to implement a simple R-2R D-A converter in the PIC to do coarse frequency tuning according to a lookup table, and let the 'huff & puff' stabilizer do the fine corrections. No different than manually setting the tuning capacitor on the VFO and then enabling the stabilizer.

Having said that, there are PIC firmware designs that implement a 40+ MHz counter with 10hz resolution and 100 msec count interval. Combine this with a simple charge pump, and I don't see an FLL with any worse performance than a hardware PLL. Admittedly it's not as good as a DDS for resolution/speed, but it might have advantages for simplicity, power consumption, spectral purity and cost.

Bottom line is, I know most of the other ways to generate a clean & stable programmable RF source. What I wanted to find out is if anyone had done it with a PIC and little else. You came close with your stabilizer, but it can only stabilize, not acquire.

Joe

584. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 01:30:19 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <LEGTa.12005$634.10762@nwrdny03.gnilink.net>
Source record: 33901

Richard,

Now you're talking my language...almost!

I also want to built an ultra-portable rig, except I want a PSK31-only rig that I can pack with my laptop for my travels. I know Small Wonder Labs already makes this, but this is a homebrew forum, and that's what I want to do. When building any HF rig, the frequency control systems are usually the most complex part. I'm hoping that by developing this little configurable & programmable module, I'll have a building block I can press into service for VFO's BFO's, and other heterodyne oscillator applications.

The Atmel chips are certainly good candidates for the application...low power, fast, powerful, & cheap. I know that with a PIC (and possibly the Atmel) chip, you can make a 50mhz frequency counter with as much resolution as you care to program into it, commensurate with the counting speed tradeoff. Thus, 10hz measurement resolution could be achieved with a 10 frequency corrections per second. As you pointed out, the counter could be programmed for a lower resolution, faster update mode that would be used to acquire, and then slip into the slower, higher resolution mode to maintain. A simple 8 bit R-2R D/A converter could be used for coarse tuning so that the loop doesn't have to work so hard. In a VFO with a 500khz bandspread, that would initially place the frequency within a few khz. I've built VCO's using fast CMOS unbuffered inverters that work to over 150Mhz, so that part isn't difficult.

Overall, I think all the technology is proven...someone just has to do it. My PICLite Starter Kit should arrive any day (only $36!) and I hope to get started.

Joe
W3JDR

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f1f2372$0$23613$5a62ac22@freenews.iinet.net.au...
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Joe

585. Re: Info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 01:58:47 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F1F3D57.5634678C@ob-wan.com>
Source record: 33902

Looks like Sony ST515 from the net.

Duncan Walters wrote:
>
> Has anyone got any data/information on the
> MSM5525RS chip?
> It was manufactured by Oki in the early 1990's
> but sadly is obsolete now.
> If anyone has a good one gathering dust , please let
> me know as I would like to purchase it.
> I would also like to know if it is functionally same
> (pin for pin) as the MSM5525.
> Any information or leads would be greatly appreciated.
>
> Duncan G4DFV

586. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 04:22:44 UTC
From: averyfineman@aol.com
Message-ID: <20030724002244.25815.00001656@mb-m07.aol.com>
Source record: 33903

In article <sreBVMRwylH$EAbJ@ifwtech.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> writes:

>Avery Fineman wrote:
>>In article <qVygaXDBSPH$EA5C@ifwtech.co.uk>, "Ian White, G3SEK"
>><G3SEK@ifwtech.co.uk> writes:
>>>
>>>A spectrum analyser is simply a frequency-swept receiver with a
>>>dB-scaled output to a screen. To give meaningful results, that receiver
>>>must have a very high dynamic range with very low spurious responses.
>>
>> "Meaningful results" are subjective to the hobbyist.
>>
>I'm an amateur, not a professional, but have paid my dues in this area.

Okay. Then allow me to state that I've been a professional in radio
and electronics for 51 years AND an electronics hobbyist in my
free time for longer. I've not "paid any dues" in the latter area except
a lot of hours spent having fun in my workshop..

>My experience with the NE602 type is that it's great as a "fun"
>analyser, but you can very quickly outgrow it. Yes, it will give you
>general indications, like "Is that oscillator working?" or "Is that
>final output stage generating harmonics?" Those indications even have
>some numbers of MHz and dB attached.

? What is wrong with that?

An NE602 or SA602 is just a means to an end. It's a nice little IC
that allows some balanced mixing AND as the active device for the
local oscillator. A single IC, dual function. Used within its limitations
it is AS ACCURATE AS ANY OTHER DEVICE.

>> NO analyzer means NO results.
>>
>Of course I'd rather have that much information than no analyser at all.
>(Len, if you happen not to mention something that is completely obvious,
>I still assume that you're completely aware of it. Kindly extend the
>same courtesy to me.)

I have NO idea of what is "completely obvious" to anyone. Everyone's
mileage varies.

>But once you have a "fun" analyser giving you basic indications, it
>inevitably draws you into asking more searching questions, like "How
>much of a harmonic problem do I really have?" That's where fun analysers
>come unstuck, because you don't know how much of those indicated

>harmonics are real, and how much is being generated in the analyser
>itself.

Let's not lump all the "non-pro" analyzers into the "fun-toy" category,
okay?

Sorry, but I can quickly categorize/calibrate/check ANY analyzer as
to whether or not whatever it shows is "real" or internal. There's lots
of written information available on how to do that...and a bit of thinking
will reveal the very same thing.

>An important practical crunch point for amateurs is "Does this
>transmitter meet the FCC requirement for 60dB minimum harmonic
>suppression?" Now you discover the big difference between 60-70dB
>on-screen dynamic range, and 60-70dB *spurious-free* dynamic range. The
>first is easy - the second is damned hard to guarantee in a HB design.

Sorry, you've drifted outside of specific spectrum analyzer use. The
harmonic content of ALL transmitters can be measured WITHOUT
any spectrum analyzer, as accurately (in most cases moreso) as with
an analyzer. A spectrum analyzer is much much faster in that
application, but harmonic content measurement is not dependent on
its use.

Good operation and good specifications in homebrew designs are as
good as the designer, as good as the other equipment for calibration
and characterisation that is used. It's all together. It's only "damned
hard to guarantee" if there is nothing available to ascertain operation
and calibration. That can exist equally well for an HP 141 plug-in or
one that you term a "fun" NE602.

>If you get to that point - and many people will - then you'll wish you'd
>taken the extra trouble to build an analyser that you could trust a
>little more. The NE602 type categorically will not hack that kind of
>problem, because the equipment under test is probably much cleaner than
>it is!

Good grief! There's plenty of instances in metrology where actual
measurements are done to a higher level than what each piece of
test equipment can do. Time and frequency measurement is a good
area for examples in that, other areas' explanations will take more
time to describe than I have at the moment.

EVERY single piece of test equipment MUST be used within its
limitations. That INCLUDES your "HP 141" racks, Anritsu analyzers,
etc., and whatever else is there.

>The W7ZOI type may just do it, with care, and the same is true of
>the 141 generation. Only the best modern analysers will ace the problem
>without needing careful attention from the user.

Nonsense. Each and every "user" had damn well pay close attention
to using whatever they have within its equipment's limitations. That

holds true for the best of Rhode & Schwarz wares AND for the "fun"
SA602/NE602 analyzers.

>>>Very easily, in the same ways as you test a receiver for strong-signal
>>>handling.... but most graphically by looking at the same spectra with
>>>two analysers side-by-side. The one showing fewest signals is the one
>>>you can rely on most.
>>
>> Have you priced the used spectrum analyzers lately? Do you expect
>> others to have ready access to "another" spectrum analyzer?
>>
>That comment was mostly to make the point that the cleanest display is
>the most real.

You're going to have to explain that better..."clean" is highly subjective
and subjective judgement in any metrology effort is a no-no.

>The absolute standard of comparison is the perfect spectrum analyser
>with no spurious responses.

Okay, show me one. They must be in storage with bottles of the
"universal solvent" and other fine ideas...

>When I built the first "fun" analyser (which had to wait until the
>hardware collection had expanded to include a good oscilloscope) I found
>it quite disappointing, because it still wasn't showing me reality. I
>was still having to think "Now if I had a *good* spectrum analyser, what
>would it probably be showing me here?"

That's nice. But you are drifting towards extreme categorization of
equipment. Simple, low parts count home projects are "fun" (in your
terms, like toys or something for recreation. The only "GOOD" gear
is semi-pro, expensive, etc., etc., etc.

>Out in the workshop, the real hardware adds real-life numbers to the
>ideas, and also checks that there isn't anything happening that I hadn't
>thought of.

In MY workshop, nearly everything I do and use is pure FUN. If I use
them within their limitations, then they give me REAL numbers as
valid as anything I use from a small pro lab's $400K capital collection.

>In this particular case, there does exist a very good, reliable,
>second-level design (the W7ZOI). It's a little more expensive to build
>than the entry-level stuff, but not significantly more complex. It's
>very well designed, so while you're building it you'll learn some very
>useful things from a top amateur (and former professional) RF designer.
>It's also modular, so you can build it in stages, and upgrade various
>parts as and when you want.
>
>Bottom line: having played with the entry-level NE602 stuff myself, my
>advice would be:
>

>* If you only want a "fun" analyser, then go for it and have fun.
>
>* But if you want the analyser as a tool to help you develop good radio
>gear, go direct to the W7ZOI design.

So...bottom line is that spectrum analyzers with NE602s in them are
kiddie toys useable only for entertainment and recreation?!?

Not a good characterization, that. Used within its limitations, the
"kiddie" instrument is as accurate as anything else. Input level
displayed linearity is a direct function of the successive detection
logarithmic chip used in the back end...has very little to do with the
front end. Resolution is again a back-end concern and is a direct
function of the filtering of the final IF in the analyzer...and the sweep
rate and sweep span (all related). If you want linearity in the
horizontal as to frequency, then you have to pay a lot of attention to
VCO (or equivalent) control and that has little to do with messing
about with the front end mixer.

The front end of any spectrum analyzer is the place where your
spurious responses are generated, if any at all. If you are going for
the very best in higher-level inputs then you absolutely need a high-
IM-rated mixer, which also probably needs a high-level LO. Both of
those cost a great deal of money...and the higher input level free of
spurious responses may or may not be worth it. It may not be
worth it when one of those "fun" analyzers don't exhibit any false
signals or spurii below a specific input level.

Len Anderson
retired (from regular hours) electronic engineer person
formerly an Associate Editor with HAM RADIO Magazine

PS: I once or twice used an HP 141. It always had "ordinary"
oscilloscope plug-ins in it to make it overall an oscilloscope. Shrug.

587. Re: Convert Astro CB amp to 6 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 07:50:58 UTC
From: Philip de Cadenet <Philstheboss@thebbc.fslife.co.uk>
Message-ID: <OF2+BpAi$4H$Ewc8@philstheboss.freeserve.co.uk>
Source record: 33904

Hello GB,

>So you drop from 20 Gp (db) at 30 MHz to 8 Gp (db) at 100 MHz
>Would not have been my choice.
>
>BTW, is your equipment FCC type accepted for USA usage on the commercial FM
>frequencies (as required)

Regarding the device choice. I think the designers reason for using the THA15 is that he found a very inexpensive source for the device and he already had a 40w exciter in production. It was a suitably inexpensive device.

FCC approval not required if used outside the US.

We are not based in the US.

My company is a re-seller for NRG products among others.

However frequency stability, harmonic attenuation and spurious products would probably meet type approval spec in the US. Not sure how tough your EMC and or electrical safety requirements are but it would probably meet those to after looking at some of the budget end equipment that has FCC type acceptance.

I just love those Part-15 Talking House transmitters.

Does the FCC still allow self approval on certain equipment?
--
Philip de Cadenet G4ZOW
Transmitters 'R' Us
http://www.transmittersrus.com

588. Re: Transistor choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 11:43:18 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <qDPTa.133586$N7.19563@sccrnsc03>
Source record: 33905

"Philip de Cadenet" <Philstheboss@thebbc.fslife.co.uk> wrote in message
news:OF2+BpAi$4H$Ewc8@philstheboss.freeserve.co.uk...
> Hello GB,
>
> >So you drop from 20 Gp (db) at 30 MHz to 8 Gp (db) at 100 MHz
> >Would not have been my choice.
> >
> >BTW, is your equipment FCC type accepted for USA usage on the commercial
FM
> >frequencies (as required)
> ----------
>
> Regarding the device choice. I think the designer's reason for using the
> THA15 is that he found a very inexpensive source for the device and he
> already had a 40w exciter in production. It was a suitably inexpensive
> device.
>
> FCC approval not required, if product is used outside the US.
> We are not based in the US.
>
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> However frequency stability, harmonic attenuation and spurious products
> would probably meet type approval spec in the US. Not sure how tough
> your EMC and or electrical safety requirements are but it would probably
> meet those to after looking at some of the budget end equipment that has
> FCC type acceptance.
>
> I just love those Part-15 Talking House transmitters.
>
> Does the FCC still allow self approval on certain equipment?
> --

At one time, you could call the FCC Field Office and approach the situation
like FAA handled
non-commercial built planes. I do remember in the 1970s that the FCC would
provide this
approval from the Field Engineers. Many things changed in the 1980s - in
the
"name of progress and deregulation" - but I believe "self approval" was NOT
one of them.

G. Beat
w9gb

589. FS; 8877's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 11:45:25 UTC
From: The Tube Man <thetubeman@earthlink.net>
Message-ID: <pFPTa.19404$Mc.1495114@newsread1.prod.itd.earthlink.net>
Source record: 33906

FOR SALE

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TESTED
FULL OUTPUT
GUARANTEED
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+ MOST ANY OTHER TUBES YOU MAY NEED

PLEASE EMAIL ME WITH YOUR INQUIRIES

590. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 12:25:40 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vhvk5jc0qm8v7a@corp.supernews.com>
Source record: 33907

Joe

I actually have (had?) a project in flight to do just that. Unfortunately, pressures on my time have prevented me from making much progress lately. Perhaps as the weather cools.

My background is as a chemical process control engineer. This seems like an obvious application of traditional process control algorithms. Even more to the point, I have a history of applying simple computers to process control problems, and this seems like a good candidate.

I spent a LOT of time working on the basic VCO. In my case, it happens I was looking for something in the 9 MHz neighborhood, to build a 20 meter rig with a 4.9 MHz IF (to take advantage of cheap crystals, of course). It turns out to be a lot harder than it sounds to come up with a reasonable stable VCO at that frequency.

In my case I wanted to be able to tune the frequency, but this is really not so different from what you want. I get the frequency by twiddling the shaft encoder, but once the frequency is gotten, I now plug it into the controller, so the second part is basically what you are talking about.

I, too, had assumed when changing frequency I may need to go to a ten times a second sample, then change to once a second after I got there, but I'm not entirely sure this is what I'll do. Given that you have a VCO and a DAC, and the VCO has a relatively fixed relationship between the control voltage and the frequency, I ought to be able to output the voltage for the desired frequency immediately, then fine tune based on the count.

Which brings up another issue ... the DAC. In my case, I wanted 70 kHz of coverage, so I needed a DAC with a fair bit of resolution. 8 bit DACs are cheap, but when you get into the 12-16 bit neighborhood they tend to not be so cheap. Also, it seems like the lion's share of serial DACs are surface mount, and you really want serial to keep the parts count down.

My initial thinking was that you might be able to get away with an 8 bit DAC given that you really only want one frequency. Assuming a 4.915 IF, you would want to build a VCO with a range of about 9.1549 to 9.1551 - seems pretty tight, although it looks like a candidate for a VXO, which could be a lot simpler problem. The challenge you have is that you can't have the frequency hopping about for more than a couple of Hz for PSK, so you really want about 1 Hz or better resolution on your DAC.

In fact, as I think about it, the VXO looks like a great candidate. Since the VXO can be quite stable, you aren't going to need to be quite so quick to respond to disturbances that want to move the frequency, so the once per second sample to allow 1Hz control isn't going to be such a big deal.

If you build the VXO such that, under "typical" conditions it is spot on with the DAC output at half scale, now you can preload the reset in your PIC controller to deliver half scale at turn on. The total drift of a VXO ought to be only a few tens of Hz anyway, so the PIC shooed drive the frequency to be spot on within 5 or 10 seconds. It's unlikely that you will be able to find a QSO in that amount of time, anyway. Of course, thermal disturbances are going to want to move the VXO a bit, but these are slow, so the PIC should have no trouble keeping them in check.

This probably doesn't really deliver to your "building block" concept, but it seems pretty straightforward for PSK. If you want a generic building block, as best I can tell you will need 1) a good, stable VCO (hard); and 2) a high-resolution DAC (expensive).

For my project, I am starting to lean toward the AD9850 as being simpler and cheaper, although I started out where you are now, feeling like it was overkill for the purpose. Still, I'd like to prove the concept of using PID control for frequency.

..

"W3JDR" <joe@roccis.com> wrote in message
news:LEGTa.12005$634.10762@nwrdny03.gnilink.net...
Richard,

Now you're talking my language...almost!

591. using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 13:48:07 UTC
From: Frank Mikkelsen <frank@phys.au.dk>
Message-ID: <bfoo15$10r$1@news.net.uni-c.dk>
Source record: 33908

Hej
has anybody used the AD9954 DDS ? i have some design quistions:
Where can i by a 400MHz precion clock source.

Coubling of the output DAC. I will try to copy the EVB9954 from analog. any
other ideas.

best regards

--
Frank Mikkelsen

University of Aarhus
Institute of Physics & Astronomi
Nymunkegade, Bygn. 520, room 432
DK-8000 AArhus C
Denmark

Phone +45 89423799 or +45 89423795
Fax: +45 89423794

592. Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 13:55:03 UTC
From: Frank Mikkelsen <frank@phys.au.dk>
Message-ID: <bfooe5$13j$1@news.net.uni-c.dk>
Source record: 33909

I whant to double a frq. between 200 and 265 MHz. I had tryed to used the
Mini-circuits RK2 doubler and som BP filters, but because of the band pass
200-265MHz it is diffeculd for me to suppress the input frq. and the 3*inp.
to min 50-60dB.
Is there any other ideas to realise this.

--
Frank Mikkelsen

University of Aarhus
Institute of Physics & Astronomi
Nymunkegade, Bygn. 520, room 432
DK-8000 AArhus C
Denmark

Phone +45 89423799 or +45 89423795
Fax: +45 89423794

593. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 14:28:51 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f1fed3b$0$23595$5a62ac22@freenews.iinet.net.au>
Source record: 33910

Joe
I agree the LO is the hardest part of a radio, especially if you want fine resolution and digital programmability.
I would be interested in your VCO circuits using inverters if you are willing to share these. What sort of phase noise performance have you got with these circuits?
I wonder if you could use a coax transmission line as the tunable element, and ground different sections of it using diodes for different bands? I would be aiming to use the LO at 4X operating freq, so it can be divided for a quadrature generating circuit. I plan to use the Tayloe circuit as a bilateral SSB RX/TX, using a quad bus switch (say the FST3253)

Richard
W3JDR <joe@roccis.com> wrote in message news:LEGTa.12005$634.10762@nwrdny03.gnilink.net...
Richard,

Now you're talking my language...almost!

I also want to built an ultra-portable rig, except I want a PSK31-only rig that I can pack with my laptop for my travels. I know Small Wonder Labs already makes this, but this is a homebrew forum, and that's what I want to do. When building any HF rig, the frequency control systems are usually the most complex part. I'm hoping that by developing this little configurable & programmable module, I'll have a building block I can press into service for VFO's BFO's, and other heterodyne oscillator applications.

The Atmel chips are certainly good candidates for the application...low power, fast, powerful, & cheap. I know that with a PIC (and possibly the Atmel) chip, you can make a 50mhz frequency counter with as much resolution as you care to program into it, commensurate with the counting speed tradeoff. Thus, 10hz measurement resolution could be achieved with a 10 frequency corrections per second. As you pointed out, the counter could be programmed for a lower resolution, faster update mode that would be used to acquire, and then slip into the slower, higher resolution mode to maintain. A simple 8 bit R-2R D/A converter could be used for coarse tuning so that the loop doesn't have to work so hard. In a VFO with a 500khz bandspread, that would initially place the frequency within a few khz. I've built VCO's using fast CMOS unbuffered inverters that work to over 150Mhz, so that part isn't difficult.

Overall, I think all the technology is proven...someone just has to do it. My PICLite Starter Kit should arrive any day (only $36!) and I hope to get started.

Joe
W3JDR

"

594. Homebrew Site

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 18:21:09 UTC
From: Elmer E Ing <"Elmer E Ing"@tutor.org>
Message-ID: <psVTa.11224$ff.5356@fed1read01>
Source record: 33911

Found an interesting HomeBrew Site URL:
http://ac6v.com/homebrew.htm

Build em, test em, be proud of em

595. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 19:32:19 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1989d41c60cc9487989697@news-central.giganews.com>
Source record: 33912

In article <bfoo15$10r$1@news.net.uni-c.dk>, frank@phys.au.dk says...
> Hej
> has anybody used the AD9954 DDS ? i have some design quistions:
> Where can i by a 400MHz precion clock source.
>

I imagine the AD9954 has an internal clock multiplier like its
predecessors in the AD985x family. Doesn't it?

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

596. Re: Info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 21:36:38 UTC
From: Duncan Walters <pentode@ntlworld.com>
Message-ID: <IjYTa.680$XI2.458123@newsfep1-win.server.ntli.net>
Source record: 33913

Thanks, Rob.
Would you know of a stockist?

Duncan

597. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 21:42:36 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <gpYTa.12187$634.1365@nwrdny03.gnilink.net>
Source record: 33914

If the VCO can be made to have good short-term stability (we could discuss this requirement for a long time), then there are more options for how to make the control loop. I was toying with the idea of 2 simple 8-bit D/A's, one operating a coarse tune varactor and one running a fine tune varactor. Of course the problem here is that the overall 16 bit tuning curve would not be monotonic, and could have numerous slope reversals. This might be overcome by having a 'learn' mode where the system builds something like a frequency lookup table for subsequent open-loop random access. Once you've pre-tuned to within approx 1 part in 65,000, the closed loop part could take over. As to +/- a few hertz wandering affecting the PSK31 signal, I think it's mostly a matter of how fast/slow the wander rate is. Slow, small frequency wandering will probably be tolerated by PSK-31 software's AFC function.

Joe

"xpyttl" <xpyttl_nospam@earthling.net> wrote in message
news:vhvk5jc0qm8v7a@corp.supernews.com...
> Joe
>
> I actually have (had?) a project in flight to do just that.
Unfortunately,
> pressures on my time have prevented me from making much progress lately.
> Perhaps as the weather cools.
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> "W3JDR" <joe@roccis.com> wrote in message
> news:LEGTa.12005$634.10762@nwrdny03.gnilink.net...
> Richard,
>
> Now you're talking my language...almost!
>
>
>

598. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 21:51:33 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <FxYTa.12209$634.10989@nwrdny03.gnilink.net>
Source record: 33915

Richard,
Essentially, you take whatever is the latest & fastest version of a '74HCU04. (The "U" is very important...it MUST be unbuffered). You capacitively couple a varactor to the input and another to the output and drive them from the same tuning voltage. An inductor from output to input completes the circuit, where L resonates the two varactors. Using appropriate varactors, I have made HF VCO's that tune almost a 3:1 range. I have operated this circuit at over 150MHz. I don't have numbers for phase noise but it was good....not as good as a crystal of course, but pretty good. This particular VCO was used as the first LO in an HF (60MHz) spectrum analyzer. It was driven from a phase detector whose other input was a DDS. The PLL/DDS combo allowed fine tuning resolution along with wide loop bandwidth, resulting in a very good, fast tuning LO.

Joe
W3JDR

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f1fed3b$0$23595$5a62ac22@freenews.iinet.net.au...
Joe
I agree the LO is the hardest part of a radio, especially if you want fine resolution and digital programmability.
I would be interested in your VCO circuits using inverters if you are willing to share these. What sort of phase noise performance have you got with these circuits?
I wonder if you could use a coax transmission line as the tunable element, and ground different sections of it using diodes for different bands? I would be aiming to use the LO at 4X operating freq, so it can be divided for a quadrature generating circuit. I plan to use the Tayloe circuit as a bilateral SSB RX/TX, using a quad bus switch (say the FST3253)

Richard
W3JDR <joe@roccis.com> wrote in message news:LEGTa.12005$634.10762@nwrdny03.gnilink.net...
Richard,

Now you're talking my language...almost!

I also want to built an ultra-portable rig, except I want a PSK31-only rig that I can pack with my laptop for my travels. I know Small Wonder Labs already makes this, but this is a homebrew forum, and that's what I want to do. When building any HF rig, the frequency control systems are usually the most complex part. I'm hoping that by developing this little configurable & programmable module, I'll have a building block I can press into service for VFO's BFO's, and other heterodyne oscillator applications.

The Atmel chips are certainly good candidates for the application...low power, fast, powerful, & cheap. I know that with a PIC (and possibly the Atmel) chip, you can make a 50mhz frequency counter with as much resolution as you care to program into it, commensurate with the counting speed tradeoff. Thus, 10hz measurement resolution could be achieved with a 10 frequency corrections per second. As you pointed out, the counter could be programmed for a lower resolution, faster update mode that would be used to acquire, and

then slip into the slower, higher resolution mode to maintain. A simple 8 bit R-2R D/A converter could be used for coarse tuning so that the loop doesn't have to work so hard. In a VFO with a 500khz bandspread, that would initially place the frequency within a few khz. I've built VCO's using fast CMOS unbuffered inverters that work to over 150Mhz, so that part isn't difficult.

Overall, I think all the technology is proven...someone just has to do it. My PICLite Starter Kit should arrive any day (only $36!) and I hope to get started.

Joe
W3JDR

"

599. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-24 23:22:09 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F206C3C.63FA71C2@ieee.org>
Source record: 33916

Frank Mikkelsen wrote:

> I whant to double a frq. between 200 and 265 MHz. I had tryed to used the
> Mini-circuits RK2 doubler and som BP filters, but because of the band pass
> 200-265MHz it is diffeculd for me to suppress the input frq. and the 3*inp.
> to min 50-60dB.
> Is there any other ideas to realise this.
>
> --
> Frank Mikkelsen
>
> University of Aarhus
> Institute of Physics & Astronomi
> Nymunkegade, Bygn. 520, room 432
> DK-8000 AArhus C
> Denmark
>
> Phone +45 89423799 or +45 89423795
> Fax: +45 89423794

Another approach is to lock an oscillator running at the output
frequency to the input. Try dividing the oscillator by two and use that signal
to compare to the input.

Bill K7NOM

600. FA: Xmttr Tubes 4D21 4CX250B 4B31 3B28

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 00:29:45 UTC
From: tw@emailaccount.com
Message-ID: <d7bc9941.0307240758.29e744ed@posting.google.com>
Source record: 33917
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Now on Ebay...

(8) Transmitting and Rectifier tubes - (1)4D21, (1)4X250B, (3)4CX250B,
(1)4B31, (3)3B28(866A). Low opening bid, no reserve:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=1381092374

Auction ends soon.

...Thanks for looking.

601. WTB: VFO knob for Kenwood TS-830S

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 00:58:38 UTC
From: k9sqg@aol.com
Message-ID: <20030724205838.20076.00000446@mb-m29.aol.com>
Source record: 33918

Looking for a NOS or excellent condition, original knob for the Kenwood TS-830S. Thanks for reading the posting.

73s,

Evan

602. FA: Xmttr Tubes (correct link this time...)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 01:02:25 UTC
From: tw@emailaccount.com
Message-ID: <d7bc9941.0307241702.531b9c9c@posting.google.com>
Source record: 33919
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

(8) Transmitting and Rectifier tubes - (1)4D21, (1)4X250B, (3)4CX250B,
(1)4B31, (3)3B28(866A). Low opening bid, no reserve:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3036036251

Auction ends soon.

603. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 01:07:15 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F2082C3.2070003@bellsouth.net>
Source record: 33920

John Miles wrote:
> In article <bfoo15$10r$1@news.net.uni-c.dk>, frank@phys.au.dk says...
>
>>Hej
>>has anybody used the AD9954 DDS ? i have some design quistions:
>>Where can i by a 400MHz precion clock source.
>>
>
>
> I imagine the AD9954 has an internal clock multiplier like its
> predecessors in the AD985x family. Doesn't it?
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --

The AD9954 has a clock multiplier, and only needs a 20mhz clock
to drive it.

If anybody tries using one of these and makes up some circuit boards
let me know (before I try and wire mine dead bug style!)

604. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 01:08:11 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F2082FB.8010200@bellsouth.net>
Source record: 33921

Max wrote:
> Hello Amin
>
>
>>I'm thinking of homebrewing a "tunable preselector" with a very narrow
>>bandwidth. If we can implant the Q-multiplier concept into the tunable
>>preselector, it should be very much cheaper than building one from a
>>combination of coroidal cores to get the best Q factor.
>
>
> The idea is known as a regenerative preselector and there is a
> lot of them on the net.
>
> Regards Max
>
>

1967 ARRL HB had a receiver with an RF Q multipler.

605. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 01:53:38 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F208D92.37CC7FF4@clifto.com>
Source record: 33922

Frank Mikkelsen wrote:
> I whant to double a frq. between 200 and 265 MHz. I had tryed to used the
> Mini-circuits RK2 doubler and som BP filters, but because of the band pass
> 200-265MHz it is diffeculd for me to suppress the input frq. and the 3*inp.
> to min 50-60dB.
> Is there any other ideas to realise this.

Full-wave unfiltered rectification, followed by bandpass filter?

--
All relevant people are pertinent.
All rude people are impertinent.
Therefore, no rude people are relevant.
-- Solomon W. Golomb

606. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 02:05:03 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F20904F.88FD03E@clifto.com>
Source record: 33923

John S. MacKay wrote:
> What college teaches the spelling of the word "amature"? On second
> thought, don't bother.

Not college, it's that hobbiest place. You know, the one that's hobbier
than all the others.

--
All relevant people are pertinent.
All rude people are impertinent.
Therefore, no rude people are relevant.
-- Solomon W. Golomb

607. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 06:20:27 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f20cc43$0$23584$5a62ac22@freenews.iinet.net.au>
Source record: 33924

I have asked for samples and I would be keen to do just this. However it
seems I am not an important enough customer :)
No doubt they will be coming out sometime soon

Richard

scharkalvin <wa2mze@bellsouth.net> wrote in message
news:3F2082C3.2070003@bellsouth.net...
> John Miles wrote:
> > In article <bfoo15$10r$1@news.net.uni-c.dk>, frank@phys.au.dk says...
> >
> >>Hej
> >>has anybody used the AD9954 DDS ? i have some design quistions:
> >>Where can i by a 400MHz precion clock source.
> >>
> >
> >
> > I imagine the AD9954 has an internal clock multiplier like its
> > predecessors in the AD985x family. Doesn't it?
> >
> > -- jm
> >
> > --
> > http://www.qsl.net/ke5fx
> > Note: My E-mail address has been altered to avoid spam
> > --
>
> The AD9954 has a clock multiplier, and only needs a 20mhz clock
> to drive it.
>
> If anybody tries using one of these and makes up some circuit boards
> let me know (before I try and wire mine dead bug style!)
>
>

608. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 10:25:54 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0307250225.4a026f5b@posting.google.com>
Source record: 33925

Hi,
the filters shown at
http://w1.859.telia.com/~u85920178/conv/xtal-0.htm might help you.

BR from Ivan OK1SIP

609. NEED HELP! Frequency Synthesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 11:27:36 UTC
From: Mehrdad Ghassempoory <ghassempoory@ntlworld.com>
Message-ID: <1p8Ua.67$by5.45@newsfep3-gui.server.ntli.net>
Source record: 33926

I am planning to build a 50MHz synthesized VFO. I want to use ICs as much as possible. I have been looking for VCO chips, the ones I found were made for 400MHz+ frequencies. Does anybody make synthesizer components - including VCOs - for below 50Mhz?

Any other help and advice is most welcome!

610. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 11:27:59 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <3v8Ua.141100$N7.20512@sccrnsc03>
Source record: 33927

> Frank Mikkelsen wrote:
> > I whant to double a frq. between 200 and 265 MHz. I had tryed to used the
> > Mini-circuits RK2 doubler and som BP filters, but because of the band pass
> > 200-265MHz it is diffeculd for me to suppress the input frq. and the 3*inp.
> > to min 50-60dB.
> > Is there any other ideas to realise this.

You might use a pair of MMIC's in push-push. Get gain AND cancellation of fundamental and odd harmonics.

W4ZCB

611. Link coupling to a rotary incuctor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 11:43:58 UTC
From: "T.E.O" <rfmscpa@earthlink.net>
Message-ID: <2K8Ua.119137$lo.10159155@newsread2.prod.itd.earthlink.net>
Source record: 33928
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I'm building a balanced line antenna tuner and have settled on link coupling in order to eliminate the balun from the circuit.

I have a big rotary inductor out of an old Murch 2000A and would like to use it as the output link. I've decided on a variable (tapped) input link. I'm wondering if anyone has done this and what technique they used to mount the input link (i.e., how to get it close enough for effectively coupling).

612. Re: NEED HELP! Frequency Synthesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 11:50:22 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vi26c3cj4608e4@corp.supernews.com>
Source record: 33929

Of course, the standard answer anymore seems to be the AD985x series of DDS chips. Far Circuits has a board to build a 0-30 MHz DDS from a 9850, and by replacing the clock with a 120 MHz part, it will easily get up past 50. I think the 9854 will play up to 400 but getting a simple, inexpensive clock could be a push.

High speed prescaler chips are relatively inexpensive. One thought that occurred to me (but I haven't gotten any farther than collecting the parts) is to use something like the TR4400/4900 or TRF2050/52 then prescaling down to something sensible. Typically, you're going into a mixer anyway, so the square wave the prescaler would leave you with would be an advantage.

I believe Steve Weber was able to make the 4400 play as low as the 50 MHz region directly - you might poke him one. Although most of these chips are made for cell phones, I suspect most will work at lower frequencies. It's usually just a question of doing the math.

..

"Mehrdad Ghassempoory" <ghassempoory@ntlworld.com> wrote in message news:1p8Ua.67$by5.45@newsfep3-gui.server.ntli.net...
> I am planning to build a 50MHz synthesized VFO. I want to use ICs as
> much as possible. I have been looking for VCO chips, the ones I found
> were made for 400MHz+ frequencies. Does anybody make synthesizer
> components - including VCOs - for below 50Mhz?
>
> Any other help and advice is most welcome!
>
>
>
>
>
>

613. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 13:53:23 UTC
From: Frank Mikkelsen <frank@phys.au.dk>
Message-ID: <bfrcmr$5jl$1@news.net.uni-c.dk>
Source record: 33930

Yes the 995x has a 4 to 20 multiplyer, but this increase the jitter on the output frequnce, therefore i prefere an 400MHz precition osc. if it is possible to find it.

Best regards

Frank

"John Miles" <jmiles@pop.removethistomailme.net> skrev i en meddelelse news:MPG.1989d41c60cc9487989697@news-central.giganews.com...
> In article <bfoo15$10r$1@news.net.uni-c.dk>, frank@phys.au.dk says...
> > Hej
> > has anybody used the AD9954 DDS ? i have some design quistions:
> > Where can i by a 400MHz precion clock source.
> >
>
> I imagine the AD9954 has an internal clock multiplier like its
> predecessors in the AD985x family. Doesn't it?
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --

614. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 14:00:45 UTC
From: Frank Mikkelsen <frank@phys.au.dk>
Message-ID: <bfrd4l$5pd$1@news.net.uni-c.dk>
Source record: 33931

"scharkalvin" <wa2mze@bellsouth.net> skrev i en meddelelse
news:3F2082C3.2070003@bellsouth.net...
> John Miles wrote:
> > In article <bfoo15$10r$1@news.net.uni-c.dk>, frank@phys.au.dk says...
> >
> >>Hej
> >>has anybody used the AD9954 DDS ? i have some design quistions:
> >>Where can i by a 400MHz precion clock source.
> >>
> >
> >
> > I imagine the AD9954 has an internal clock multiplier like its
> > predecessors in the AD985x family. Doesn't it?
> >
> > -- jm
> >
> > ----------
> > http://www.qsl.net/ke5fx
> > Note: My E-mail address has been altered to avoid spam
> > ----------
>
> The AD9954 has a clock multiplier, and only needs a 20mhz clock
> to drive it.
>
> If anybody tries using one of these and makes up some circuit boards
> let me know (before I try and wire mine dead bug style!)
>
>
I am working on a 2 layer PCB layout on a AD9954 board, but i am off for 2
weeks from to day so it suppose I will start test i in the end off august.
If somone are interested you can have a copy of SCH and PCB (protel format).

Best regars
Frank

615. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 15:45:09 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <goj2ivso3b7sfd2e52acherjn18bl0t273@4ax.com>
Source record: 33932

>Yes the 995x has a 4 to 20 multiplyer, but this increase the jitter on the
>output frequnce, therefore i prefere an 400MHz precition osc. if it is
>possible to find it.

One way would be to have a VCO and simple 8-pin PLL I guess clocking the chip ?

Your going to be hard pushed to find an XTAL block with a 400MHz output.

Some of the older Pentium mother boards used to use an XTAL and a chip to
generate the main hundred-odd MHz clock, not sure what the chips where though.

Clive

616. E F Johnson 250-20 Low Pass Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 17:26:16 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-24568B.13261725072003@news.verizon.net>
Source record: 33933

I found one in my local recycling center. It's still in the original box and even has both mounting brackets. It looks like it has never been used.

Anyone who wants it can have it for the price of shipping. Your choice.

Al

--
There's never enough time to do it right the first time.......

617. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 17:30:05 UTC
From: hello_nasty@hotmail.com
Message-ID: <7578ddcf.0307250930.57f66c0d@posting.google.com>
Source record: 33934

John Miles <jmiles@pop.removethistomailme.net> wrote in message
news:<MPG.19860ea62292690989693@news-central.giganews.com>...
> In article <1e2005ff.0307210635.5abf491a@posting.google.com>,
> payam79b@yahoo.com says...
> > hi, where can i find practical high fre spectrum analyser circuit?
> > thanks
> >
>
> The W7ZOI homebrew spectrum analyzer article is not to be missed:
>
> http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
> http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
>
> You'll find this design vastly superior to the "poor man's spectrum
> analyzer" projects out there that are based on CATV tuners.
>

Here is an updated version of the W7ZOI spectrum analyzer on the same site:

http://www.qsl.net/n9zia/spec/index.html

618. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 17:43:08 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bfrq7cml1@freenet9.carleton.ca>
Source record: 33935

Mario (hello_nasty@hotmail.com) writes:
> John Miles <jmiles@pop.removethistomailme.net> wrote in message
news:<MPG.19860ea62292690989693@news-central.giganews.com>...
>> In article <1e2005ff.0307210635.5abf491a@posting.google.com>,
>> payam79b@yahoo.com says...
>> > hi, where can i find practical high fre spectrum analyser circuit?
>> > thanks
>> >
>>
>> The W7ZOI homebrew spectrum analyzer article is not to be missed:
>>
>> http://www.qsl.net/n9zia/wireless/pdf/9808035.pdf (part 1)
>> http://www.qsl.net/n9zia/wireless/pdf/9809037.pdf (part 2)
>>
>> You'll find this design vastly superior to the "poor man's spectrum
>> analyzer" projects out there that are based on CATV tuners.
>>
>
> Here is an updated version of the W7ZOI spectrum analyzer on the same site:
>
> http://www.qsl.net/n9zia/spec/index.html

For that matter, Wes Hayward has his own webpage, and he has some material
related to the project at:
http://users.easystreet.com/w7zoi/SA.html
According to that page, one can download the original articles from
the ARRL website, in pdf format, but doing a search over there, I don't
get a hit on the articles.

I don't see it in the 2001 Handbook (the only recent one I have), but
perhaps it's in that new Hayward book, "Experimental Methods in RF Design"
but I've yet to order my copy.

And of course, Kanga, http://www.bright.net/~kanga/kanga
has boards for the project, and they have some additional information
on their website.

Michael VE2BVW

619. Re: E F Johnson 250-20 Low Pass Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 18:34:22 UTC
From: dplatt@radagast.org
Message-ID: <vi2u1e7rnuaibf@corp.supernews.com>
Source record: 33936

In article <no.spam-24568B.13261725072003@news.verizon.net>,
Al <no.spam@here.com> wrote:

>I found one in my local recycling center. It's still in the original box
>and even has both mounting brackets. It looks like it has never been
>used.
>
>Anyone who wants it can have it for the price of shipping. Your choice.

I'd like to have it if it hasn't been spoken for already...

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

620. Re: NEED HELP! Frequency Synthesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-25 20:07:30 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bfs2m2$fn9$1@hercules.btinternet.com>
Source record: 33937

"Mehrdad Ghassempoory" <ghassempoory@ntlworld.com> wrote in message
news:1p8Ua.67$by5.45@newsfep3-gui.server.ntli.net...
> I am planning to build a 50MHz synthesized VFO. I want to use ICs as
> much as possible. I have been looking for VCO chips, the ones I found
> were made for 400MHz+ frequencies. Does anybody make synthesizer
> components - including VCOs - for below 50Mhz?
>
> Any other help and advice is most welcome!

MCL might make a VCO that include 50 MHz.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

621. Re: Link coupling to a rotary incuctor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 01:07:19 UTC
From: k9sqg@aol.com
Message-ID: <20030725210719.10444.00000769@mb-m05.aol.com>
Source record: 33938

This is not a good design. The tapping in generally reserved for the output side of the tuner with the input being "relatively" fixed with only a little bit of adjustment, via a swinging link or a series capacitor. You need a wider impedance matching range on the output side, not the input side.

73s,

Evan

622. Re: E F Johnson 250-20 Low Pass Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 01:13:24 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-8660D4.21132525072003@news.verizon.net>
Source record: 33939

In article <vi2u1e7rnuaibf@corp.supernews.com>,
dplatt@radagast.org (Dave Platt) wrote:

> dplatt@radagast.org

OK, It's yours. I'll send you e-mail.

Al

--
There's never enough time to do it right the first time.....

623. Re: NEED HELP! Frequency Synthesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 03:48:49 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <BSmUa.73461$0v4.4881354@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33940

That would be the POS-50.

Pete

Leon Heller <leon_heller@hotmail.com> wrote in message
news:bfs2m2$fn9$1@hercules.btinternet.com...
>
> "Mehrdad Ghassempoory" <ghassempoory@ntlworld.com> wrote in message
> news:1p8Ua.67$by5.45@newsfep3-gui.server.ntli.net...
> > I am planning to build a 50MHz synthesized VFO. I want to use ICs as
> > much as possible. I have been looking for VCO chips, the ones I found
> > were made for 400MHz+ frequencies. Does anybody make synthesizer
> > components - including VCOs - for below 50Mhz?
> >
> > Any other help and advice is most welcome!
>
> MCL might make a VCO that include 50 MHz.
>
> Leon
> --
> Leon Heller, G1HSM
> leon_heller@hotmail.com
> http://www.geocities.com/leon_heller
>
>

624. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 08:31:43 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0307260031.5d6327e2@posting.google.com>
Source record: 33941

I got a FM broadcast band radio from the dollar store. In it it has a
16 pin SMD IC of unknown brand. Although I plan using these for my
10Ghz gunnplexers. There is one coil and a varactor diode. They use
push button up tuning and another to reset to the low end of the band.
I don't find any parts for an IF so it must be a TRF style receiver.
It has a stereo headphone jack but it's not stereo, and the headphone
cable is used for the antenna, And it runs off of 3 VDC. I'd like to
know what this chip is so I can take it down to 30Mhz.

Later,
Ray KC8OJU

pbreed@NoSpam.com wrote in message news:<ljrahvo3j8nc2hsasv0i9j66unqnkda0qb@4ax.com>...
> Can anyone reccomend a good small surface mount FM receiver chip that is currently
availible?
>
>
> Is it possible to do FM reception with a Direct conversion RX and some simple DSP?
>
>
> Paul (Kl7JG)

625. ST SM RF LDFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 13:17:19 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f227f77$0$23613$5a62ac22@freenews.iinet.net.au>
Source record: 33942

I am looking for a source for the 12V SM FETs PD55003 and PD55008 for a QRP HF SSB amp to about 10W out
These devices from ST would seem to fit the bill quite well, but I am not sure if I can get them in retail quantities.
Anyone got any ideas re such an amp and where I can get these devices?

Thanks
Richard

626. Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 15:06:35 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <5u55ivsetqf79rf36bvo0rjk26jb3d50fo@4ax.com>
Source record: 33943
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hi chaps,

I've decided to bite the bullet and try to build an RF filter for
40Mhz. This filter will ideally have a very, very sharp characteristic
at one single spot frequency +-20Khz and attenuate the crap out of
anything either side of this. It'll need to be tunable over a range of
say 200Khz. Can anyone give me a steer on what type of arrangement
would be best suited to fit this purpose?
Thanks,

p.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

627. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 16:35:11 UTC
From: Joseph Legris <jalegris@xympatico.ca>
Message-ID: <3F22ADBF.4020608@xympatico.ca>
Source record: 33944
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> Hi chaps,
>
> I've decided to bite the bullet and try to build an RF filter for
> 40Mhz. This filter will ideally have a very, very sharp characteristic
> at one single spot frequency +-20Khz and attenuate the crap out of
> anything either side of this. It'll need to be tunable over a range of
> say 200Khz. Can anyone give me a steer on what type of arrangement
> would be best suited to fit this purpose?
> Thanks,
>

What is the intended application?

--
Joe Legris

628. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 16:42:19 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ajb5iv8rm9b3o17ntco9bkglmpmtk8v04u@4ax.com>
Source record: 33946
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 26 Jul 2003 12:35:11 -0400, Joseph Legris
<jalegris@xympatico.ca> wrote:

>What is the intended application?

I want to increase the sensitivity of a radio control rx. To this end,
I'm going to build an RF pre-amp, which needs to be highly selective
to avoid the probablility of increased ajacent channel interference.
Hence the need for a sharp filter in conjunction with the pre-amp.

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

629. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 17:33:13 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.198b81a2268fcab989688@news-central.giganews.com>
Source record: 33945

In article <bfrq7cml1@freenet9.carleton.ca>, et472@FreeNet.Carleton.CA
says...

> > Here is an updated version of the W7ZOI spectrum analyzer on the same site:
> >
> > http://www.qsl.net/n9zia/spec/index.html
>

Mmm. Postscript documents. Real useful. NOT... :(

Sounds like an interesting variation on the project, but without
documentation in a standard, open format, his audience is going to be
limited.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

630. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 17:50:45 UTC
From: Don Pearce <donaldnospam@pearce.uk.com>
Message-ID: <rjf5iv4tdbi0njqvjtba7ssnee1sh0t1e7@4ax.com>
Source record: 33847
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 26 Jul 2003 17:42:19 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Sat, 26 Jul 2003 12:35:11 -0400, Joseph Legris
><jalegris@xympatico.ca> wrote:
>
>
>>What is the intended application?
>
>I want to increase the sensitivity of a radio control rx. To this end,
>I'm going to build an RF pre-amp, which needs to be highly selective
>to avoid the probablility of increased ajacent channel interference.
>Hence the need for a sharp filter in conjunction with the pre-amp.

This is a strange way of achieving your aim. You should be going for
adjacent channel selectivity in the IF, not the front end. That way
you can use a fixed frequency filter, and it can be as lossy as you
like - and it will be lossy to achieve these kinds of selectivity with
achievable unloaded Q.

If you put this filter at the RF stage where it will help with
adjacent channel selectivity,m it must be before the first amplifier,
and that will have killed your hoped-for sensitivity increase. If you
put it after that amplifier, then you may as well leave it where it
belongs - in the IF.

Radio design is always a compromise between sensitivity, selectivity
and large-signal performance. The standard topologies haven't emerged
by accident, I'm afraid.

d

----

http://www.pearce.uk.com

631. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 18:02:22 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bfufnekmk1@freenet9.carleton.ca>
Source record: 33849

ray (ray_psi@yahoo.com) writes:
> I got a FM broadcast band radio from the dollar store. In it it has a
> 16 pin SMD IC of unknown brand. Although I plan using these for my
> 10Ghz gunnplexers. There is one coil and a varactor diode. They use
> push button up tuning and another to reset to the low end of the band.
> I don't find any parts for an IF so it must be a TRF style receiver.
> It has a stereo headphone jack but it's not stereo, and the headphone
> cable is used for the antenna, And it runs off of 3 VDC. I'd like to
> know what this chip is so I can take it down to 30Mhz.
>
> Later,
> Ray KC8OJU
>
>
I bought one of those two button radios, and below is a post I
wrote in response to a similar question shortly after I opened
the thing up back in March.

Michael VE2BVW

Gary Tait (taitg@hurontel.on.ca) writes:
> I am looking for the datasheet for the chip in one of those two button
radios
(you know,
> scan, reset).
>
> It says on it:
> HWCAT 1036AH (datecode?)
> CSC1033M
>
> Ir is in a 16 pin SM DIP package.

I bought one of those recently, when they were on sale for $1.99 at
Pharmaprix (which is Shopper's Drug Mart in the rest of Canada).
I was simply curious about what was inside, and the price became
low enough that I didn't mind spending the money.

I had problems reading the IC at first. So I started out tracing
the circuit. At first, I thought/hoped it was the TDA7000, but
the pin count was wrong. I looked up that IC at the Phillips'
site (it was easier than trying to find where I'd stashed the
paper datasheet), and they made mention of similar ICs, including
two that had that tuning scheme. I went through them, and
the match was the TDA7088. Looking more carefully at the IC,

the "7088" was now visible, though it looked like it was a knockoff
or a cheap second source, rather than an IC that came from Phillips.

I'd say this is the same IC, since your "1033" could be a misread
of "7088".
Check the datasheet at
http://www.semiconductors.philips.com/pip/TDA7088.html

Likely by comparing the pinout from it with the actual circuit, you
will find a match.

I was going to post something about my findings, because they are a curiosity.
But I'm not sure where my notes are, or even where I put the circuit board.

The IC uses the same scheme as the TDA7000, ie a conversion to an IF
of about 70KHz, where an active filter can be used for selectivity.
And one of those Frequency Lock Loops which reduces the apparent deviation.
Then they throw in the circuitry for the tuning scheme.

Having once seen someone suggest using the TDA7000 as a direct conversion
receiver (when they were readily available at Radio Shack), they claimed
the mixer was double balanced, I couldn't help but think maybe these
radios would be a cheap local source for a mixer. Leave the IC on
the board, and just strip the unneeded parts of, wiring to the board
rather than wiring to that smd IC. I assume the big problem would
be that since the 7088 can't handle more than about 3V on the supply
line, it will be even worse for signal handling than the NE602 is said
to be. (And I am simply assuming it's a double balanced mixer.) But
for a couple of dollars, there are times when someone might need
a mixer that these radios can supply cheap and locally.

Michael

632. Looking for variable capacitor...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 18:10:11 UTC
From: Rightrik <arararara@inwind.it>
Message-ID: <bfug62$ht0um$1@ID-164697.news.uni-berlin.de>
Source record: 33848

Hello, i'd like to build a loop antenna , so i need a variable capacitor (butterfly, split-stator or vacuum) with a resulting capacity of 500 pF and about 5 Kv insulation...
The values are not critical, and i'll have to motorize this capacitor...

Anyone have something not too much expensive to sell?

Thanks,
Riccardo IK5WQO

http://www.qsl.net/ik5wqo

633. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 18:14:23 UTC
From: ben_nospam_bradley@mindspring.com
Message-ID: <3f22c082.8002464@newsgroups.bellsouth.net>
Source record: 33850
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In sci.electronics.design, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>Hi chaps,
>
>I've decided to bite the bullet and try to build an RF filter for
>40Mhz. This filter will ideally have a very, very sharp characteristic
>at one single spot frequency +-20Khz and attenuate the crap out of
>anything either side of this. It'll need to be tunable over a range of
>say 200Khz. Can anyone give me a steer on what type of arrangement
>would be best suited to fit this purpose?

I've got that deja-google feeling all over again:

http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&oe=UTF-8&threadm=8hl66v4l5vh8rjnp29dstmnl9neccu90is%404ax.com&rnum=6&prev=/groups%3Fq%3Dtunable%2Bfilter%2Bgroup:sci.electronics.design%26hl%3Den%26lr%3D%26ie%3DUTF-8%26oe%3DUTF-8%26scoring%3Dd%26selm%3D8hl66v4l5vh8rjnp29dstmnl9neccu90is%25404ax.com%26rnum%3D6

I like the idea of downconverting to an IF, filtering using
standard IF technology, and (if you want the output to be the same
frequency band as the input) upconverting using the same local
oscillator as the downconverter. Just change the LO frequency (maybe
use a frequency synthesizer for stability) to do tuning.

>Thanks,
>
>p.
>--
>
>"I believe history will be kind to me, since I intend
>to write it." - Winston Churchill

634. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 20:48:38 UTC
From: Vladimir Vassilevsky <vlv@abvolt.com>
Message-ID: <3F22E926.1B3DCE4D@abvolt.com>
Source record: 33851
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Take a look at lowband filters and duplexers from CellWave, Telewave,
etc.
Your filter is going to be a coaxial cavity about 2mx20cm with piston
for tuning.
I am sure there are some better approaches to your task :)

Vladimir Vassilevsky, Ph.D.

DSP and Mixed Signal Design Consultant

http://www.abvolt.com

Paul Burridge wrote:
>
> Hi chaps,
>
> I've decided to bite the bullet and try to build an RF filter for
> 40Mhz. This filter will ideally have a very, very sharp characteristic
> at one single spot frequency +-20Khz and attenuate the crap out of
> anything either side of this. It'll need to be tunable over a range of
> say 200Khz. Can anyone give me a steer on what type of arrangement
> would be best suited to fit this purpose?
> Thanks,
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

635. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 20:55:40 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <psp5ivkr2flckttqkn3dl3m84c79o26d0t@4ax.com>
Source record: 33852
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 26 Jul 2003 18:50:45 +0100, Don Pearce
<donaldnospam@pearce.uk.com> wrote:

>This is a strange way of achieving your aim. You should be going for
>adjacent channel selectivity in the IF, not the front end. That way
>you can use a fixed frequency filter, and it can be as lossy as you
>like - and it will be lossy to achieve these kinds of selectivity with
>achievable unloaded Q.
>
>If you put this filter at the RF stage where it will help with
>adjacent channel selectivity,m it must be before the first amplifier,
>and that will have killed your hoped-for sensitivity increase. If you
>put it after that amplifier, then you may as well leave it where it
>belongs - in the IF.

Thanks, Don. I'm aware this is a daft way of doing it, but I don't
have much choice. The IF stages of this rx are not accessable and no
schematic is available, either. The makers have declined to make them
available and threatened any service personel who do so with
termination of their contracts. Faced with these obstacles, I don't
see any other option, apart from boosting the tx power instead; a
solution which just brings a different load of problems.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

636. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 23:19:47 UTC
From: Bob Headrick <bobh@proaxis.com>
Message-ID: <vi634r28u14195@corp.supernews.com>
Source record: 33853

"John Miles" <jmiles@pop.removethistomailme.net> wrote in message
news:MPG.198b81a2268fcab989688@news-central.giganews.com...
> In article <bfrq7cml1@freenet9.carleton.ca>, et472@FreeNet.Carleton.CA
> says...
>
> > > Here is an updated version of the W7ZOI spectrum analyzer on the same
site:
> > >
> > > http://www.qsl.net/n9zia/spec/index.html
> >
>
> Mmm. Postscript documents. Real useful. NOT... :(
>
> Sounds like an interesting variation on the project, but without
> documentation in a standard, open format, his audience is going to be
> limited.

Postscript is about as open and standard a format as you will find.
http://www.cs.wisc.edu/~ghost/ has free ghostscript viewers for most popular
platforms (windows, Linux, Mac, OS/2, VMS, etc).

- 73 Bob W7OV

637. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 23:40:31 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F23116F.7030100@hotmail.com>
Source record: 33855

What brand is the radio? I'd like to find one to tinker with.

Alex
VE3LEG

Michael Black wrote:
> ray (ray_psi@yahoo.com) writes:
>
>>I got a FM broadcast band radio from the dollar store. In it it has a
>>16 pin SMD IC of unknown brand. Although I plan using these for my
>>10Ghz gunnplexers. There is one coil and a varactor diode. They use
>>push button up tuning and another to reset to the low end of the band.
>>I don't find any parts for an IF so it must be a TRF style receiver.
>>It has a stereo headphone jack but it's not stereo, and the headphone
>>cable is used for the antenna, And it runs off of 3 VDC. I'd like to
>>know what this chip is so I can take it down to 30Mhz.
>>
>>Later,
>>Ray KC8OJU
>>
>>
>
> I bought one of those two button radios, and below is a post I
> wrote in response to a similar question shortly after I opened
> the thing up back in March.
>
> Michael VE2BVW
> --
>
> Gary Tait (taitg@hurontel.on.ca) writes:
>
>>I am looking for the datasheet for the chip in one of those two button
>
> radios
> (you know,
>
>>scan, reset).
>>
>>It says on it:
>>HWCAT 1036AH (datecode?)
>>CSC1033M
>>
>>Ir is in a 16 pin SM DIP package.
>
>

> I bought one of those recently, when they were on sale for $1.99 at
> Pharmaprix (which is Shopper's Drug Mart in the rest of Canada).
> I was simply curious about what was inside, and the price became
> low enough that I didn't mind spending the money.
>
> I had problems reading the IC at first. So I started out tracing
> the circuit. At first, I thought/hoped it was the TDA7000, but
> the pin count was wrong. I looked up that IC at the Phillips'
> site (it was easier than trying to find where I'd stashed the
> paper datasheet), and they made mention of similar ICs, including
> two that had that tuning scheme. I went through them, and
> the match was the TDA7088. Looking more carefully at the IC,
> the "7088" was now visible, though it looked like it was a knockoff
> or a cheap second source, rather than an IC that came from Phillips.
>
> I'd say this is the same IC, since your "1033" could be a misread
> of "7088".
> Check the datasheet at
> http://www.semiconductors.philips.com/pip/TDA7088.html
>
> Likely by comparing the pinout from it with the actual circuit, you
> will find a match.
>
> I was going to post something about my findings, because they are a curiosity.
> But I'm not sure where my notes are, or even where I put the circuit board.
>
> The IC uses the same scheme as the TDA7000, ie a conversion to an IF
> of about 70KHz, where an active filter can be used for selectivity.
> And one of those Frequency Lock Loops which reduces the apparent deviation.
> Then they throw in the circuitry for the tuning scheme.
>
> Having once seen someone suggest using the TDA7000 as a direct conversion
> receiver (when they were readily available at Radio Shack), they claimed
> the mixer was double balanced, I couldn't help but think maybe these
> radios would be a cheap local source for a mixer. Leave the IC on
> the board, and just strip the unneeded parts of, wiring to the board
> rather than wiring to that smd IC. I assume the big problem would
> be that since the 7088 can't handle more than about 3V on the supply
> line, it will be even worse for signal handling than the NE602 is said
> to be. (And I am simply assuming it's a double balanced mixer.) But
> for a couple of dollars, there are times when someone might need
> a mixer that these radios can supply cheap and locally.
>
> Michael
>

638. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-26 23:54:13 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0307261554.45c9eaf3@posting.google.com>
Source record: 33854
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<5u55ivsetqf79rf36bvo0rjk26jb3d50fo@4ax.com>...
> I've decided to bite the bullet and try to build an RF filter for
> 40Mhz. This filter will ideally have a very, very sharp characteristic
> at one single spot frequency +-20Khz and attenuate the crap out of
> anything either side of this. It'll need to be tunable over a range of
> say 200Khz. Can anyone give me a steer on what type of arrangement
> would be best suited to fit this purpose?

It'll need to be a crystal filter, and your requirement that it must
be tunable means that you will convert down/up to an IF frequency and back
up/down again. (Well, you may not have to convert back up again but you
don't tell us your application).

Problem with the IF and conversion is the production of images. Images
won't be a killer problem because your tuning range is really quite narrow.

If you wanted to really cheapskate out some ceramic IF filters also seem
to meet your stated needs.

Tim.

639. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 00:53:16 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F23227C.2070406@bellsouth.net>
Source record: 33856

Richard Hosking wrote:
> I have asked for samples and I would be keen to do just this. However it
> seems I am not an important enough customer :)
> No doubt they will be coming out sometime soon
>
> Richard
>
> scharkalvin <wa2mze@bellsouth.net> wrote in message
> news:3F2082C3.2070003@bellsouth.net...
>
>>John Miles wrote:
>>
>>>In article <bfoo15$10r$1@news.net.uni-c.dk>, frank@phys.au.dk says...
>>>
>>>
>>>>Hej
>>>>has anybody used the AD9954 DDS ? i have some design quistions:
>>>>Where can i by a 400MHz precion clock source.
>>>>
>>>
>>>
>>>I imagine the AD9954 has an internal clock multiplier like its
>>>predecessors in the AD985x family. Doesn't it?
>>>
>>>-- jm
>>>
>>>--
>>>http://www.qsl.net/ke5fx
>>>Note: My E-mail address has been altered to avoid spam
>>>--
>>
>>The AD9954 has a clock multiplier, and only needs a 20mhz clock
>>to drive it.
>>
>>If anybody tries using one of these and makes up some circuit boards
>>let me know (before I try and wire mine dead bug style!)
>>
>>
>
>
>

Analog Devices will send out samples to just about anybody.
Go to their website and sign up for their monthly mailings, each

month they will send you a bingo card good for samples on up to 6 devices.
You can also request a sample of almost any part on the web site.
You might have to make up a 'bogus' company name at your home
QTH, but they don't really care. I requested a sample of the 9954 DDS,
it was mailed to me at my employers QTH. They ask you about
how many devices your company might purchase, but I just filled out
that it was for a 'future project' and 'no plans at this time'. They
didn't care and I got the sample in a week after faxing the bingo card.

AD is a VERY friendly company to get samples from.

640. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 01:25:11 UTC
From: john_c@tpg.com.au
Message-ID: <3f23232b.1880565@News.CIS.DFN.DE>
Source record: 33857
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 26 Jul 2003 21:55:40 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Sat, 26 Jul 2003 18:50:45 +0100, Don Pearce
><donaldnospam@pearce.uk.com> wrote:
>
>>This is a strange way of achieving your aim. You should be going for
>>adjacent channel selectivity in the IF, not the front end. That way
>>you can use a fixed frequency filter, and it can be as lossy as you
>>like - and it will be lossy to achieve these kinds of selectivity with
>>achievable unloaded Q.
>>
>>If you put this filter at the RF stage where it will help with
>>adjacent channel selectivity,m it must be before the first amplifier,
>>and that will have killed your hoped-for sensitivity increase. If you
>>put it after that amplifier, then you may as well leave it where it
>>belongs - in the IF.
>
>Thanks, Don. I'm aware this is a daft way of doing it, but I don't
>have much choice. The IF stages of this rx are not accessable and no
>schematic is available, either. The makers have declined to make them
>available and threatened any service personel who do so with
>termination of their contracts. Faced with these obstacles, I don't
>see any other option, apart from boosting the tx power instead; a
>solution which just brings a different load of problems.
>--
>
>"I believe history will be kind to me, since I intend
>to write it." - Winston Churchill

Hello Paul,
it is time to dump that receiver and start again. It is too
small and tiddly and I know you do not like surface
mount size components. I would imagine that you
have plenty of room inside that robot of yours to
take a fairly large die cast box. My suggestion is
find a radio control receiver that you can get
circuit diagrams for or build one from scratch
on large pieces of printed circuit board using
"ugly construction" or "dead bug construction".
Google those terms and you will see what I am
talking about.

You can then build the various stages of the
receiver on separate boards and try all the
different things you have been wishing to do
but couldn't due to miniature parts, lack of access
and lack of information.
After you have a prototype ugly construction
receiver working, you can miniaturize if you
wish on the the next unit. You will need spares
anyway. Heh heh heh......it is fighting machine.

Have a look at National semiconductor application
notes for radio control receiver, they might even give
you half a dozen chips as free samples.

Google search for radio control receiver schematics.

"Buy" is a dirty word for me, but you might be able
to buy a receiver in kit form with all the information on
construction and alignment as well as a "how it works"
description.

Have Fun,
John Crighton
Sydney

641. Re: more old transformer catalogs online

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 02:10:58 UTC
From: opcom <unsolisitedmail_eccm@swbell.net>
Message-ID: <3F234E42.CA241051@swbell.net>
Source record: 33858
Cross-posted to:
rec.radio.amateur.boatanchors,rec.audio.tubes,alt.ham.radio.mods,rec.antiques.radio+phono,rec.radio.amateur.homebrew

When the DSL gets saturated... it happens when too many people try to visit at once. It happens to me alot here at the server end of things. A T-1 line, which I am too cheap to pay for, would not really alleviate things under
such conditions. A T-3 would, though.

The VMS+Apache server keeps running, but your HTTP request is extremely delayed until your browser times out.

It's like trying to get 15 people into a telephone booth. you reach a point where no more can squeeze their way in, and the remining ones wait or begin to walk away.

Probably some leeches are sucking down the entire set of documents. It is usual in such cases and they are welcome to them. Looks quiet now.

Just try again later, it is always running. It's OpenVMS after all!

I did by the way, change the 'large' file sizes to slightly smaller size of 1500 wide, and eliminated the hard to read 'web size' files. I hope this is a good compromise. The 300DPI were just too large, (data-wise). I resampled
the original 300DPI files and resized from about 2500 wide to 1500 wide. I also re-sampled the 'thumbnail' images to a larger size to make it easier to tell what is on the page. It's not perfect but nothing is.

I have equivalent numbers of stancor, triad, chicago, and thordarson catalogs waiting. It took 3 weeks to do the UTC catalogs. I'll post notice when I get more up.

Thanks for looking!

Opcom

Claudia & Reed Park wrote:
>
> Rats, unable to connect from here.
>
> Regards
> Reed - VE1NU
>
> opcom wrote:
>
> > just put up.
> >
> > unless you want to download huge files, choose the "WEB SIZE" links to view the catalog pages
> >
> > main page http://208.190.133.201/

> >
> > see "Vintage Transformer Catalogs and Information" to get to the catalogs.
> >
> > regards,
> > OPCOM

642. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 02:20:05 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bfvcsl$s08$1@freenet9.carleton.ca>
Source record: 33859

Alex (ve3leg@hotmail.com) writes:
> What brand is the radio? I'd like to find one to tinker with.
>
>
> Alex
> VE3LEG
>
I'm pretty sure the one I bought is being sold under the "Chateau" name. It almost seems to be a Pharmaprix house brand here for electronic stuff and accessories, and maybe they use a different name in the rest of the country where the chain is Shopper's Drug Mart.

I've noticed the same radios in the other chain drugstores, but I don't think they carry the same brand name on the package. They were selling for $2.99, but I keep seeing them on sale for $1.99.

I suspect in this sort of thing they are all using the same IC, no matter what the brand. Maybe there are other ICs intended for "two button FM" radios, but it obviously would be cheapest to stick with one common IC. I notice Radio Shack sells similar radios, but for about ten dollars and I'm not willing to pay the money just to see if the IC is the same.

Michael VE2BVW

643. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 04:20:18 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.198cf2e1bdbeb9cc989b1f@news.inreach.net>
Source record: 33860
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <3F22E926.1B3DCE4D@abvolt.com>, vlv@abvolt.com mentioned...
>
> Take a look at lowband filters and duplexers from CellWave, Telewave,
> etc.
> Your filter is going to be a coaxial cavity about 2mx20cm with piston
> for tuning.
> I am sure there are some better approaches to your task :)

How about a helical resonator. They're smaller than a cavity, maybe
not as high Q, but still higher than lumped constant tuned circuit.
They're tunable, but I'm not sure how much.

> Vladimir Vassilevsky, Ph.D.

> Paul Burridge wrote:
> >
> > Hi chaps,
> >
> > I've decided to bite the bullet and try to build an RF filter for
> > 40Mhz. This filter will ideally have a very, very sharp characteristic
> > at one single spot frequency +-20Khz and attenuate the crap out of
> > anything either side of this. It'll need to be tunable over a range of
> > say 200Khz. Can anyone give me a steer on what type of arrangement
> > would be best suited to fit this purpose?
> > Thanks,
> >
> > p.
> > --

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

644. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 04:53:23 UTC
From: kb9olm@yahoo.com
Message-ID: <cba55a41.0307262053.666cfa36@posting.google.com>
Source record: 33861
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<5u55ivsetqf79rf36bvo0rjk26jb3d50fo@4ax.com>...
> Hi chaps,
>
> I've decided to bite the bullet and try to build an RF filter for
> 40Mhz. This filter will ideally have a very, very sharp characteristic
> at one single spot frequency +-20Khz and attenuate the crap out of
> anything either side of this. It'll need to be tunable over a range of
> say 200Khz. Can anyone give me a steer on what type of arrangement
> would be best suited to fit this purpose?
> Thanks,
>
> p.

Filter at 40 MHz with 40 KHz BW means a very high Q, up to 1000.
Cavity filter at 40 MHz is big! You can try active RF tuned stage (at
40 MHz) with a positive feedback, also known as Q-multiplier. In
addition to high selectivity this will also result in a high gain,
which may overload your actual receiver. In this case you can
attenuate the signal at the output of the RF stage. You have to make
sure Q-multiplier would start to oscillate. It is an issue by itself.
73,
Vlad
kb9olm

645. need circuit of miser's dream

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 08:26:23 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0307270026.47a956a1@posting.google.com>
Source record: 33862

old timers will remember that goodman (w1dx, i think) broke ground
with a receiver using single conversion, high if frequency, full
hang-agc in a simple 5 tube receiver called the miser's dream. i guess
it was published in qst as well as the handbook of 60s.
i am interested in brewing that receiver. if anyone has the circuit, i
will be obliged. u can mail the scanned copy to farhan@hotfoon.com

thanks.
-de farhan (vu2fax)

646. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 12:20:58 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f23c370.5752149@news.cantech.net.au>
Source record: 33863
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 26 Jul 2003 21:20:18 -0700, Watson A.Name - 'Watt Sun'
<alondra101@hotmail.com> wrote:

>In article <3F22E926.1B3DCE4D@abvolt.com>, vlv@abvolt.com mentioned...
>>
>> Take a look at lowband filters and duplexers from CellWave, Telewave,
>> etc.
>> Your filter is going to be a coaxial cavity about 2mx20cm with piston
>> for tuning.
>> I am sure there are some better approaches to your task :)
>
>How about a helical resonator. They're smaller than a cavity, maybe
>not as high Q, but still higher than lumped constant tuned circuit.
>They're tunable, but I'm not sure how much.

I'd like to live long enough to see a helical at 40MHz that can
'attenuate the hell" out of signals outside the Fr+/-20kHz channel.

647. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 12:29:10 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f23c5b3$0$23596$5a62ac22@freenews.iinet.net.au>
Source record: 33864

I have a HP 141 series device which is reasonable from the point of view of strong signal handling.
It is surprisingly easy to produce intermodulation effects at levels lower than you would expect.
A "forest" of signals at -20 dBm will produce IM effects by the additive effect of all their amplitudes.(you could easily get this from a 40M dipole at night for example)
In fact, my friend Rod Green has done an article for QEX on a "figure of merit" device to test receiver strong signal handling which consists of a "comb generator" with harmonics every 20 KHz, and a bandpass filter covering the band of interest - say 7.0 to 7.2 MHz. At a comb level of -20dBm most receivers will be overwhelmed.

Richard

> If I were designing a spectrum analyzer for the electronic instrument
> market, I would shoot for at least meeting Hewlett-Packard Agilent
> or Rhode&Schwarz specifications...R&D budget willing. That's a bit
> steep for the hobbyist area.
>
> >The problem is that real incoming signals and the analyser's spurious
> >responses all look very much the same on the screen. When you can't
> >trust what the analyser says, it becomes very hard to understand what's
> >really going on.
>
> Sigh. A spectrum analyzer, almost ALL of them, is one of the easier
> instruments to characterize from the outside, using other instruments.
> Frequency span, logarithmic linearity, passband of the final IF are all
> relatively easy to determine from the outside.
>
>
> Len Anderson
> retired (from regular hours) electronic engineer person

648. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 12:46:57 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <0hg7ivo8d9bn5rv5e3i2s7vnbs9nh8j5of@4ax.com>
Source record: 33867
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 27 Jul 2003 01:25:11 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>Hello Paul,
>it is time to dump that receiver and start again. It is too
>small and tiddly and I know you do not like surface
>mount size components. I would imagine that you
>have plenty of room inside that robot of yours to
>take a fairly large die cast box. My suggestion is
>find a radio control receiver that you can get
>circuit diagrams for or build one from scratch
>on large pieces of printed circuit board using
>"ugly construction" or "dead bug construction".
>Google those terms and you will see what I am
>talking about.

Thanks for the suggestion, John. It *does* make a lot of sense, I must
admit. Hadn't considered that possibility, to be honest. I've never
been a fan of dead bug construction - there's no satisfaction in
seeing the finished job - so may well have a stab at using regular,
proper-sized discretes along the same lines. And yes, there's no
shortage of space, either. Way to go over the long term, I reckon.
Thanks again.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

649. Control PLL via computer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 13:24:05 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bg0k0q$h2e$1@reader08.wxs.nl>
Source record: 33865

Hello,
I'm building a VHF receiver and I would like to include a PLL circuit to control the VCO. I've never done it before, so I would like to use the LMX2337 because I've a lot of doc about it. I intend to to connect it to my computer, but I don't know to send data to it. Do you know if there are programs to do it ? or could you help me ?

Thanks a lot.

650. Re: Control PLL via computer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 13:27:00 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bg0k69$h60$1@reader08.wxs.nl>
Source record: 33866

If it can helps, there's the datasheet of the LMX2337:
http://www.national.com/ds/LM/LMX2337.pdf

651. Re: Looking for variable capacitor...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 14:15:02 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bg0ms6$d37$1@reader10.wxs.nl>
Source record: 33868

"Rightrik" <arararara@inwind.it> a crit dans le message de news:
bfug62$ht0um$1@ID-164697.news.uni-berlin.de...
> Hello, i'd like to build a loop antenna , so i need a variable capacitor
> (butterfly, split-stator or vacuum) with a resulting capacity of 500 pF
and
> about 5 Kv insulation...
> The values are not critical, and i'll have to motorize this capacitor...
>
> Anyone have something not too much expensive to sell?

Look there: http://www.xs4all.nl/~barendh/Indexeng.htm

652. Fix for Decay of DX-394 MW & LW Gain | Sensitivity

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 16:11:56 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <TISUa.90$Cx4.58934@news20.bellglobal.com>
Source record: 33869
Cross-posted to:
rec.radio.shortwave,alt.radio.scanner,alt.radio.scanner.uk,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

This problem was posted in 1998 to rec.radio.shortwave but no fix was reported. It surfaced again in the RADIOSHACKDX394 Yahoo group, five years later, with a posting from W1WJB and was found to be fairly commonly experienced. A simple fix has been developed and can be found at http://groups.yahoo.com/group/RADIOSHACKDX394/files/Mods/RF/MW%20%26%20LW%20Sensitivity%20Stabiliser/.
You'll need to join the group to access this folder but anyone can read the message archive. It's discussed under the thread "Sensitivity Loss Over Time".

73, Tom

-------Original Posting-------
From: DesertFox <craig.rommel@hamradio.org>
Subject: DX-394 Owners, Please read ->
Date: 1998/07/09

Just was something I couldn't help but notice......

DX-394 Owners, try this:

1) Set to a stronger local AM MW Station with a consistant signal strength, note reading on the LCD strength meter.

2) Either leave radio on or turn off (but leave that station tuned in)

3) In 3-4 hours (or overnight if you wish) if off, turn radio on (without pressing BAND switch) and observe LCD S-Meter.

--*in my test it was lower, from 9 to 1-3.--

4) Cycle BAND Button through SW, LW, and back to MW, and observe S-Meter reading on that same station.

--*in my observation it returned to 9--

I was able to reproduce this condition in 3 different DX-394's, base, "A", and a "B", [snip]

653. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 17:14:59 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F240890.49540B12@clifto.com>
Source record: 33870
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> Thanks, Don. I'm aware this is a daft way of doing it, but I don't
> have much choice. The IF stages of this rx are not accessable and no
> schematic is available, either. The makers have declined to make them
> available and threatened any service personel who do so with
> termination of their contracts.

Please tell us the name of this incredibly awful company so that we may
avoid buying their products.

--
All relevant people are pertinent.
All rude people are impertinent.
Therefore, no rude people are relevant.
-- Solomon W. Golomb

654. Re: Control PLL via computer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 17:20:38 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bg11l6$r8$1@hercules.btinternet.com>
Source record: 33871

"Damien Teney" <damien.teney@sobelairva.net> wrote in message
news:bg0k0q$h2e$1@reader08.wxs.nl...
> Hello,
> I'm building a VHF receiver and I would like to include a PLL circuit to
> control the VCO. I've never done it before, so I would like to use the
> LMX2337 because I've a lot of doc about it. I intend to to connect it to
my
> computer, but I don't know to send data to it. Do you know if there are
> programs to do it ? or could you help me ?

Nat Semi has a program for doing this that you can download, called
Codeloader:

http://www.national.com/appinfo/wireless/files/codeloader2setup.exe

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

655. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 17:37:22 UTC
From: fmmck@aol.com
Message-ID: <20030727133722.14766.00000581@mb-m04.aol.com>
Source record: 33872

<< Full-wave unfiltered rectification, followed by bandpass filter? >>

Clifto-

Doesn't full wave produce a symmetrical waveform that minimizes even harmonics?

73, Fred, K4DII

656. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 18:08:32 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <2v38iv40ugk0qsedsqt9uebfadbppdpkme@4ax.com>
Source record: 33875
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 27 Jul 2003 17:14:59 GMT, "Clifton T. Sharp Jr."
<clifto@clifto.com> wrote:

>Paul Burridge wrote:
>> Thanks, Don. I'm aware this is a daft way of doing it, but I don't
>> have much choice. The IF stages of this rx are not accessable and no
>> schematic is available, either. The makers have declined to make them
>> available and threatened any service personel who do so with
>> termination of their contracts.
>
>Please tell us the name of this incredibly awful company so that we may
>avoid buying their products.

Sanwa. They mostly make radio-control stuff.

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

657. Re: Looking for variable capacitor...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 18:32:53 UTC
From: Rightrik <arararara@inwind.it>
Message-ID: <bg15sm$job3l$1@ID-164697.news.uni-berlin.de>
Source record: 33873

> Look there: http://www.xs4all.nl/~barendh/Indexeng.htm
>

Thank You!!!

73 de Riccardo IK5WQO

658. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 18:42:49 UTC
From: averyfineman@aol.com
Message-ID: <20030727144249.12501.00001198@mb-m04.aol.com>
Source record: 33874

In article <3f23c5b3$0$23596$5a62ac22@freenews.iinet.net.au>, "Richard Hosking" <richardh@iinet.net.au> writes:

>I have a HP 141 series device which is reasonable from the point of view of >strong signal handling.

I'm unfamiliar with a standard that defines "reasonable." The HP-141 is basically a mini-rack with a CRT and its supply...full function is established by the plug-ins to that mini-rack. The H-P (now Agilent) part numberings for the plug-ins are (probably) 5-digit ones (I've only used full instruments arranged for a specific purpose).

I have the old TM on the military-contract purchase of HP-141s. If you need some particular information on it, I will try to help you out. I can't help anyone without knowing what the function-determining plug-ins are or do.

>It is surprisingly easy to produce intermodulation effects at levels lower >than you would expect.

That's a subjective experience statement. I know that IMs can indeed happen at "lower levels" but that cannot be pinned down to an easy or simplistic statement. Based on four decades of being rather intimately involved with receiving systems, I've learned to "expect" everything and anything. :-)

It is quite true that the front end stage of a receiver is the most likely generator of IM distortion effects, but that is definitely NOT the end of possibilities. Follow these lines by way of explanation -

All receivers are selective amplifier-demodulators. The amplifier parts are generally the IM distortion causatives due to non-linearities. If the front-end stage is made to the best possible linear operation, the stages following will experience higher and higher signal levels. At some point in some later amplifier stages, the desired and undesired signals can reach levels in the non-linear portion of those stages' operation. For that reason it is common in RF design to make a "gain budget" chart/diagram (or equivalent) to show the stage input/output levels for each level of antenna (or stimulus input) signal input. This "gain budget" information (colloquial name varies by region) can show likely places of IM distortion possibilities if the linearity of each stage has been pre-established.

The "gain budget" diagram is not rocket science stuff. If you know the gains of each stage, it's an easy task with a little calculator to scribble out stage levels at various antenna input levels. Such is most useful to examine operation with AGC on front-end and other stages. Now

that isn't a "must" in genning up one's own gizmo, but it can be a very
useful thing if you DO get some unexpected distortion of any kind.

>A "forest" of signals at -20 dBm will produce IM effects by the additive
>effect of all their amplitudes.(you could easily get this from a 40M dipole
>at night for example)

Sorry, I disagree with that sentence as written. Without knowledge of
the front-end linearity (through IP3 levels or whatever), it is impossible
to state categorically that one particular level "will produce" IM. Also,
if all those signals are "additive," then that word makes the front-end
definitely NON-linear. Truly linear amplifiers just amplify and do not
cross-modulate adjacent signals...if they did then they would be non-
linear.

I've listened to many HF bands, amateur included, at "busy" times.
The general effect of strong adjacent signals to desired weaker ones
is the familiar "splatter" of adjacent signal levels still being amplified
after being in the skirt attenuation of the final IF filter...those strong
adjacent signals still have a high enough amplitude to mess about with
the detector and demodulation process. That is NOT a true IM
problem but rather one of skirt attenuation in the final IF filter.

>In fact, my friend Rod Green has done an article for QEX on a "figure of
>merit" device to test receiver strong signal handling which consists of a
>"comb generator" with harmonics every 20 KHz, and a bandpass filter covering
>the band of interest - say 7.0 to 7.2 MHz.

Whatever is useful is always welcomed. However, a two-signal, equal-
level IM test signal is still a useful basic test for overall linearity.
While
that is most often done by signal frequencies within the final IF passband,
unequal-level testing at wider separation of frequencies can also show the
"splatter" effect in quantitative terms...i.e., having an undesired signal
in
the skirt selectivity region where attenuation may be high but is not
infinite.

>At a comb level of -20dBm most receivers will be overwhelmed.

They will? I've not been able to test "most receivers." Not even close
to that. I've fully categorized the operation of three HF receivers that
I've owned and know what they can do. Only the ancient National
NC-57 (a tube type) came close to being bothered by a 10 uW RF
input, certainly not "overwhelmed." No doubt other receivers will
vary.

Please let us know the bimonth date of your friend's article appearing
in QEX. That should be interesting.

Len Anderson
retired (from regular hours) electronic engineer person

659. Cleartone CM6000 programming

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 19:23:56 UTC
From: Shane <no@spam.com>
Message-ID: <fFVUa.2126$w4.292986@newsfep2-gui.server.ntli.net>
Source record: 33876

Just wondering if anyone knows how to re-program these radios? I seem to remember it involved shorting a pin to ground then using the front keypad, but any help appreciated

Shane

660. Re: Control PLL via computer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 19:56:14 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bg1as0$65r$1@reader10.wxs.nl>
Source record: 33877

Wow cool ! That's exactly what I need. Thank you for the link ;-)

> Nat Semi has a program for doing this that you can download, called
> Codeloader:
>
> http://www.national.com/appinfo/wireless/files/codeloader2setup.exe
>
> Leon Heller, G1HSM
> leon_heller@hotmail.com
> http://www.geocities.com/leon_heller

661. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 21:21:52 UTC
From: john_c@tpg.com.au
Message-ID: <3f2434da.1016987@News.CIS.DFN.DE>
Source record: 33878
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 27 Jul 2003 13:46:57 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>Thanks for the suggestion, John. It *does* make a lot of sense, I must
>admit. Hadn't considered that possibility, to be honest. I've never
>been a fan of dead bug construction - there's no satisfaction in
>seeing the finished job - so may well have a stab at using regular,
>proper-sized discretes along the same lines. And yes, there's no
>shortage of space, either. Way to go over the long term, I reckon.
>Thanks again.
>--
>
>"I believe history will be kind to me, since I intend
>to write it." - Winston Churchill

Hello Paul,
since you are not keen on dead bug construction here
is a couple of websites that talk about Micron radio
control kits.

http://www.micronradiocontrol.fsnet.co.uk/

http://www.norcim.fsnet.co.uk/

I am sure there are other kits around, maybe someone
else will mention some.

Radio Control Models & Electronics magazine is still
around. Years ago there were lots of construction
projects. I don't know if the magazine still caters for
the do it yourself enthusiast. Decades ago it did.
http://www.hhc.co.uk/pages/show/entry_Level/5/entry_code/HCOHOBMODPUB/single_record_flag/5
9
You could enquire from them about build it
yourself radio 40 MHz radio control systems.

Here is another site with an article on interference and
servo connections and lots of other good stuff. Shows
your airtronics/(sanwa) servo connections.
http://www.uoguelph.ca/~antoon/hobby/hints.htm
No need to change servos with a different receiver.

Back to your interference problem. Is your operating
channel frequency smack in the middle of the 40 Mhz band?
If so, maybe you could try a different set of crystals, so
that you operate as far away from everyone else as

possible. Or simply just borrow a different set of crystals
in case there is a weird mix going on, just to eliminate
that possibility.

How did you go with Win's soft start motor controller?

Regards,
John Crighton
Sydney

662. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-27 21:33:48 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <8vg8ivgik9umtqutat47d3prqn2nospmlu@4ax.com>
Source record: 33879
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 27 Jul 2003 21:21:52 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>Hello Paul,
>since you are not keen on dead bug construction here
>is a couple of websites that talk about Micron radio
>control kits.
>
>http://www.micronradiocontrol.fsnet.co.uk/
>
>http://www.norcim.fsnet.co.uk/
>
>I am sure there are other kits around, maybe someone
>else will mention some.
>
>Radio Control Models & Electronics magazine is still
>around. Years ago there were lots of construction
>projects. I don't know if the magazine still caters for
>the do it yourself enthusiast. Decades ago it did.
>http://www.hhc.co.uk/pages/show/entry_Level/5/entry_code/HCOHOBMODPUB/single_record_flag/
59
>You could enquire from them about build it
>yourself radio 40 MHz radio control systems.
>
>Here is another site with an article on interference and
>servo connections and lots of other good stuff. Shows
>your airtronics/(sanwa) servo connections.
>http://www.uoguelph.ca/~antoon/hobby/hints.htm
>No need to change servos with a different receiver.

Thanks for the pointers, John. They are duly noted!

>Back to your interference problem. Is your operating
>channel frequency smack in the middle of the 40 Mhz band?
>If so, maybe you could try a different set of crystals, so
>that you operate as far away from everyone else as
>possible. Or simply just borrow a different set of crystals
>in case there is a weird mix going on, just to eliminate
>that possibility.

We've recently got wise to that one and I've ordered a pair of xtals
from the *last* channel of the band. That's what we'll be running with
come the last week in August, when we're due up for the next filming.

>How did you go with Win's soft start motor controller?

Currently under construction...
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

663. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 02:22:10 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F248AFF.6E4764FC@ieee.org>
Source record: 33880

Fred McKenzie wrote:

> << Full-wave unfiltered rectification, followed by bandpass filter? >>
>
> Clifto-
>
> Doesn't full wave produce a symmetrical waveform that minimizes even harmonics?
>
> 73, Fred, K4DII

But that symmetrical wave form is at twice the input frequency

Bill K7NOM

664. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 07:02:53 UTC
From: john_c@tpg.com.au
Message-ID: <3f24bfb7.22748488@News.CIS.DFN.DE>
Source record: 33881
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 27 Jul 2003 22:33:48 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>>How did you go with Win's soft start motor controller?
>
>Currently under construction...
>--
>
Hello Paul,
you are dragging the anchor a bit. That was months ago! :-)

Have a look here
http://www.ife.tugraz.at/datashts/nsc/h7912.pdf
Page 9. Application hints, has some good reading
on how to play around with the input transformer.

Is Henry's Radio still around? They used sell
sets of IF coils for hobbyists and experimenters. My
Henry's catalogue is a bit old. A nice Indian gent in
an electronics junk shop in Edgeware Road gave it
to me in 1973. I should come over there and get
a more up to date copy. Are the electronic disposal
shops still there?
Maybe rob some 455 KHz IF coils out of a dud
transistor radio if necessary. Save some dosh.

Get that Dalo etch resist pen out, bottle of ferric chloride
and sharpen your old soldering iron.

You have a good Tek CRO and a Signal Generator.

Do I sound like I am pushing you? Heh heh heh....

Regards,
John Crighton
Sydney

665. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 07:13:56 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bg2ifk$1i2$1@freenet9.carleton.ca>
Source record: 33882
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

John Crighton (john_c@tpg.com.au) writes:
> Maybe rob some 455 KHz IF coils out of a dud
> transistor radio if necessary. Save some dosh.
>
It would be interesting to have some tests done on the original
receiver. If I remember the start of the thread, the receiver
is not sensitive enough. I can't help but wonder if it's insensitive
or it's too sensitive, leading to overload in the front end.
That would be just as bad (in terms of operational range) as an insensitive
receiver.

Likewise, if one had an idea of the IF bandwidth, it would be easier
to know if the problem really needs fixing, or there is some other
issue. If the thing is using some sort of ceramic filter, looking
at the board would hopefully say what type (unless the markings have
been sanded off), and then the specs could be found. Assuming it's
a standard IF frequency, maybe one could find a narrower filter
that would drop right in. For all we know, it may have too wide
an IF, and that's causing the initial problem.

Knowing the bandwidth of the existing filter would also make it
easier to figure out a complete replacement for the receiver.
In this day and age, ceramic or crystal filters are the way to go,
not a bunch of IF transformers. Pull parts out of a cordless phone,
at least the 49MHz type, and you'll get a filter suitable for
narrow deviation FM and a crystal for converting from 10.7MHz
to 455KHz. If FM happens to be the operating mode, then pull
out the whole IF strip. If that filter is too wide, pull the
455KHz ceramic filter out of a am BCB radio, or for something
narrower, a CB set. The possibilities are endless.

Michael VE2BVW

666. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 07:32:02 UTC
From: samsvl@nlr.nl
Message-ID: <Xns93C660FDBB79samsvlnlrnl@137.17.128.14>
Source record: 33883

scharkalvin <wa2mze@bellsouth.net> wrote in
> Analog Devices will send out samples to just about anybody.
> Go to their website and sign up for their monthly mailings, each
> month they will send you a bingo card good for samples on up to 6
> devices. You can also request a sample of almost any part on the web
> site. You might have to make up a 'bogus' company name at your home
> QTH, but they don't really care. I requested a sample of the 9954 DDS,
> it was mailed to me at my employers QTH. They ask you about
> how many devices your company might purchase, but I just filled out
> that it was for a 'future project' and 'no plans at this time'. They
> didn't care and I got the sample in a week after faxing the bingo card.
>
> AD is a VERY friendly company to get samples from.
>
I fully agree !!

Sam

667. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 09:19:13 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bg2pr1$k94o6$1@ID-61331.news.uni-berlin.de>
Source record: 33884
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

>
> >Back to your interference problem. Is your operating
> >channel frequency smack in the middle of the 40 Mhz band?
> >If so, maybe you could try a different set of crystals, so
> >that you operate as far away from everyone else as
> >possible. Or simply just borrow a different set of crystals
> >in case there is a weird mix going on, just to eliminate
> >that possibility.
>
> We've recently got wise to that one and I've ordered a pair of xtals
> from the *last* channel of the band. That's what we'll be running with
> come the last week in August, when we're due up for the next filming.
>

Not necessarily the solution, I got bitten by that one once some 9 or 10 years ago when I used to fly radio controlled aircraft (in the UK on 35MHz). It bothered me when someone else at the flying field had the same crystal as I did and I had to wait for them to finish flying before I could fly. So bought another pair of crystals, the highest I could find, if I recall that was channel 83 (35.230MHz). Everything was fine for a while but a few weeks later I crashed after losing radio contact with my plane.

A little investigation (in between gluing the aircraft bits back together) found the cause. A channel vs frequency listing, compared with the MHz printed on the crystal case revealed that the receivers were single conversion superhets with 110KHz IF. Channel separation was 10KHz. Clearly with that setup, image rejection is practically negligible. So someone transmitting on channel 61, 220KHz away, interferes with channel 83. After that I went back to my crystals on 76 smack in the middle of everyone elses, learnt to be patient if someone was already using the channel, and had no more problems ;-)

Hans G0UPL
http://www.HansSummers.com

668. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 11:09:24 UTC
From: john_c@tpg.com.au
Message-ID: <3f24fc0c.1710281@News.CIS.DFN.DE>
Source record: 33885
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On 28 Jul 2003 07:13:56 GMT, et472@FreeNet.Carleton.CA (Michael Black)
wrote:

>John Crighton (john_c@tpg.com.au) writes:
>> Maybe rob some 455 KHz IF coils out of a dud
>> transistor radio if necessary. Save some dosh.
>>
>It would be interesting to have some tests done on the original
>receiver. If I remember the start of the thread, the receiver
>is not sensitive enough. I can't help but wonder if it's insensitive
>or it's too sensitive, leading to overload in the front end.
>That would be just as bad (in terms of operational range) as an insensitive
>receiver.
>
>Likewise, if one had an idea of the IF bandwidth, it would be easier
>to know if the problem really needs fixing, or there is some other
>issue. If the thing is using some sort of ceramic filter, looking
>at the board would hopefully say what type (unless the markings have
>been sanded off), and then the specs could be found. Assuming it's
>a standard IF frequency, maybe one could find a narrower filter
>that would drop right in. For all we know, it may have too wide
>an IF, and that's causing the initial problem.
>
>Knowing the bandwidth of the existing filter would also make it
>easier to figure out a complete replacement for the receiver.
>In this day and age, ceramic or crystal filters are the way to go,
>not a bunch of IF transformers. Pull parts out of a cordless phone,
>at least the 49MHz type, and you'll get a filter suitable for
>narrow deviation FM and a crystal for converting from 10.7MHz
>to 455KHz. If FM happens to be the operating mode, then pull
>out the whole IF strip. If that filter is too wide, pull the
>455KHz ceramic filter out of a am BCB radio, or for something
>narrower, a CB set. The possibilities are endless.
>
> Michael VE2BVW
>

Hello Michael,
you are correct, there are many possibilities. I would
like him to do some tests also.

The main stumbling block for Paul is no information
on the present Sanwa receiver and an understandable
reluctance to poke around and then kill it

accidentally, especially if it is borrowed or belongs
to a mate.

I suggested building a new Rx that is physically big
so that experiments and mods are easily done by
Paul. If the CRO probe slips.....no big deal. :-)

We know of this LM1872
http://www.ife.tugraz.at/datashts/nsc/h7912.pdf
that we can all look at and help out with suggestions.
Do you know of anything else we can all see on a
website?

Regards,
John Crighton
Sydney

669. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 13:20:27 UTC
From: john_c@tpg.com.au
Message-ID: <3f25170b.8622081@News.CIS.DFN.DE>
Source record: 33886
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 10:19:13 +0100, "Hans Summers"
<Hans.Summers@Tudor.Com> wrote:

>>
>> >Back to your interference problem. Is your operating
>> >channel frequency smack in the middle of the 40 Mhz band?
>> >If so, maybe you could try a different set of crystals, so
>> >that you operate as far away from everyone else as
>> >possible. Or simply just borrow a different set of crystals
>> >in case there is a weird mix going on, just to eliminate
>> >that possibility.
>>
>> We've recently got wise to that one and I've ordered a pair of xtals
>> from the *last* channel of the band. That's what we'll be running with
>> come the last week in August, when we're due up for the next filming.
>>
>
>Not necessarily the solution, I got bitten by that one once some 9 or 10
>years ago when I used to fly radio controlled aircraft (in the UK on 35MHz).
>It bothered me when someone else at the flying field had the same crystal as
>I did and I had to wait for them to finish flying before I could fly. So
>bought another pair of crystals, the highest I could find, if I recall that
>was channel 83 (35.230MHz). Everything was fine for a while but a few weeks
>later I crashed after losing radio contact with my plane.
>
>A little investigation (in between gluing the aircraft bits back together)
>found the cause. A channel vs frequency listing, compared with the MHz
>printed on the crystal case revealed that the receivers were single
>conversion superhets with 110KHz IF. Channel separation was 10KHz. Clearly
>with that setup, image rejection is practically negligible. So someone
>transmitting on channel 61, 220KHz away, interferes with channel 83. After
>that I went back to my crystals on 76 smack in the middle of everyone elses,
>learnt to be patient if someone was already using the channel, and had no
>more problems ;-)
>
>Hans G0UPL
>http://www.HansSummers.com
>
>
Hello Hans,
what brand/make was that R/C set that you had?

You have reminded me of a silly incident at my model
flying club decades ago. One of the wealthier club

members was having all sorts of trouble with his model, engine and radio gear so he flung heaps of money at a ready made, ready to fly model with an expensive four stroke engine, and a new expensive all singing and dancing radio control set. First day out with the new model and everything is going well for him, he was doing stunts all over the sky.

My models were el cheapo sticks and tissue construction, I couldn't afford nice covering film/material. I was more interested in home built radio control gear. Radio assisted free flight was more my style.
When the fuel ran out in my models I didn't mind walking a few hundred yards if necessary to retrieve my model. So I am off for a long walk with my transmitter still switched on as one would. (The receiver gets switched off first then the transmitter.)

The rich guy is stunting around and decides to buzz me at low level about 20 feet above the ground.
His model flies over me and then nose dives into the ground near by. I could here his servos twitching away as I walked past the wreckage.
After I retrieved my model and switched off my transmitter, I stopped by the little gathering at the wreck site. The rich guy was operating his servos OK and scratching his head. " I spend thousands on my model and that bastard John Crighton comes here every weekend with 50 dollars worth of homebuilt junk and flies. It just isn't fair." "Moan...grumble..moan."
I didn't try to explain that his receiver got swamped. His mates put the crash down to pilot error at low level, and that was that.

Fun and games, eh! :-)
Regards,
John Crighton
Sydney

670. Wireless Router EMI

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 13:41:29 UTC
From: "Richard F. Gillette P.E., (W9PE)" <r.f.gillette@ieee.org>
Message-ID: <3F2527DD.FBFB2E16@ieee.org>
Source record: 33887

I added a wireless router to my DSL modem, and I have 2 meter noise 10db over s9.

Any one else have experience with wireless routers near radio receivers? Any data base on EMI verses brand model?

I would make a guess that some models are better than others.

The 800 support line for my vendor was no help.

I have not ascertained if the EMI is coming out the units antenna, the power cord or through the case. I an going to take a look at their FCC filing data.

By the way the 2 wireless phones (digital) that I have are no problem, but I may have lucked out with the correct brand!

RFG W9PE

671. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 15:20:06 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.198ede3f675ca68b989698@news-central.giganews.com>
Source record: 33888

In article <vi634r28u14195@corp.supernews.com>, bobh@proaxis.com says...
>
> Postscript is about as open and standard a format as you will find.

It was never intended for online document distribution, though.
Postscript is for (obsolete) printers, and .PS files are an (obsolete)
hack.

.PDF is designed from the ground up for online viewing, and it's less
likely to require users to compile their own viewer application. :)

Actually, neither .PS or .PDF is as nice as DjVu for onscreen viewing,
but of the three, .PDF has by far the best shot at long-term archive
survival.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

672. Re: Control PLL via computer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 15:20:07 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.198edefc28a2748e989699@news-central.giganews.com>
Source record: 33889

In article <bg1as0$65r$1@reader10.wxs.nl>, damien.teney@sobelairva.net
says...
> Wow cool ! That's exactly what I need. Thank you for the link ;-)
>

Also see http://www.qsl.net/ke5fx/synth.html -- I've got a lot of C
control code for the Analog and National PLL chips up there, compatible
with both Win32 and Atmel.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
---

673. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 15:39:27 UTC
From: mikea@mikea.ath.cx
Message-ID: <bg3g3ebud1@puck.litech.org>
Source record: 33890

John Miles <jmiles@pop.removethistomailme.net> wrote:
> In article <vi634r28u14195@corp.supernews.com>, bobh@proaxis.com says...
> >
> > Postscript is about as open and standard a format as you will find.

> It was never intended for online document distribution, though.
> Postscript is for (obsolete) printers, and .PS files are an (obsolete)
> hack.

Erm ... Not from where I stand, and work, and not for a lot of
other computer professionals -- although I grant that few of them
are Windows users.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

674. Flat spiral coil winding

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 17:15:23 UTC
From: G&#65533;ry Duyck <gery@duyck-co.be>
Message-ID: <3f2559f9$0$271$ba620e4c@reader0.news.skynet.be>
Source record: 33891

I made a good deal today!
I bought 12kg (=26.5 pounds) of 0.9mm (= 20.5awg) varnished coper wire for
20 euro
(=$23 US).
Pretty cheap isn't it!

I want to wind some flat coils with it to use with my homebrew PI metal
detector.

I place 2 sheets of plexiglass above each other with a round piece of
plastic
with the thickness of my wire and the inner diameter of my coil.
Then I start winding (40 turns).

Even if I wind very carefully twe wire keeps on moving above each other,
so I don't have a neat sipral :-(It's very frustrating !

Now I just do it with one piece of plexiglass and the round piece of plastic
glued on it,
and just wind and glue it together at once.
That's working, but it takes a while before your coil is finished!

Is there any trick for winding sprial coils ?
I saw some pictures on the internet with homebrew spiral coils, but without
explanation...

Any tips or hints would be welcome.

--... ...--
Gery D.

675. mutual inductance / coupling coefficient

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 17:15:34 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.198f2443e34f2c39896f2@news.east.earthlink.net>
Source record: 33892

hi:

i'm trying to find a way to get an accurate approximation (oxymoron?) of mutual inductance between coils for different cases like tapped coil, transformers, bifiliar/trifiliar/quad ... wound transformers, etc. with different cores. so the mutual inductance can be used in analysis without having to build the coil first to measure the M.

i was looking for the Neumann double line integral and all i could come up with was

http://www.distinti.com/docs/ni.pdf

sec.6 of that doc looks promising, but i'm not sure it's the Neumann integral. it allows the separation of the centers of the coils to be changed, but it looks like that's only along the radial axis. so i don't think you can use it for coupled coils offset along the long axis, like:

---/\/\/\/---/\/---

without modifying the equation.

it's also for single loop coils, though there's an adjustment for multi turn coils.

another program i found which is said to be based on the Neumann integral doesn't allow other permeabilities and the real pisser is that it's answer for two single turn loops isn't the same as that of the other program. could be because it's for tesla coils (it'll do solenoid style windings) and outputs answers for toroid capacitance, so the whole numerical method may be diluted. i don't know.

anyone have a solution for this? i'd like a link to something on the Neuman double line integral, which i couldn't find. any other method that works is ok, also.

thanks in advance,
mike

676. Re: Control PLL via computer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 17:27:13 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bg3mjfkmi1@reader11.wxs.nl>
Source record: 33893

Okay thank you, but finally I think I will use a PLL chip with a parallel interface, such as the motorola MC145152. So I'm able to control it with simple DIP-siwtches, and no I²C or computer is needed :-)

"John Miles" <jmiles@pop.removethistomailme.net> a écrit dans le message de news: MPG.198edefc28a2748e989699@news-central.giganews.com...
> In article <bg1as0$65r$1@reader10.wxs.nl>, damien.teney@sobelairva.net
> says...
> > Wow cool ! That's exactly what I need. Thank you for the link ;-)
> >
>
> Also see http://www.qsl.net/ke5fx/synth.html -- I've got a lot of C
> control code for the Analog and National PLL chips up there, compatible
> with both Win32 and Atmel.
>
> -- jm

677. Re: Flat spiral coil winding

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 17:49:50 UTC
From: David <pdr14@comcast.net>
Message-ID: <s7OcnaBSb_Y7_7iiXTWJkg@comcast.com>
Source record: 33894

I would try to use the 2 sheets of Plexiglas you mentioned and try to find a spacer the same thickness as the wire, and try not to pull the wire to tight on the form, that might make the Plexiglas bend. Where did you find the metal detector plans that you're using?

David KG2LI

678. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 19:04:49 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <pssaiv4u6os2thlpp5np9r32rgknd9385g@4ax.com>
Source record: 33803

>Mmm. Postscript documents. Real useful. NOT... :(

I know the feeling.

However, Paint Shop Pro 7 will read PS files these days.

679. Re: Wireless Router EMI

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 19:21:17 UTC
From: Alex J <Alex@nospam.net>
Message-ID: <NIeVa.43$N16.12@news02.roc.ny>
Source record: 33895

I don't have one but am considering it....What brand/Model do you have??

Alex
KC0AK

"Richard F. Gillette P.E., (W9PE)" <r.f.gillette@ieee.org> wrote in message
news:3F2527DD.FBFB2E16@ieee.org...
> I added a wireless router to my DSL modem, and I have 2 meter noise 10db
> over s9.
>
> Any one else have experience with wireless routers near radio
> receivers? Any data base on EMI verses brand model?
>
> I would make a guess that some models are better than others.
>
> The 800 support line for my vendor was no help.
>
> I have not ascertained if the EMI is coming out the units antenna, the
> power cord or through the case. I an going to take a look at their FCC
> filing data.
>
> By the way the 2 wireless phones (digital) that I have are no problem,
> but I may have lucked out with the correct brand!
>
> RFG W9PE
>
>
>

680. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 21:24:09 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <k83bivg7ca58dac2gck8i9qf45lv21863r@4ax.com>
Source record: 33896
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 07:02:53 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>Hello Paul,
>you are dragging the anchor a bit. That was months ago! :-)

Yes, but that's not intended for the current 'bot which will be
competing in a month from now, so I've had to shuffle my priorities a
bit, I'm afraid. All these things get finished eventually, though!

>Have a look here
>http://www.ife.tugraz.at/datashts/nsc/h7912.pdf
>Page 9. Application hints, has some good reading
>on how to play around with the input transformer.

I prefer your idea of starting from scratch. It's just unfortunate
that there isn't time to do so on the current project. :-(

>Is Henry's Radio still around? They used sell
>sets of IF coils for hobbyists and experimenters. My
>Henry's catalogue is a bit old. A nice Indian gent in
>an electronics junk shop in Edgeware Road gave it
>to me in 1973. I should come over there and get
>a more up to date copy.

It's tragic, John. All those marvellous old places are gone now, sad
to say. They've all been replaced by shops selling factory-made
electronic products from the far east. Mail order's the only option
these days.
:-(
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

681. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 21:24:11 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <hr3bivslpeo9dd0f6fqtc6nv9gfc3rusdj@4ax.com>
Source record: 33797
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 13:20:27 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>The rich guy is stunting around and decides to buzz
>me at low level about 20 feet above the ground.
>His model flies over me and then nose dives into
>the ground near by. I could here his servos twitching
>away as I walked past the wreckage.
>After I retrieved my model and switched off my
>transmitter, I stopped by the little gathering at the
>wreck site. The rich guy was operating his servos OK
>and scratching his head. " I spend thousands on
>my model and that bastard John Crighton comes
>here every weekend with 50 dollars worth of homebuilt
>junk and flies. It just isn't fair." "Moan...grumble..moan."
>I didn't try to explain that his receiver got swamped. His
>mates put the crash down to pilot error at low level, and
>that was that.

John, what in your experience causes this 'servo-twitching'? I've
observed it myself at close hand many times. The last time it
happened, we cured it by isolating the die-cast box the rx was mounted
in from the chassis. I still can't figure out why this worked, as I'd
have thought grounding it *ought* to solve the problem. But in this
instance, grounding it *created* the problem and isolating it solved
it! Sometimes when I see those servos behaving like they've got a mind
of their own it almost makes me believe in the supernatural.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

682. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 21:52:21 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ho5biv8727c6ai2gfqck8pptukokb47i01@4ax.com>
Source record: 33798
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 07:02:53 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>On Sun, 27 Jul 2003 22:33:48 +0100, Paul Burridge
><redscar@waitrose.notformail.com> wrote:
>
>
>>>How did you go with Win's soft start motor controller?
>>
>>Currently under construction...
>>--
>>
>Hello Paul,
>you are dragging the anchor a bit. That was months ago! :-)
>
>Have a look here
>http://www.ife.tugraz.at/datashts/nsc/h7912.pdf

You'll have to forgive me here, John, as i'm battling with a duff
display on the computer I'm using at the moment and I was only able to
glimpse the data for a few seconds, but this chip doesn't seem to be
suitable for 40Mhz FM, does it? I'm sure your general solution to the
problem is an excellent one, though, if a suitable chip can be found.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

683. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 22:07:59 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <bg7bivsvi3ad3bfvjl50nipfdepavnjmg7@4ax.com>
Source record: 33799
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 07:02:53 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>On Sun, 27 Jul 2003 22:33:48 +0100, Paul Burridge
><redscar@waitrose.notformail.com> wrote:
>
>
>>>How did you go with Win's soft start motor controller?
>>
>>Currently under construction...
>>--
>>
>Hello Paul,
>you are dragging the anchor a bit. That was months ago! :-)
>
>Have a look here
>http://www.ife.tugraz.at/datashts/nsc/h7912.pdf

This also looks a possibility:

http://w1.859.telia.com/~u85920178/use/rc-prop.htm

Might be a contender for the next 'bot, possibly?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

684. Re: need circuit of miser's dream

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 23:10:05 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F25AD4D.2070705@bellsouth.net>
Source record: 33800

Ashhar Farhan wrote:
> old timers will remember that goodman (w1dx, i think) broke ground
> with a receiver using single conversion, high if frequency, full
> hang-agc in a simple 5 tube receiver called the miser's dream. i guess
> it was published in qst as well as the handbook of 60s.
> i am interested in brewing that receiver. if anyone has the circuit, i
> will be obliged. u can mail the scanned copy to farhan@hotfoon.com
>
> thanks.
> -de farhan (vu2fax)

I have the HB that the article was in (1967), but the book is buried at
the moment. I hope in a month or two to (finally) get to unpacking
my ham stuff, I'll be happy to scan it then for you. Drop an email
reminder in the fall.

685. Re: Wireless Router EMI

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 23:51:20 UTC
From: Joel <joel@cyberbest.com>
Message-ID: <iGiVa.1361$jS.464479322@twister2.starband.net>
Source record: 33801

While I don't have a wireless router, I do have CAT5 cable run around the house, and the 2 meter interference is horrible on some frequencies. So, it might not be the router's RF output but the data rate. Just a thought.

Joel AG4QC

"Alex J" <Alex@nospam.net> wrote in message
news:NIeVa.43$N16.12@news02.roc.ny...
> I don't have one but am considering it....What brand/Model do you have??
>
> Alex
> KC0AK
>
>
> "Richard F. Gillette P.E., (W9PE)" <r.f.gillette@ieee.org> wrote in
message
> news:3F2527DD.FBFB2E16@ieee.org...
> > I added a wireless router to my DSL modem, and I have 2 meter noise 10db
> > over s9.
> >
> > Any one else have experience with wireless routers near radio
> > receivers? Any data base on EMI verses brand model?
> >
> > I would make a guess that some models are better than others.
> >
> > The 800 support line for my vendor was no help.
> >
> > I have not ascertained if the EMI is coming out the units antenna, the
> > power cord or through the case. I an going to take a look at their FCC
> > filing data.
> >
> > By the way the 2 wireless phones (digital) that I have are no problem,
> > but I may have lucked out with the correct brand!
> >
> > RFG W9PE
> >
> >
> >
>
>

686. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-28 23:55:39 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bg4ebe$1id@library1.airnews.net>
Source record: 33802
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:hr3bivslpeo9dd0f6fqtc6nv9gfc3rusdj@4ax.com...
> On Mon, 28 Jul 2003 13:20:27 GMT, john_c@tpg.com.au (John Crighton)
> wrote:
>
> >The rich guy is stunting around and decides to buzz
> >me at low level about 20 feet above the ground.
> >His model flies over me and then nose dives into
> >the ground near by. I could here his servos twitching
> >away as I walked past the wreckage.
> >After I retrieved my model and switched off my
> >transmitter, I stopped by the little gathering at the
> >wreck site. The rich guy was operating his servos OK
> >and scratching his head. " I spend thousands on
> >my model and that bastard John Crighton comes
> >here every weekend with 50 dollars worth of homebuilt
> >junk and flies. It just isn't fair." "Moan...grumble..moan."
> >I didn't try to explain that his receiver got swamped. His
> >mates put the crash down to pilot error at low level, and
> >that was that.
>
> John, what in your experience causes this 'servo-twitching'? I've
> observed it myself at close hand many times. The last time it
> happened, we cured it by isolating the die-cast box the rx was mounted
> in from the chassis. I still can't figure out why this worked, as I'd
> have thought grounding it *ought* to solve the problem. But in this
> instance, grounding it *created* the problem and isolating it solved
> it! Sometimes when I see those servos behaving like they've got a mind
> of their own it almost makes me believe in the supernatural.

R/C servos are EXTREMELY sensitive to trash on the power supply leads.
Grounding the box probably coupled some trash into the ground lead to the
servo.

I don't know what you have in your system, but I'd start by investing in a
few small 250 uF (nominal) capacitors and put them directly across the servo
supply leads. Use Y-harnesses to hook them in if you don't feel like
modifying a cable.

687. Re: Wireless Router EMI

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 00:44:31 UTC
From: "Jim, N2VX" <ZZZjim_cronin@juno.comZZZ>
Message-ID: <l8fbivom2e1a2cl5v8b3oufnrma5j13tds@4ax.com>
Source record: 33804

On Mon, 28 Jul 2003 23:51:20 GMT, "Joel" <joel@cyberbest.com> wrote:

>While I don't have a wireless router, I do have CAT5 cable run around the
>house, and the 2 meter interference is horrible on some frequencies. So, it
>might not be the router's RF output but the data rate. Just a thought.
>
>Joel AG4QC
>

I have the same problem with CAT5 cable, too. Did some Google+Google
newsgroup searches on it. One fix is shielded CAT5 cable. Good luck,
you won't find it at your local Home Depot. The only other suggestion
was to go wireless. And the original poster had problems with that,
too.

73,
Jim
N2VX

688. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 01:55:51 UTC
From: john_c@tpg.com.au
Message-ID: <3f25caff.1718758@News.CIS.DFN.DE>
Source record: 33805
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 22:24:11 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Mon, 28 Jul 2003 13:20:27 GMT, john_c@tpg.com.au (John Crighton)
>wrote:
>
>>The rich guy is stunting around and decides to buzz
>>me at low level about 20 feet above the ground.
>>His model flies over me and then nose dives into
>>the ground near by. I could here his servos twitching
>>away as I walked past the wreckage.
>>After I retrieved my model and switched off my
>>transmitter, I stopped by the little gathering at the
>>wreck site. The rich guy was operating his servos OK
>>and scratching his head. " I spend thousands on
>>my model and that bastard John Crighton comes
>>here every weekend with 50 dollars worth of homebuilt
>>junk and flies. It just isn't fair." "Moan...grumble..moan."
>>I didn't try to explain that his receiver got swamped. His
>>mates put the crash down to pilot error at low level, and
>>that was that.
>
>John, what in your experience causes this 'servo-twitching'?
In that incident with the rich guy, he was a few hundred yards
away from his model and my transmitter, only 20 feet away. even
though it was on a different channel upset his signal. Therefore
his servos twitched and his model crashed.

> I've observed it myself at close hand many times.

Waving a transmitter with a fully extended antenna beside
the model will cause a bit of servo twitching. The signal
is too strong. That is why you see people doing close
range testing with the antenna retracted.

>The last time it
>happened, we cured it by isolating the die-cast box the rx was mounted
>in from the chassis. I still can't figure out why this worked, as I'd
>have thought grounding it *ought* to solve the problem.

I would have thought that grounding the RX to the box would
be good practice also.
Not having a circuit to guide you, maybe you were grounding
a spot on the PCB that should not be grounded.

>But in this
>instance, grounding it *created* the problem and isolating it solved
>it! Sometimes when I see those servos behaving like they've got a mind
>of their own it almost makes me believe in the supernatural.

You got some good advice from John R Strohm in regards
to fitting decoupling capacitors across the servo supply leads.

I am assuming that your R/C gear is operating from its
own battery supply not the main driving motor supply.
Using the same battery for the radio and main driving
motors could cause servo twitching.

Pity there isn't one of these fighting robot clubs
here in Sydney. I would like to have a go.

Paul you will have to put some pictures up
somewhere so we can have a look.

Regards,
John Crighton
Sydney

689. Re: mutual inductance / coupling coefficient

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 02:16:48 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.198fa320cd6e31b39896fe@news.east.earthlink.net>
Source record: 33806

hi again:

i managed to get similar answers out of the 2 progs. BTW, the other is MANDK at:

http://hot-streamer.com/TeslaCoils/Programs/MANDKV31.ZIP
http://hot-streamer.com/TeslaCoils/Programs/MANDKV31.PDF

they do run on my winders XP, prob NT/2k, also.

how about some real life examples i can use to test?

i would need coil dimensions/geometry, N (turns), core mat'l, measured L and M.

anyone know their homebrew coils that well?

thanks,
mike

690. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 02:33:40 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F25DD04.F9FA31A@clifto.com>
Source record: 33807

Fred McKenzie wrote:
> << Full-wave unfiltered rectification, followed by bandpass filter? >>
>
> Clifto-
>
> Doesn't full wave produce a symmetrical waveform that minimizes even harmonics?

It's not exactly symmetrical. Rectifying a sine wave produces what looks
like a sine wave with pointy lower peaks, at twice the input frequency.
A little decent filtering at 2F, and the pointy lower peaks go away.

--
All relevant people are pertinent.
All rude people are impertinent.
Therefore, no rude people are relevant.
-- Solomon W. Golomb

691. Re: Wireless Router EMI

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 03:25:11 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F25E911.87F94613@bellatlantic.net>
Source record: 33808

"Richard F. Gillette P.E., (W9PE)" wrote:
>
> I added a wireless router to my DSL modem, and I have 2 meter noise 10db
> over s9.
>
> Any one else have experience with wireless routers near radio
> receivers? Any data base on EMI verses brand model?
>
> I would make a guess that some models are better than others.
>
> The 800 support line for my vendor was no help.
>
> I have not ascertained if the EMI is coming out the units antenna, the
> power cord or through the case. I an going to take a look at their FCC
> filing data.
>
> By the way the 2 wireless phones (digital) that I have are no problem,
> but I may have lucked out with the correct brand!
>
> RFG W9PE

I have heard that the power supplies in some routers
(wireless or not) are noisy. Apparently, some of them
contain "dirty" switchers, if what I heard is true.

692. Transmitter tube testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 03:26:13 UTC
From: castles <castles@yestertronics.com>
Message-ID: <3F25E955.43DC55C6@yestertronics.com>
Source record: 33809

I would like to build a set up for testing transmitting tubes. I was thinking of just testing a couple of points. My power supply will have a capability of 500 volts maximum at 2 amps. I would test a triode for instance for cutoff and then I was thinking of going to the plate dissapation value. I would do this short term so that the tube would not need to have forced air cooling.

I am planning to sell some of my transmitting tubes and would like to advertise them as having passed a series of tests. What tests would be most meaningful?

Thanks for you suggestions, Don

693. Re: Flat spiral coil winding

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 04:08:21 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F25F474.85A862@rica.net>
Source record: 33810

"Géry Duyck" wrote:
>
> I made a good deal today!
> I bought 12kg (=26.5 pounds) of 0.9mm (= 20.5awg) varnished coper wire for
> 20 euro
> (=$23 US).
> Pretty cheap isn't it!
>
> I want to wind some flat coils with it to use with my homebrew PI metal
> detector.
>
> I place 2 sheets of plexiglass above each other with a round piece of
> plastic
> with the thickness of my wire and the inner diameter of my coil.
> Then I start winding (40 turns).
>
> Even if I wind very carefully twe wire keeps on moving above each other,
> so I don't have a neat sipral :-(It's very frustrating !
>
> Now I just do it with one piece of plexiglass and the round piece of plastic
> glued on it,
> and just wind and glue it together at once.
> That's working, but it takes a while before your coil is finished!
>
> Is there any trick for winding sprial coils ?
> I saw some pictures on the internet with homebrew spiral coils, but without
> explanation...
>
> Any tips or hints would be welcome.
>
> --... ...--
> Gery D.

The coil does not have to be perfectly flat to have a flat spiral
characteristic. The really easy to make one is to use an
nonconductive coil form shaped like a daisy with an odd number of
petals. You pass the wire between the petals and every turn passes
through the slots the opposite way from the previous turn. This
actually produces a lower stray capacitance coil than the perfect flat
spiral.

--
John Popelish

694. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 04:12:43 UTC
From: john_c@tpg.com.au
Message-ID: <3f25eccd.10374359@News.CIS.DFN.DE>
Source record: 33811
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 22:52:21 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>>Have a look here
>>http://www.ife.tugraz.at/datashts/nsc/h7912.pdf
>
>You'll have to forgive me here, John, as i'm battling with a duff
>display on the computer I'm using at the moment and I was only able to
>glimpse the data for a few seconds, but this chip doesn't seem to be
>suitable for 40Mhz FM, does it? I'm sure your general solution to the
>problem is an excellent one, though, if a suitable chip can be found.
>--

Hello Paul,
under Features on page 1 it says 50KHz to 72 MHz
but not FM. I forgot about that. My mistake.
OK we'll keep looking for something that suits your
FM transmitter.

Or find, beg, borrow, "buy used," or build an ordinary
AM R/C transmitter. Ten quid should get you an old
style metal cased Futaba transmitter.
A model shop gave me the circuit diagram decades
ago of an old JR brand transmitter that I bought off
them in dud condition, cheap. Keep looking. That
model shop/sanwa agency are a bit mean that is why
I said dump their product.
Stick with brands that will offer support and circuits.

There is plenty of info with that LM1872 chip,
that is what makes it attractive to use.

Have Fun,
John Crighton
Sydney

695. Re: need circuit of miser's dream

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 04:31:48 UTC
From: antispam <nospam@please.net>
Message-ID: <bg4tbs$8fi$1@slb3.atl.mindspring.net>
Source record: 33812

Gee...If you find it, I wouldn't mind a copy :)

Xpfriedr@Xmindspring.Xcom (remove X's to reply)
scharkalvin wrote:

> Ashhar Farhan wrote:
>
>> old timers will remember that goodman (w1dx, i think) broke ground
>> with a receiver using single conversion, high if frequency, full
>> hang-agc in a simple 5 tube receiver called the miser's dream. i guess
>> it was published in qst as well as the handbook of 60s.
>> i am interested in brewing that receiver. if anyone has the circuit, i
>> will be obliged. u can mail the scanned copy to farhan@hotfoon.com
>>
>> thanks.
>> -de farhan (vu2fax)
>
>
> I have the HB that the article was in (1967), but the book is buried at
> the moment. I hope in a month or two to (finally) get to unpacking
> my ham stuff, I'll be happy to scan it then for you. Drop an email
> reminder in the fall.
>
>

696. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 05:07:25 UTC
From: john_c@tpg.com.au
Message-ID: <3f25fab1.13930642@News.CIS.DFN.DE>
Source record: 33813
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 23:07:59 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>>Have a look here
>>http://www.ife.tugraz.at/datashts/nsc/h7912.pdf
>
>This also looks a possibility:
>
>http://w1.859.telia.com/~u85920178/use/rc-prop.htm
>
>Might be a contender for the next 'bot, possibly?
>--

Hello Paul,
yes it does. That is a great site. Harry gives you
the circuit, the artwork and tells you how he makes
his printed circuit boards.
Harry explains that he has managed to use that
little AM Rx on FM also.
I think you plenty of info now Paul.
Have Fun,
John Crighton
Sydney

697. Re: Transmitter tube testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 06:32:24 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <OAoVa.40$Id1.15730@newsfep2-win.server.ntli.net>
Source record: 33814

> I would like to build a set up for testing transmitting tubes. I was
> thinking of just testing a couple of points. My power supply will have a
> capability of 500 volts maximum at 2 amps. I would test a triode for
> instance for cutoff and then I was thinking of going to the plate
> dissapation value. I would do this short term so that the tube would not
> need to have forced air cooling.
>
> I am planning to sell some of my transmitting tubes and would like to
> advertise them as having passed a series of tests. What tests would be
> most meaningful?
==========
If the valves are old a Hipot test would be very important to check for 'gassing'.
A Hipot or breakdown test involves a very high voltage up to 10000 V or higher and a very low current in the few microamperes region.
Real transmitting tubes (used for amateur radio power amplifiers) operate at anode voltages somewhat higher than 500 V , usually between 2000 and 4000 V.
TV line sweep tubes often used for RF Power amps in the sub kW range usually need up to 1250 V anode voltage.

In addition to an anode voltage supply ,you need an adjustable up to - 250 V grid bias supply (a few mAs) . Your 500 V supply will be adequate for a screen supply when testing tetrodes and penthodes, be it that the max current would probably not exceed 25 mA.

Frank GM0CSZ / KN6WH

698. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 07:45:26 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bg58mm$kp1nn$1@ID-61331.news.uni-berlin.de>
Source record: 33815
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"John Crighton" <john_c@tpg.com.au> wrote in message
news:3f25170b.8622081@News.CIS.DFN.DE...
> On Mon, 28 Jul 2003 10:19:13 +0100, "Hans Summers"
> <Hans.Summers@Tudor.Com> wrote:
>
> >>
> >> >Back to your interference problem. Is your operating
> >> >channel frequency smack in the middle of the 40 Mhz band?
> >> >If so, maybe you could try a different set of crystals, so
> >> >that you operate as far away from everyone else as
> >> >possible. Or simply just borrow a different set of crystals
> >> >in case there is a weird mix going on, just to eliminate
> >> >that possibility.
> >>
> >> We've recently got wise to that one and I've ordered a pair of xtals
> >> from the *last* channel of the band. That's what we'll be running with
> >> come the last week in August, when we're due up for the next filming.
> >>
> >
> >Not necessarily the solution, I got bitten by that one once some 9 or 10
> >years ago when I used to fly radio controlled aircraft (in the UK on
35MHz).
> >It bothered me when someone else at the flying field had the same crystal
as
> >I did and I had to wait for them to finish flying before I could fly. So
> >bought another pair of crystals, the highest I could find, if I recall
that
> >was channel 83 (35.230MHz). Everything was fine for a while but a few
weeks
> >later I crashed after losing radio contact with my plane.
> >
> >A little investigation (in between gluing the aircraft bits back
together)
> >found the cause. A channel vs frequency listing, compared with the MHz
> >printed on the crystal case revealed that the receivers were single
> >conversion superhets with 110KHz IF. Channel separation was 10KHz.
Clearly
> >with that setup, image rejection is practically negligible. So someone
> >transmitting on channel 61, 220KHz away, interferes with channel 83.
After
> >that I went back to my crystals on 76 smack in the middle of everyone
elses,
> >learnt to be patient if someone was already using the channel, and had no

> >more problems ;-)
> >
> >Hans G0UPL
> >http://www.HansSummers.com
> >
> >
> Hello Hans,
> what brand/make was that R/C set that you had?

It was a Futaba, I don't recall which one. Very old and battered but worked great. I've been away from aero-modelling for 9 years or so and don't know what's new now - but at that time, the latest control sets were dual conversion (avoiding that image problem) and PCM (Pulse Code Modulation) compared to the old PPM like mine (Pulse Position Modulation). It always seemed to me (perhaps somewhat subjectively) that the PCM tranceivers, which were supposed to be more reliable, were in fact more prone to interference. In the presence of interference the flyer seemed to have no control, presumably because the incoming code was scrambled and the receiver couldn't make head or tail of it. With the old fashioned PPM sets it seemed that often even if interference was causing your servos to twitch a little you still had some degree of control over it, often enough to turn it round and bring it in closer whereupon full control would return and permit a hasty landing.

>
> You have reminded me of a silly incident at my model
> flying club decades ago. One of the wealthier club
> members was having all sorts of trouble with his
> model, engine and radio gear so he flung heaps of
> money at a ready made, ready to fly model with an
> expensive four stroke engine, and a new expensive
> all singing and dancing radio control set. First day
> out with the new model and everything is going well
> for him, he was doing stunts all over the sky.
>
> My models were el cheapo sticks and tissue construction,
> I couldn't afford nice covering film/material. I was
> more interested in home built radio control gear. Radio
> assisted free flight was more my style.
> When the fuel ran out in my models I didn't mind
> walking a few hundred yards if necessary to retrieve
> my model. So I am off for a long walk with my transmitter
> still switched on as one would. (The receiver gets
> switched off first then the transmitter.)
>
> The rich guy is stunting around and decides to buzz
> me at low level about 20 feet above the ground.
> His model flies over me and then nose dives into
> the ground near by. I could here his servos twitching
> away as I walked past the wreckage.
> After I retrieved my model and switched off my

> transmitter, I stopped by the little gathering at the
> wreck site. The rich guy was operating his servos OK
> and scratching his head. " I spend thousands on
> my model and that bastard John Crighton comes
> here every weekend with 50 dollars worth of homebuilt
> junk and flies. It just isn't fair." "Moan...grumble..moan."
> I didn't try to explain that his receiver got swamped. His
> mates put the crash down to pilot error at low level, and
> that was that.

Ha Ha, similar story here. I was a student at the time, had very little money. Serves that rich fellow right for flying so low near you, sounds dangerous. I used to have a Hi-Boy 4-channel trainer with 0.40 cu inch 2-stroke OS engine. When it came to me it had spent at least a decade in a damp garage and required an almost complete fuselage rebuild to clear the rot. Quite likely therefore that by the time I finally flew it, the original dimensions weren't adhered to any longer. A particular weakness seemed to be the nosewheel which was endlessly breaking up during my bad landings. Solution to that one was just to remove it and fly the thing as a taildragger.

The OS40 engine worked a treat, perhaps slightly overpowering the model: I used to be able to take off and fly vertically immediately like the jet fighters at air shows.

Had SO many crashes with that plane, and came to love it - just glued it back together every time. In the end it was probably more glue than balsa wood. A number of times I had to carry the pieces home in a plastic shopping bag. By the following Saturday it was glued back together and generally caused jaws at the flying field to drop. No-one could believe anything with that much glue in it and such bad aerodynamics could actually fly. The wings (balsa sheet covering polystyrene) had snapped 4 times and been repaired by application of a fibre-glass bandage, adding significant weight of course. It actually flew quite well too, all the aerobatics no problem and I particularly used to like slow low level inverted fly bys at 10 ft or less.

Happy days ;-)

Hans
http://www.HansSummers.com

>
> Fun and games, eh! :-)
> Regards,
> John Crighton
> Sydney

699. FA:2100+pf BC air Var.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 13:10:07 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <PmuVa.75607$3o3.5167546@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33816

Have a very nice BC type air variable on ebay . Take a look under seller > heytubeguy <

73 Heytubeguy

700. Re: spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 13:10:50 UTC
From: see sea oh ecks at you aitch see dot comm <spammers@bugger.off.invalid>
Message-ID: <bg5roqomr1@gabriel.uhc.com>
Source record: 33817

John Miles <jmiles@pop.removethistomailme.net> wrote:

> Mmm. Postscript documents. Real useful. NOT... :(

> Sounds like an interesting variation on the project, but without
> documentation in a standard, open format, his audience is going to be
> limited.

Postscript *IS* a standard, open format - perhaps moreso than most.
Try ghostscript as a freeware implementation for viewing and/or
printing the documents.

--
Chris Cox, N0UK/G4JEC NIC Handle: CC345
UnitedHealthGroup, Inc., MN10-W116, UNIX Services & Consulting
6300 Olson Memorial Highway, Golden Valley, MN 55427
email: ccox@uhc.com (work) chrisc@chris.org (home)

701. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 16:50:28 UTC
From: mikea@mikea.ath.cx
Message-ID: <bg68kksso2@puck.litech.org>
Source record: 33818
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In <bg58mm$kp1nn$1@ID-61331.news.uni-berlin.de> (rec.radio.amateur.homebrew), Hans Summers wrote:

> Had SO many crashes with that plane, and came to love it - just glued it
> back together every time. In the end it was probably more glue than balsa
> wood. A number of times I had to carry the pieces home in a plastic shopping
> bag. By the following Saturday it was glued back together and generally
> caused jaws at the flying field to drop. No-one could believe anything with
> that much glue in it and such bad aerodynamics could actually fly. The wings
> (balsa sheet covering polystyrene) had snapped 4 times and been repaired by
> application of a fibre-glass bandage, adding significant weight of course.
> It actually flew quite well too, all the aerobatics no problem and I
> particularly used to like slow low level inverted fly bys at 10 ft or less.

From RFC 1925: "(3) With sufficient thrust, pigs fly just fine. However,
this is not necessarily a good idea. It is hard to be sure where they are
going to land, and it could be dangerous sitting under them as they fly
overhead."

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

702. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 17:23:42 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bg6aiu$f3c$1@freenet9.carleton.ca>
Source record: 33819
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

John Crighton (john_c@tpg.com.au) writes:
> On Mon, 28 Jul 2003 22:52:21 +0100, Paul Burridge
> <redscar@waitrose.notformail.com> wrote:
>
>>>Have a look here
>>>http://www.ife.tugraz.at/datashts/nsc/h7912.pdf
>>
>>You'll have to forgive me here, John, as i'm battling with a duff
>>display on the computer I'm using at the moment and I was only able to
>>glimpse the data for a few seconds, but this chip doesn't seem to be
>>suitable for 40Mhz FM, does it? I'm sure your general solution to the
>>problem is an excellent one, though, if a suitable chip can be found.
>>--
>
> Hello Paul,
> under Features on page 1 it says 50KHz to 72 MHz
> but not FM. I forgot about that. My mistake.
> OK we'll keep looking for something that suits your
> FM transmitter.
>
The other day, I was wondering if this was an AM or FM system.
Options may be better with an FM scheme. Though I wonder how
FM impacts on resistance to interference in this application.
The capture effect means that someone else on the frequency,
just barely stronger, will take command of the frequency. Could
that be some of the original issue? Of course, the capture
effect might also be a positive thing. Also, FM is likely to
use a wider bandwidth IF, which perhaps is a problem with
adjacent channels; I don't know about the particular band
to know how close the channels are etc.

One can pull a whole narrow deviation FM receiver out of a number
of consumer items. Those 49MHz superhet walkie talkies have them
(they seem to be disappearing here in North America, as FRS takes
over), and a bit of retuning and a new crystal would provide a
decent receiver.

As I've mentioned before, cordless phones, at least older types,
work at 49MHz and FM. The layout is likely too much trouble to
extract completely, but certainly the IF strip and IF filter
would be useful.

Many of these are double conversion receivers, 10.7MHz and
then 455KHz. The ones I've scrapped use common Motorola FM

IF strips, like the MC3359, which takes 10.7MHz, converts to 455KHz, and then the IF strip and detector. So the front end is discrete components. Note that some of such equipment uses these IC in single conversion schemes, running the internal mixer at 49MHz, and then down to 455KHz.

Motorola of course came out with double conversion receiver FM ICs, but I've yet to see those in consumer equipment.

Michael VE2BVW

703. Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 17:45:55 UTC
From: Denis O' Flynn <denisf@eircom.net>
Message-ID: <bfzVa.25241$pK2.39673@news.indigo.ie>
Source record: 33821

Anyone have circuit diagram for an external voice keyer?

de Denis EI6HB
ei6hb@eircom.net

704. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 18:00:46 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307291000.3f71ed47@posting.google.com>
Source record: 33820
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Watson A.Name - 'Watt Sun' <alondra101@hotmail.com> wrote in message
news:<MPG.198cf2e1bdbeb9cc989b1f@news.inreach.net>...
...
> How about a helical resonator. They're smaller than a cavity, maybe
> not as high Q, but still higher than lumped constant tuned circuit.

I think that's a popular misconception. The resonator Q is
essentially the same as the Q of the same part used as a shielded
inductor, and the shield actually lowers the Q from what it is with an
inductor in free air (so long as it's not large enough to radiate
significantly).

> They're tunable, but I'm not sure how much.

They're certainly easily tunable over a few percent, if you need
that...

But the problem as originally stated implies a filter of fairly high
order and low in-band attenuation, which in turn implies resonators of
very high unloaded Q. 20kHz bandwidth at 40MHz in a single tank is a
loaded Q of 2000, and to keep attenuation low, the unloaded resonator
Q should be perhaps 5 times that much. It would be worse for a
multi-pole filter. All this tells me it's silly to even think of an
LC filter. Add to that the extreme difficulty of getting a set of
resonators to tune together. (To get Qu=10000 in a coaxial resonator
at 40MHz would take an air-dielectric line nearly half a meter in
diameter! Just plain silly.)

I'd opt for a front end with very high dynamic range (esp. low
third-order intermod products), into a good IF filter, etc., and a
communications protocol that optimized whatever performance measure I
needed. Talk to the people who build RF communications sytems that go
on aircraft carriers. Or talk with hams who design receivers with
third order intercepts up in the +50dBm region and higher. By the
way, you may do well by putting an ATTENUATOR on the front end, if
interference (distortion products), and not desired-signal-strength,
is the problem. Distortion products will go down faster than the
inserted attenuation.

Cheers,
Tom

705. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 18:43:57 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307291043.4ed29117@posting.google.com>
Source record: 33822

"Frank Mikkelsen" <frank@phys.au.dk> wrote in message
news:<bfooe5$13j$1@news.net.uni-c.dk>...
> I whant to double a frq. between 200 and 265 MHz. I had tryed to used the
> Mini-circuits RK2 doubler and som BP filters, but because of the band pass
> 200-265MHz it is diffeculd for me to suppress the input frq. and the 3*inp.
> to min 50-60dB.
> Is there any other ideas to realise this.

I think the doubler may be the easiest way to do it. Because your output frequency range is so limited, it should not be difficult to build a bandpass filter for that range, perhaps even with "zeros" on the input and on 3*input. Even without the zeros, a simple 5-resonator 0.1dB ripple Chebychev design from RFSim99 shows 30dB atten at 300MHz, and that's the worst-case 1*input, 3*input atten. Admittedly, you won't achieve quite that much in a practical implementation, but should be close. (Quick playing with a zero at 300MHz makes me think a 3-resonator filter with that added zero might be enough.) Add that to the rejection of 3rd you should already be seeing (30dB min according to MiniCkts) and that should do the trick for you. Also, you can "trim" a doubler to have high rejection of the third, and low feedthrough of the fundamental, if you want.

You may also find some interesting ideas on the Wenzel web sites: specifically at http://www.wenzel.com/pdffiles/diodedbl.pdf, but you may find other things under the RF Circuits section of http://www.techlib.com/electronics/index.html.

Cheers,
Tom

706. Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 19:21:02 UTC
From: Justin198103@yahoo.com
Message-ID: <49b353a8.0307291121.498ba3fc@posting.google.com>
Source record: 33823

I am not sure if this is the right place to be posting this, but i figure its worth a shot. OK, first of all i have been away from radio for a few years (regretably) my call is KB2YFH. Anyway, i got my ticket when i was 16 i think or maybe younger... My question is i am getting older and still have nothing but a H.S diploma and dead-end jobs to show for... so, obviously i would like to continue my education. I realize now that my only true love was fixing and tinkering with my old radio equipment. I would like to know if someone could tell me what career path i should take that will qualify me and give me the experience i need in working with electronic equipment... preferably Wireless communications, RF circuts ... you know all the skills used to diagnose and repair such things as amateur transievers etc. I was licensed in NJ, but recently moved to Florida's Space Coast (Melbourne) where i am happy to see that ham radio is alive and thriving. I assume taking courses in electronic engineering would be in the right direction, but i am not sure exactly what i should do. If anyone could please give me some advice on what type of schooling i should look for, and if possible what schools are good for what i am looking for it would be greatly aprreciated. Thank you and i look forward to getting back on the air ASAP.

Justin198103@yahoo.com

707. Re: need circuit of miser's dream

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 20:31:21 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f26d995$0$48895$edfadb0f@dtext02.news.tele.dk>
Source record: 33824

Hello

> Gee...If you find it, I wouldn't mind a copy :)

I can only say the same, sounds like an interesting RX.

Regards Max

708. Re: need circuit of miser's dream

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 21:33:24 UTC
From: N2EY@AOL.COM
Message-ID: <c2356669.0307291333.28a6dfb@posting.google.com>
Source record: 33825

scharkalvin <wa2mze@bellsouth.net> wrote in message
news:<3F25AD4D.2070705@bellsouth.net>...
> Ashhar Farhan wrote:
> > old timers will remember that goodman (w1dx, i think) broke ground
> > with a receiver using single conversion, high if frequency, full
> > hang-agc in a simple 5 tube receiver called the miser's dream. i guess
> > it was published in qst as well as the handbook of 60s.
> > i am interested in brewing that receiver. if anyone has the circuit, i
> > will be obliged. u can mail the scanned copy to farhan@hotfoon.com
> >
> > thanks.
> > -de farhan (vu2fax)
>
> I have the HB that the article was in (1967), but the book is buried at
> the moment. I hope in a month or two to (finally) get to unpacking
> my ham stuff, I'll be happy to scan it then for you. Drop an email
> reminder in the fall.

You folks are talking about two different but related receivers.

The whole thing started with a 1957 QST article titled "What's Wrong
With Our Present Receivers?" which showed the weaknesses of the
multiconversion designs of those days, and how they could be overcome
by the use of recently announced packaged high frequency crystal
filters. That article described a 2215 kHz IF strip and rear end to
demonstrate the principles. The IF was chosen because a National
NC-300 receiver was avaliable for use as a front end, and the '300
used a first IF of 2215 kHz.

In QST for May, 1965, W1DX (By Goodman) described a 7 tube receiver
called the "Miser's Dream". This double-conversion rx was based upon a
pair of 2215 kHz packaged xtal filters from Hycon Eastern - later
versions of the filters used in the "What's Wrong" IF strip. Similar
filters were also made by Blackhawk. These filters were $44 each in
1959, and the receiver used two of them, one for CW (250 Hz) and one
for SSB (2.7 kHz?). It used the famous Eddystone 898 sliderule dial,
RF Q-multiplication, audio-derived hang-AGC, S-meter and plug-in coils
a la the HBR receivers. It is pictured on the cover of that QST issue.
The article does not give complete construction data - it shows a
block diagram, and partial schematic. It's more of an idea article
rather than something you'd want to duplicate wire-for-wire. Lots of
good solid rx design philosophy presented in clear readable terms that
is well worth reading today.

While the Miser's dream was relatively simple, it was obviously not inexpensive to build, considering that many of the key parts were expensive and almost certainly had to be bought new. The dial, tuning capacitor and filters alone would cost about $120 in the mid-1960s.

The 1967 ARRL Radio Amateur's Handbook features the "Junior Miser's Dream" (JMD) receiver. This is a single-conversion 5 tube rx that is obviously derived from the 1965 article, meant for easier duplication and lower total cost. The "JMD" rx uses a two-speed Miller planetary-drive dial that was popular and relatively inexpensive at the time, RF Q-multiplication, bandswitching, and Miller slug-tuned coils in the front end. Selectivity is from a two-crystal filter at 3300 kHz. I recall that the JMD did not include AGC or an S-meter. The article points out that the Miller coils used in the front end are an important part of the performance and that substitutes should not be used.

Both receivers used built-in solidstate power supplies, a single-ended 7360 first mixer and no RF stage. Both were relatively simple compared to many of the multiconversion multibottle designs of the time. Both suffer from relatively poor image rejection and drift on the higher bands. The former is due to too few tuned circuits ahead of the first mixer, and the latter to the instability inherent in a simple tunable LO operating at relatively high frequencies. The main problem with duplication today is finding the parts.

--

For about a dozen years or so I owned a small 7 tube receiver that was obviously based on the Miser's Dream. I bought it at a hamfest in the early '80s and sold it to another ham some years back. I don't know who built it or when, but the construction quality/craftsmanship was excellent. I built a small power supply for it, which was also sold. This little receiver uses an uncalibrated National dial, IF in the ~1500 kHz range, and covers 80 and 40 meters by means of band imaging. Instead of an RF Q multiplier it uses a dual tuned input circuit. No S meter but it had the audio-derived hang AGC.

Schematics of the little receiver and power supply may be seen at:

http://www.qsl.net/ab0cw/littlereceiver1.jpg

http://www.qsl.net/ab0cw/littlereceiver2.jpg

http://www.qsl.net/ab0cw/littlereceiver3.jpg

And a picture of the receiver itself:

http://www.qsl.net/ab0cw/littlereceiver.jpg

The wood cabinbet was added by the ham who bought it from me.

Between those schematics and the QST article it should not be too difficult to recreate a schematic of the Miser's Dream. Coil data would have to be derived all over again.

--

My suggestion for a "2003 Miser's Dream" would combine features of all three receivers, and be based on available parts. I'd dispense with the RF Q multiplier and use a double-tuned input circuit with either big air-core coils or toroids. Depending on the crystal filters available, either a band-imaging design or a multiband premixer-LO system would be used. The 7360 beam-deflection first mixer could be replaced with a 6JH8, or perhaps a 6ES8 in the classic Pullen circuit. A variable capacitor with integral dial drive from a junked BC-221 frequency meter or ARC-5 transmitter would not only reduce cost but also do a better job. Power supply would be external for size, heat and weight reasons.

73 de Jim, N2EY

709. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 21:37:39 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vidq97qtfr4j48@corp.supernews.com>
Source record: 33826

If your main interest is in diagnosis and repair, I suggest you look into an Electronic Engineering Technology (EET) curriculum. Courses and degrees are offered by a lot of community colleges, as well as technical schools. Visit your local community college and have a talk with a counselor there -- he or she can give you a lot more information about what they offer, what the course content is like, and the kinds of jobs it'll prepare you for.

An Electrical Engineering (EE) degree at a college or university prepares you more to do design, rather than repair. A BSEE (Batchelor of Science in Electrical Engineering) curriculum involves a lot more mathematics than an ASEET (Associate of Science in Electronic Engineering Technology) or BSEET degree. If you follow a traditional order of course work, you'll be in a BSEE program quite a while before you get to much that you recognize as electronics, since you'll usually start with calculus, physics, chemistry, and, yes, English. This is to lay the ground work for you to be able to understand electronics at the necessary level when it's introduced later in the program. In contrast, EET courses are a lot more hands-on, and get to the basic subject matter earlier. But it doesn't cover the material in as much depth as in an EE program.

While community colleges seldom or never grant a BSEE degree, they generally offer quite a number of courses that can be transferred to a full college or university toward a BSEE degree, if that's your choice. Those courses are likely to be non-electronics courses, though, like the physics, chemistry, math, and English I mentioned.

You might start along one path and decide later on the other. That's fine, although you should be aware that quite a number of courses in one program might not directly transfer for credit into the other. The counselor can give you the straight story about all that.

Roy Lewallen, W7EL

Justin wrote:
> I am not sure if this is the right place to be posting this, but i
> figure its worth a shot. OK, first of all i have been away from radio
> for a few years (regretably) my call is KB2YFH. Anyway, i got my
> ticket when i was 16 i think or maybe younger... My question is i am
> getting older and still have nothing but a H.S diploma and dead-end
> jobs to show for... so, obviously i would like to continue my
> education. I realize now that my only true love was fixing and
> tinkering with my old radio equipment. I would like to know if someone
> could tell me what career path i should take that will qualify me and
> give me the experience i need in working with electronic equipment...

> preferably Wireless communications, RF circuts ... you know all the
> skills used to diagnose and repair such things as amateur transievers
> etc. I was licensed in NJ, but recently moved to Florida's Space
> Coast (Melbourne) where i am happy to see that ham radio is alive and
> thriving. I assume taking courses in electronic engineering would be
> in the right direction, but i am not sure exactly what i should do. If
> anyone could please give me some advice on what type of schooling i
> should look for, and if possible what schools are good for what i am
> looking for it would be greatly aprreciated. Thank you and i look
> forward to getting back on the air ASAP.
>
> Justin198103@yahoo.com

710. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 21:38:52 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307291338.d69d47f@posting.google.com>
Source record: 33827

"Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:<3F25DD04.F9FA31A@clifto.com>...
> Fred McKenzie wrote:
> > << Full-wave unfiltered rectification, followed by bandpass filter? >>
> >
> > Clifto-
> >
> > Doesn't full wave produce a symmetrical waveform that minimizes even harmonics?
>
> It's not exactly symmetrical. Rectifying a sine wave produces what looks
> like a sine wave with pointy lower peaks, at twice the input frequency.
> A little decent filtering at 2F, and the pointy lower peaks go away.

Well, actually the whole output wave is at 2* the input, which is I
believe what the OP wanted: a freq doubler. Note that rectifying a
sinewave is the same as multiplying by a square wave of the same
frequency which is +1 when the sine is positive and -1 when it's
negative. You can use trig identities and the fact that the square
wave is its fundamental and all odd harmonics to convince yourself
that the "ideal" full wave rectifier puts out DC, 2*fin, 4*fin, 6*fin,
... -- just the even harmonics and no odds. It's only because the
rectification is imperfect that the fundamental or odd harmonics get
through. The pointy lower peaks must represent higher order even
harmonics of the input frequency.

Cheers,
Tom

711. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 22:04:00 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <7mpdiv8b4q5an61ru8hi9r3sgcnpc824ba@4ax.com>
Source record: 33829
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 29 Jul 2003 04:12:43 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>Or find, beg, borrow, "buy used," or build an ordinary
> AM R/C transmitter. Ten quid should get you an old
> style metal cased Futaba transmitter.

Hi John,

I've already got an AM tx and rx set-up, but am loathed to use it due
to the much increased risk of interference from the speed controllers,
motors, etc., which as you will know, is far more likely with an AM
system. Keep thinking!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

712. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 22:04:02 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <5rpdiv0kr56e88pmu6i7tpuh07854jhc9r@4ax.com>
Source record: 33830
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On 29 Jul 2003 17:23:42 GMT, et472@FreeNet.Carleton.CA (Michael Black)
wrote:

[comments snipped]

Thanks, Michael. I'm archiving all these lengthier posts on the
subject for future reference. All this info is valuable to me and will
be thorougly digested at some point.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

713. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 22:04:03 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <r2qdiv495jo0vjec1aqvfhvat730t2sm7v@4ax.com>
Source record: 33831
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 28 Jul 2003 10:19:13 +0100, "Hans Summers"
<Hans.Summers@Tudor.Com> wrote:

>Not necessarily the solution, I got bitten by that one once some 9 or 10
>years ago when I used to fly radio controlled aircraft (in the UK on 35MHz).
>It bothered me when someone else at the flying field had the same crystal as
>I did and I had to wait for them to finish flying before I could fly. So
>bought another pair of crystals, the highest I could find, if I recall that
>was channel 83 (35.230MHz). Everything was fine for a while but a few weeks
>later I crashed after losing radio contact with my plane.
>
>A little investigation (in between gluing the aircraft bits back together)
>found the cause. A channel vs frequency listing, compared with the MHz
>printed on the crystal case revealed that the receivers were single
>conversion superhets with 110KHz IF. Channel separation was 10KHz. Clearly
>with that setup, image rejection is practically negligible. So someone
>transmitting on channel 61, 220KHz away, interferes with channel 83. After
>that I went back to my crystals on 76 smack in the middle of everyone elses,
>learnt to be patient if someone was already using the channel, and had no
>more problems ;-)

Thanks for that contribution, Hans. A caveat certainly worth
remembering.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

714. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 22:04:05 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <n9qdivsd4fpdeohqej07a0rocsf77buq9j@4ax.com>
Source record: 33832
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 29 Jul 2003 01:55:51 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>Waving a transmitter with a fully extended antenna beside
>the model will cause a bit of servo twitching. The signal
>is too strong. That is why you see people doing close
>range testing with the antenna retracted.

Oh, right. I'd assumed it was simply because at close range it wasn't
necessary. Bugger. So I've got swamping to worry about as well, eh?
:-(

>I would have thought that grounding the RX to the box would
>be good practice also.
>Not having a circuit to guide you, maybe you were grounding
>a spot on the PCB that should not be grounded.

Dunno. I'd have thought at 40Mhz and with a matchbox-sized rx, any
ground point would be the same as the next. :-/

>You got some good advice from John R Strohm in regards
>to fitting decoupling capacitors across the servo supply leads.

That rather interesting piece of advice has already been carefully
noted, John! I'd assumed that sticking ferrrite rings over all the
supply leads would suffice, but I guess you can never take too many
precautions!

>I am assuming that your R/C gear is operating from its
>own battery supply not the main driving motor supply.
>Using the same battery for the radio and main driving
>motors could cause servo twitching.

I'm afraid we *are* running the r/c stuff from the main batteries. The
reason for this is that on prior ocassions, we were stuffed by the
on-board ni-cads going hi-Z as they are prone to do, AIUI. Not only
that, but there's the blasted memory effect and their questionable
capacity even when in peak condition. Hence we run from the main batts
via a stabilised dropper well-decoupled and plenty of ferrites to
boot.

>Pity there isn't one of these fighting robot clubs
>here in Sydney. I would like to have a go.

I'd be surprised if there were not. I know a lot of Aussies are very
keen on the 'sport' and RW certainly goes out in Oz., although I don't

know on which channel, I'm afraid. In fact it goes out in about 26 countries world-wide, including the USA, Canada, China, India, South Africa and so on....

>Paul you will have to put some pictures up
>somewhere so we can have a look.

I haven't forgotten, John. I just haven't sorted out the web space yet and when I do, I'll wager the blasted FTP S/ware goes tits-up as per usual! :-(
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

715. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 22:05:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vidru5g1b1ls9b@corp.supernews.com>
Source record: 33828

Roy Lewallen wrote:
> A BSEE (Batchelor of
> Science in Electrical Engineering) curriculum

That should, of course, be Bachelor.

How embarrassing. Guess those English for Dumb Engineers courses weren't quite enough. . . needed a course in Using a Spelling Checker.

Roy Lewallen, W7EL

716. Re: Flat spiral coil winding

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-29 23:50:11 UTC
From: k7itm@aol.com
Message-ID: <3200347.0307291550.5eb5ff3b@posting.google.com>
Source record: 33833

I like John P's suggestion of a form with radial spokes, like a wagon wheel or like petals of a flat flower. You can make one from wood, with a wooden disk in the middle, drilled to accept dowels (round pieces of wood).

If you wish to make the coil as you have described, then while you are winding, use some backing pieces on the outside of the plastic. I would use maybe 2cm thick plywood. That will keep the plastic from bending while you are winding. You can put a drop of glue on outside turn of the finished coil, and it should then hold its shape as you remove the backing plates. If you wanted to get very fancy, you could add a very thin "washer" around just the outside maybe 0,5cm of the circular plastic, between the plastic and the backing plate on each side. That would make it a little "springy" and hold everything tight. But be sure that "washer" is maybe 0,1 times the wire diameter so as you fill up the coil former it won't let the middle slip.

Hope these thoughts are useful!

Cheers,
Tom

"Gï¿½ry Duyck" <gery@duyck-co.be> wrote in message
news:<3f2559f9$0$271$ba620e4c@reader0.news.skynet.be>...
> I made a good deal today!
> I bought 12kg (=26.5 pounds) of 0.9mm (= 20.5awg) varnished coper wire for
> 20 euro
> (=$23 US).
> Pretty cheap isn't it!
>
> I want to wind some flat coils with it to use with my homebrew PI metal
> detector.
>
> I place 2 sheets of plexiglass above each other with a round piece of
> plastic
> with the thickness of my wire and the inner diameter of my coil.
> Then I start winding (40 turns).
>
> Even if I wind very carefully twe wire keeps on moving above each other,
> so I don't have a neat sipral :-(It's very frustrating !
>
> Now I just do it with one piece of plexiglass and the round piece of plastic
> glued on it,
> and just wind and glue it together at once.
> That's working, but it takes a while before your coil is finished!

>
> Is there any trick for winding sprial coils ?
> I saw some pictures on the internet with homebrew spiral coils, but without
> explanation...
>
> Any tips or hints would be welcome.
>
> --... ...--
> Gery D.

717. Re: Flat spiral coil winding

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 00:03:01 UTC
From: dplatt@radagast.org
Message-ID: <vie2plrmppm6c4@corp.supernews.com>
Source record: 33834

>I like John P's suggestion of a form with radial spokes, like a wagon
>wheel or like petals of a flat flower. You can make one from wood,
>with a wooden disk in the middle, drilled to accept dowels (round
>pieces of wood).

This type of coil was/is popular with crystal-radio and other AM-radio buffs... it's called a "spider web" coil. Use an odd number of spokes/petals, so that alternate turns on the wire spiral go onto opposite sides of any given petal.

I gather that one attraction to this winding style is that it results in a very low amount of parasitic capacitance, and thus a high Q.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

718. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 00:56:28 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bg75fc$kr3@library2.airnews.net>
Source record: 33835

"Denis O' Flynn" <denisf@eircom.net> wrote in message
news:bfzVa.25241$pK2.39673@news.indigo.ie...
> Anyone have circuit diagram for an external voice keyer?

Sorry, Denis, but do you mean a VOX, or something else?

719. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 01:11:15 UTC
From: john_c@tpg.com.au
Message-ID: <3f2714ac.15664367@News.CIS.DFN.DE>
Source record: 33836
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 29 Jul 2003 23:04:00 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Tue, 29 Jul 2003 04:12:43 GMT, john_c@tpg.com.au (John Crighton)
>wrote:
>
>>Or find, beg, borrow, "buy used," or build an ordinary
>> AM R/C transmitter. Ten quid should get you an old
>> style metal cased Futaba transmitter.
>
>Hi John,
>
>I've already got an AM tx and rx set-up, but am loathed to use it due
>to the much increased risk of interference from the speed controllers,
>motors, etc., which as you will know, is far more likely with an AM
>system. Keep thinking!
>--

Hello Paul,
I would try out your old AM set for sure. You never know
your luck. If the servo connections are compatible it will
only take a short time. What brand/model?

I agree with you that the AM set has an increased risk
of interference from your own motors but you said some
time ago that your robot works fine at your place but at
the venue with other competitors and their transmitters
around, the interference is bad for you with your present
Sanwa FM set.

Even if you do not fit the AM set to the robot, take the
working AM set in a box to the venue and see if the
servos misbehave in that electrical noisy environment.

Regards,
John Crighton.
Sydney

720. Re: Frequency doubler.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 01:37:55 UTC
From: mikea@mikea.ath.cx
Message-ID: <bg77hjeme2@puck.litech.org>
Source record: 33837

Tom Bruhns <k7itm@aol.com> wrote:
> "Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:<3F25DD04.F9FA31A@clifto.com>...
> > Fred McKenzie wrote:
> > > << Full-wave unfiltered rectification, followed by bandpass filter? >>
> > >
> > > Clifto-
> > >
> > > Doesn't full wave produce a symmetrical waveform that minimizes even harmonics?
> >
> > It's not exactly symmetrical. Rectifying a sine wave produces what looks
> > like a sine wave with pointy lower peaks, at twice the input frequency.
> > A little decent filtering at 2F, and the pointy lower peaks go away.

> Well, actually the whole output wave is at 2* the input, which is I
> believe what the OP wanted: a freq doubler. Note that rectifying a
> sinewave is the same as multiplying by a square wave of the same
> frequency which is +1 when the sine is positive and -1 when it's
> negative. You can use trig identities and the fact that the square
> wave is its fundamental and all odd harmonics to convince yourself
> that the "ideal" full wave rectifier puts out DC, 2*fin, 4*fin, 6*fin,
> ... -- just the even harmonics and no odds. It's only because the
> rectification is imperfect that the fundamental or odd harmonics get
> through. The pointy lower peaks must represent higher order even
> harmonics of the input frequency.

<http://www.rfcafe.com/references/electrical/periodic_series.htm> has
a nice exposition of Fourier series for various waveforms, including
half- and full-wave rectified sine waves. The Rubber Bible math table
book used to have the waveforms and Fourier series for them, too.

I first got interested in them when I was about 11, in 1957. Somewhat
later I took the math class where we derived them. It was sort of
interesting to see my childhood friends constructed on a blackboard.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

721. Re: Transmitter tube testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 03:54:45 UTC
From: w4pqw@cox.net
Message-ID: <84b5ffd4.0307291954.764680d4@posting.google.com>
Source record: 33838

castles <castles@yestertronics.com> wrote in message
news:<3F25E955.43DC55C6@yestertronics.com>...
> I would like to build a set up for testing transmitting tubes. I was
> thinking of just testing a couple of points. My power supply will have a
> capability of 500 volts maximum at 2 amps. I would test a triode for
> instance for cutoff and then I was thinking of going to the plate
> dissapation value. I would do this short term so that the tube would not
> need to have forced air cooling.
>
> I am planning to sell some of my transmitting tubes and would like to
> advertise them as having passed a series of tests. What tests would be
> most meaningful?
>
> Thanks for you suggestions, Don
++++ I recently built a transmitter tube tester. I made several
sockets ,4 pin 5 pin 6 pin etc for 811, 4-400/3-500, 813, etc.For
instance,to test 811 tubes, I would drop in the 4 pin socket,hook up
proper filament,set bias voltage as per tube data, set up for 811
tubes and test all I had .. I used about 1400 Volts on plate,had
adjustable filament voltage..I had var bias,var screen.. I tested for
emission by reading plate current..I worked out very well for matching
emission on several tubes ..I also applied RF drive ,usually at 14
mhz.using a standard ham transmitter..an old Heathkit is OK..anything
with adjustable RF power out.a soft tube will come up to about normal
and will then start to fall-off..A person could keep on hand a known
good tube for comparsion...good luck Harold W4PQW Ps: I sold my
tester after I finished testing all my tubes..

722. Re: Oscillator design 0-12 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 11:20:05 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bg89il$ek9$1@nic.grnet.gr>
Source record: 33839
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

it's not a rumor.
Been there seen it
and walked on it.

sv1hao

--
http://www.qsl.net/sv1hao
"Elmer E Ing" <Elmer E Ing@tutor.org> wrote in message
news:r9jTa.9929$ff.7744@fed1read01...
>
> "Tom" <tstimac01@yahoo.com> wrote in message
> news:bfke2t$h8u$1@ls219.htnet.hr...
> > Old DXer wrote:
> > > >> > Yes, it does. I just now sent you a message from the future on a
> > > >> > negative frequency. You should be getting it yesterday.
> > > >> Errm.... can i get a copy ?
> > >
> > > > Careful -- you may end up in swaddling clothes and have to do it all
> over
> > > > again.
> > > > Kirk Over!!
> > > > Picard - Make It So!
> > >
> > Ok, see you on USS Eldridge. I can't wait to finally meet Tesla,
Townsend
> > Brown and Einstein. They must be somewhere on the ship!
> >
> >
> I refuse to go to Philadelphia -- however rumor has it that USS Eldridge
is
> in Greece -- Suda Bay Naval Station in Crete.-- see URL:
>
> http://www.think-aboutit.com/Misc/current_whereabouts_of_the_uss_e.htm
>
>

723. FA:Ham stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 12:08:47 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <jzOVa.80435$0v4.5339556@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33840

On ebay now under seller >heytubeguy<

Hvy duty RF switch
Jennings Vac relay
10vct 7 A fil xfmr
Small air variables-5
5 ceramic coils
2 x Johnson air variables
Roller inductor-BC-375?
BC Air var-2100+ pf

MORE COMING, 73 Joe, heytubeguy

724. Heath to Drake PS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 12:15:01 UTC
From: wa4uso@aol.com
Message-ID: <20030730081501.21660.00000804@mb-m07.aol.com>
Source record: 33841

I wish to use my Drake power supply to run my Heath SB101
Can I find a male Jones plug to plug into the power supply cable?
If so, can anyone point me to a vender.
Does the Drake power supply (for the TX4C) has enough
12 volt filament current to run the Heath SB101, apprx. 5 amps?
Thanks for any help on these questions Darrell Darby WA4USO

725. FS: ORIGINAL MANUALS-MOSTLY

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 12:29:37 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <RSOVa.80460$0v4.5340624@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33842

Manuals:An Original (Except #11?)for the price of a copy
1-Atlas 210/215x--super fine condx-------$8.99
2-Drake T-4xb2 stains on front;vy good-$12.00
3-AL-811--very good condx-------------$4.00
4-Henry 4-K--good condx--------------$14.00
5-Henry 2-K--good condx--------------$14.00
6-AL-80B-----very good condx----------$8.99
7-Yaesu FT-107M--good condx--------$11.00
8-Heath IO-12-'steps' marked-good------$6.99
9-SB-104 (oper. man.)not marked vy gud$11.00
10-Drake T-4xb/T-4 vy nice-------------$12.00
11-Tentec Scout (Copy?) vy good-------$6.99
Shipping via 1st class or as printed material. #9 too hvy for 1st class.

NO DEALERS PSE. First come has the choice. Pay Pal OK.

73 Joe in MO

726. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 13:47:41 UTC
From: NeoVolt <NeoVolt68@hotmail.com>
Message-ID: <10QVa.1313$pT.472@newssvr22.news.prodigy.com>
Source record: 33843

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vidq97qtfr4j48@corp.supernews.com...
<snip>
> If you follow a traditional
> order of course work, you'll be in a BSEE program quite a while before
> you get to much that you recognize as electronics, since you'll usually
> start with calculus, physics, chemistry, and, yes, English. This is to
> lay the ground work for you to be able to understand electronics at the
> necessary level when it's introduced later in the program.

However this doesn't stop you from taking a more hands on electronics
course each year or each half year. Usually you will get a little leeway
in what order you need to take classes.

Another route to go is a trade school. A friend went to ITT and loved the
instruction method there. 2-3 hours of theory followed by 3 hours of
application. He now works for Altera on there Nios Development. System.

I was going to go to my local community college this coming fall but with
budget cuts they dropped over 100 courses which all seem to have come from
their Physics and Engineering departments. There isn't a single
"Electronics"
course offered.

Neo-Volt

727. Re: Heath to Drake PS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 13:53:05 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.19916d99da761c3498998e@192.168.42.131>
Source record: 33844

In article <20030730081501.21660.00000804@mb-m07.aol.com>, Wa4uso says...

> I wish to use my Drake power supply to run my Heath SB101
> # Can I find a male Jones plug to plug into the power supply cable?
> # If so, can anyone point me to a vender.

Allied Electronics carries the entire line of Cinch-Jones connectors. That's where I got the ones to mate with my Motorola test panel's junction box.

http://www.alliedelec.com

> # Does the Drake power supply (for the TX4C) has enough
> 12 volt filament current to run the Heath SB101, apprx. 5 amps?

That I can't help you with. Someone else, perhaps?

Good luck.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

728. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 16:58:40 UTC
From: dt@dt.prohosting.com
Message-ID: <uu194kl33.fsf@dt.prohosting.com>
Source record: 33845

Amen on the grammar comment. I often look at resumes for computer programming positions. Good programmers are notoriously meticulous about things like spelling, grammar and punctuation. It sort of goes with the territory. So, if I see sloppy, disorganized language, I figure I'm not dealing with a Real Hacker. A big red flag for me is misspelled or miscapitalized names of industry brands, names or terms, such as C, UNIX, uC, kHz, etc., especially if the applicant claims to have experience in those areas.

To address the poster's original question, all of the advice I've seen in the responses is good. What I'd add from my own experience is:

1. Don't hesitate to cite nonprofessional experience if it applies. I've designed and built some nifty projects and published a few on the web and elsewhere. I put those in a section of my resume labeled "hobby achievements".

2. I have the utmost respect for schooling and degrees but I am self-taught and so are some of my coworkers. Small companies tend to focus more on results and less on credenitals, so if you're in a position where you have more abilities than you can prove on paper, you might want to try small companies.

3. If you don't get a job you wanted, ask that employer specifically what education you should pursue, and if you really want the job, come back in a year or so and try again. That makes a tremendous impression and I've been in on at least one such hiring.

4. Whatever education you pursue, do lots of hands-on projects on your own. They're fun, but they're also an important part of your education. It's one thing to write "10 watts" as the answer to a textbook problem on power supplies and another thing altogether to put your finger on a resistor that is dissipating 10 watts, or to observe how quickly a battery runs down under that kind of load.

Good luck to the original poster or anyone else who is interested in electronics. It's fun and exciting stuff!

David

729. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 17:01:30 UTC
From: Denis O' Flynn <denisf@eircom.net>
Message-ID: <wHTVa.25387$pK2.39399@news.indigo.ie>
Source record: 33846

Hi John

No, A voice keyer for contests etc. I use the VoiceKey Express software
but I have to highlight the programme to activate the keyer and then
activate the logging programme to log the station. If I had an external
keyer hooked up to the rig it would get over this problem

de Denis EI6HB
ei6hb@eircom.net

"John R. Strohm" <strohm@airmail.net> wrote in message
news:bg75fc$kr3@library2.airnews.net...
> "Denis O' Flynn" <denisf@eircom.net> wrote in message
> news:bfzVa.25241$pK2.39673@news.indigo.ie...
> > Anyone have circuit diagram for an external voice keyer?
>
> Sorry, Denis, but do you mean a VOX, or something else?
>
>

730. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 20:28:29 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <nq8giv887ibmjk7066fsceobg5fhob13rg@4ax.com>
Source record: 33747
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 30 Jul 2003 01:11:15 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>Hello Paul,
>I would try out your old AM set for sure. You never know
>your luck. If the servo connections are compatible it will
>only take a short time. What brand/model?

It's a Futaba and it *has* been tried. We used it last time out solely
for weapon actuation and the result was *outrageously* dangerous and
uncontrolable. Far, far worse than FM. You wouldn't have believed it
if you hadn't seen it for yourself. It was pure luck that no one was
killed or seriously injured.

>Even if you do not fit the AM set to the robot, take the
>working AM set in a box to the venue and see if the
>servos misbehave in that electrical noisy environment.

See above. We won't be using that set-up ever again for this
application!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

731. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 23:07:39 UTC
From: Robert Offer <robert@g1zjp.freeserve.co.uk>
Message-ID: <bg9j54$v8j$1@news8.svr.pol.co.uk>
Source record: 33748

Hi
Have you tried the one in the ARRL handbook, or even tried adapting a key
fob with voice memo attachment - used to be available from Maplin years ago.
Hope this helps
73
Bob
G1ZJP

732. Trap test trauma

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 23:23:08 UTC
From: Dutchman <h@ns.co.za>
Message-ID: <3f28537e$0$235@hades.is.co.za>
Source record: 33749

Hi all,

I need some advice (moral support?) as to the correct interpretation of an MFJ259B output when testing traps as its handbook gives no guidance for trap testing. Intuitive interpretation leads one up the garden path? A commercial and home-brew trap gave the same results. Tests were done as
follows:
(All measurements were verified by an additional external freq. counter)

A 50 ohm carbon resistor was used in series with the hot output which connected to a 2-turn 55mm dia loop of wire that was loosely coupled to a
trap for 40m; the other end of the loop going back to the MFJ ground.
The total loop alone measures R=51 X=14.
Tuning the frequency with the trap in-situ resulted in 3 points of interest:

a) 7.00 MHz R=51 X=0
b) 7,08 MHz R=60 X=14
c) 7,20 MHz R=120 X=42

Which is the actual parallel resonance of the trap? My guess is point (b)
where no reactance is added or subtracted by the "load" and the trap is not
seen by the MFJ.
This is an in-between point that has no sharp tuning like points (a) and (c)

I also assume point (a) is where the loop and trap combination present a pure high dynamic impedance to the MFJ output.

The same test with a dip-meter and its associated coil only showed a dip at point a) which I consider close but incorrect. The trap is admittedly series-resonant and absorbs maximum power from the dip-meter but I contend
that testing open-ended traps may be deceptive as they seem to exhibit both
a series and parallel resonance not far apart.

Terminating the open end eliminates point (c) altogether as I proved with a
swept measurement using an IFR analyzer: There is only a minimum response
visible on the scope display around 7,20 MHz (c) which must be a

parallel
resonance as the trap is in series with the IFR input. However, the
proximity
of the trap body to the faceplate could influence the frequency but NOT
the
fact that the series resonance has totally disappeared.

Any comments will be welcome!
Thanks
Hans ZS6KR

733. Re: PIC Frequency Locked Loop

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 23:46:30 UTC
From: Murray Greenman <murrayg@edml.co.nz>
Message-ID: <3f2855fc$1@news.iconz.co.nz>
Source record: 33750

This has been an interesting discussion and some good ideas have arisen. I thought I might add my 2c into the pot.

I have been working in a related area, PLL of precision references using a micro. As well as references for 5 and 10MHz, I have a simple transmitter for 80/40/30m that uses a VCXO and phase locks it to an external precision reference, such as a GPS or TV sync. I use 50 or 100Hz as the loop frequency, and achieve stability of 2 parts in 10^7 with no real trouble, even with a room temp cheap crystal, and incredibly low phase noise and low sidebands (the 50Hz sidebands about 50dB down and the carrier phase noise is -30dB only 0.1Hz out from the carrier).

Sure, lockup time is very slow, which isn't important in this application, but you guys might like to consider some of my ideas on the subject:

* My VCXO is actually the micro's crystal. I use an ATMEL 2313, and use the 16 bit timer as the main divider. This is where you plug in the frequency you want - for example, for 3.8MHz you divide by 3800, as the counter reloads at 1kHz (actually, any multiple of 50Hz or 100Hz would do).

* The PLL operates by undersampling the counter at 50 or 100Hz. This adds gain to the loop, since 10 or 20 times the phase shift occurs, but it does mean there's an ambiguity in frequency every 50 or 100Hz. You might have to rethink that. You could count right down to 100Hz with a VCXO as high as 6.5MHz (limited by the size of the counter, not the micro speed). To go higher, use a divider ahead of the micro. The 2313 micro will run at 16MHz easily, so 20m is no problem.

* I use a simple 8 bit software driven PWM D-A converter. It can easily be extended to more than 8 bit, but the more bits, the slower it gets, so becomes harder to get rid of the PWM sample clock. I run it at 1kHz, 8 bit, which you would expect to give a strong 1000/256 = 3.9 Hz component, but I get around that through "PWM randomization" - instead of incrementing the PWM counter by one, I increment it by 13, which randomizes the output and increases the effective PWM clock to about 40Hz. BTW, this technique also works with hardware (R-2R) D-A converters, so can be used to extend 8 bit to 10 or 12 bit easily. 12 bit would need only 4 bit PWM.

* I keep the hardware gain (i.e. the voltage to frequency conversion of the varicap) as LOW AS POSSIBLE and control the system gain in the firmware. I also have filters in the firmware and techniques to remove dud phase measurements which can happen when using a TV frame frequency reference.

* I use the UART to control the device, and also to get telemetry back, for example the PWM loop voltage. The whole system operates in a 1kHz timer interrupt, so the main processor can do other things (in my case it runs a

beacon, a real time clock, and sends telemetry).

* My transmitter circuit has only 3 chips. The micro, a 74HC00 that acts as the 40mW transmitter, and a sync separator for the TV timing reference.

I think some of these things would have application in a 20m PSK receiver. The tuning range required is small, would suit a VCXO, and there's no reason why you couldn't step the frequency in 100Hz or 50Hz steps. Use a 1MHz reference crystal divided to 100Hz to lock the VCXO. You'd just need to up the settling speed by perhaps using a hardware D-A. You could change the divider by commands from the UART.
Keep the discussion going! Very interesting!

73,
Murray ZL1BPU
www.qsl.net/zl1bpu/micro

734. Re: Transmitter tube testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 23:47:20 UTC
From: castles <castles@yestertronics.com>
Message-ID: <3F285908.AC1B266B@yestertronics.com>
Source record: 33751

Hi Harold,

Thanks for the input on the tube testing. I have an HP-6035 Power Supply for the plate source and it
only goes up to 500 Volts. I was hoping to build something that I could just breadboard and then take
apart after I had tested the tubes. So it would be very simple and I would triode connect tubes with
more elements. I thought that this would be better than just selling the tubes with no information on
them. Mainly an emission check. Another response suggested a hi-pot test for gas. Did you find any of
your tubes to be gassy?

Thanks again for your help, Don W6QEY

w4pqw@cox.net wrote:

> castles <castles@yestertronics.com> wrote in message
news:<3F25E955.43DC55C6@yestertronics.com>...
> > I would like to build a set up for testing transmitting tubes. I was
> > thinking of just testing a couple of points. My power supply will have a
> > capability of 500 volts maximum at 2 amps. I would test a triode for
> > instance for cutoff and then I was thinking of going to the plate
> > dissapation value. I would do this short term so that the tube would not
> > need to have forced air cooling.
> >
> > I am planning to sell some of my transmitting tubes and would like to
> > advertise them as having passed a series of tests. What tests would be
> > most meaningful?
> >
> > Thanks for you suggestions, Don
> ++++ I recently built a transmitter tube tester. I made several
> sockets ,4 pin 5 pin 6 pin etc for 811, 4-400/3-500, 813, etc.For
> instance,to test 811 tubes, I would drop in the 4 pin socket,hook up
> proper filament,set bias voltage as per tube data, set up for 811
> tubes and test all I had .. I used about 1400 Volts on plate,had
> adjustable filament voltage..I had var bias,var screen.. I tested for
> emission by reading plate current..I worked out very well for matching
> emission on several tubes ..I also applied RF drive ,usually at 14
> mhz.using a standard ham transmitter..an old Heathkit is OK..anything
> with adjustable RF power out.a soft tube will come up to about normal
> and will then start to fall-off..A person could keep on hand a known
> good tube for comparsion...good luck Harold W4PQW Ps: I sold my
> tester after I finished testing all my tubes..

735. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-30 23:51:31 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F285A03.2040900@hotmail.com>
Source record: 33753

I'm taking Electronics Engineering Technician at Saint Lawrence College this fall so I can pursue a similar career. It's a 2 year program, and it seems to be available at most college's. The starting salary for a technician is supposed to be about $35,000 CDN. The technologist level (3 year program) is about $45,000 CDN starting. If you wanted to go university level it's 4 years plus and the salary is much higher, but the math level is crazy.

Justin wrote:
> I am not sure if this is the right place to be posting this, but i
> figure its worth a shot. OK, first of all i have been away from radio
> for a few years (regretably) my call is KB2YFH. Anyway, i got my
> ticket when i was 16 i think or maybe younger... My question is i am
> getting older and still have nothing but a H.S diploma and dead-end
> jobs to show for... so, obviously i would like to continue my
> education. I realize now that my only true love was fixing and
> tinkering with my old radio equipment. I would like to know if someone
> could tell me what career path i should take that will qualify me and
> give me the experience i need in working with electronic equipment...
> preferably Wireless communications, RF circuts ... you know all the
> skills used to diagnose and repair such things as amateur transievers
> etc. I was licensed in NJ, but recently moved to Florida's Space
> Coast (Melbourne) where i am happy to see that ham radio is alive and
> thriving. I assume taking courses in electronic engineering would be
> in the right direction, but i am not sure exactly what i should do. If
> anyone could please give me some advice on what type of schooling i
> should look for, and if possible what schools are good for what i am
> looking for it would be greatly aprreciated. Thank you and i look
> forward to getting back on the air ASAP.
>
> Justin198103@yahoo.com

736. Remote Control signals over coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 00:01:06 UTC
From: Joel <joel@cyberbest.com>
Message-ID: <s%YVa.1754$P%1.659440850@twister2.starband.net>
Source record: 33752

I have a DSS receiver that I run into a modulator and then can use the Satellite all over the house as if it was cable. The problem is we need to extend the IR from the remote control. We are now using some RF units from RCA and while they worked well for a few years, over time they are drifting off frequency. It seems to me it would make more sense to build some sort of 'device' to send the IR signals over the coax and then pull it out at the receiver end. Anyone have any suggestion or experience with building such an animal?

Joel AG4QC

737. Re: Remote Control signals over coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 00:28:21 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <FoZVa.6493$Jz2.1488@nwrdny02.gnilink.net>
Source record: 33754

Joel,
There are a number of products on the market that do everything you want.
They wirelessly rebroadcast the output of your set top box to other TV's,
and also wirelessly send back the signals from the remote. I can't remember
brand names off-hand, but do a search on "video sender" and you should get
some good hits.

Joe
W3JDR

"Joel" <joel@cyberbest.com> wrote in message
news:s%YVa.1754$P%1.659440850@twister2.starband.net...
> I have a DSS receiver that I run into a modulator and then can use the
> Satellite all over the house as if it was cable. The problem is we need to
> extend the IR from the remote control. We are now using some RF units from
> RCA and while they worked well for a few years, over time they are
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> off frequency. It seems to me it would make more sense to build some
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> of 'device' to send the IR signals over the coax and then pull it out at
the
> receiver end. Anyone have any suggestion or experience with building such
an
> animal?
>
> Joel AG4QC
>
>
>

738. Re: Remote Control signals over coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 01:00:43 UTC
From: Joel <joel@cyberbest.com>
Message-ID: <ITZVa.1763$p04.667694237@twister2.starband.net>
Source record: 33755

Thanks for the suggestion, but I already have a modulator that sends the locals and the Satellite to all the TV's in the house. I just need to somehow get the inferred remote control signal back to the receiver. Considering I already have coax run to each TV, it would make sense to us that, piggy backed on the cable. I did a google search and found about what I need if I wanted to buy all the equipment.. Except I would rather build my own. Seems to me I could modulate a low frequency carrier or DC signal and send it back over the coax.

"W3JDR" <joe@roccis.com> wrote in message
news:FoZVa.6493$Jz2.1488@nwrdny02.gnilink.net...
> Joel,
> There are a number of products on the market that do everything you want.
> They wirelessly rebroadcast the output of your set top box to other TV's,
> and also wirelessly send back the signals from the remote. I can't
remember
> brand names off-hand, but do a search on "video sender" and you should get
> some good hits.
>
> Joe
> W3JDR
>
>
> "Joel" <joel@cyberbest.com> wrote in message
> news:s%YVa.1754$P%1.659440850@twister2.starband.net...
> > I have a DSS receiver that I run into a modulator and then can use the
> > Satellite all over the house as if it was cable. The problem is we need
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> > extend the IR from the remote control. We are now using some RF units
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> > animal?
> >
> > Joel AG4QC
> >
> >

> >
>
>

739. Re: Remote Control signals over coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 01:27:04 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <If_Va.2408$cI2.990@nwrdny01.gnilink.net>
Source record: 33756

Joel,
Any RF signal you put onto the coax could be severely attenuated by any splitters that are in your distrubution network. Attenuation will range from a paltry 3.5 dB from splitter output-to-input, but could be as much as 40dB from output-to-output If you start out with a relatively strong transmitted signal and have a relatively sensitive receiver, I suppose it would work, but beware of higher than expected path losses. DC is probably out of the question because many splitters and other equipment present a DC short-circuit. You should consider a frequency of at least a few Mhz.

Joe
W3JDR

"Joel" <joel@cyberbest.com> wrote in message
news:lTZVa.1763$p04.667694237@twister2.starband.net...
> Thanks for the suggestion, but I already have a modulator that sends the
> locals and the Satellite to all the TV's in the house. I just need to
> somehow get the inferred remote control signal back to the receiver.
> Considering I already have coax run to each TV, it would make sense to us
> that, piggy backed on the cable. I did a google search and found about
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> I need if I wanted to buy all the equipment.. Except I would rather build
my
> own. Seems to me I could modulate a low frequency carrier or DC signal
and
> send it back over the coax.
>
>
> "W3JDR" <joe@roccis.com> wrote in message
> news:FoZVa.6493$Jz2.1488@nwrdny02.gnilink.net...
> > Joel,
> > There are a number of products on the market that do everything you
want.
> > They wirelessly rebroadcast the output of your set top box to other
TV's,
> > and also wirelessly send back the signals from the remote. I can't
> remember
> > brand names off-hand, but do a search on "video sender" and you should
get
> > some good hits.
> >
> > Joe
> > W3JDR
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> > "Joel" <joel@cyberbest.com> wrote in message
> > news:s%YVa.1754$P%1.659440850@twister2.starband.net...
> > > I have a DSS receiver that I run into a modulator and then can use the
> > > Satellite all over the house as if it was cable. The problem is we
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> > > receiver end. Anyone have any suggestion or experience with building
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> > > animal?
> > >
> > > Joel AG4QC
> > >
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740. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 01:43:36 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bg9slt$9ps@library2.airnews.net>
Source record: 33757

OK, I've been out of ham radio for a lot of years. What *IS* a voice keyer?

Is this a solid-state voice recorder/player, that lets you can certain
phrases the way a CW memory keyer lets you can CW fragments, to make it
easier to do contesting, or is there more to it?

Inquiring minds want to know...

"Denis O' Flynn" <denisf@eircom.net> wrote in message
news:wHTVa.25387$pK2.39399@news.indigo.ie...
> Hi John
>
> No, A voice keyer for contests etc. I use the VoiceKey Express
software
> but I have to highlight the programme to activate the keyer and then
> activate the logging programme to log the station. If I had an external
> keyer hooked up to the rig it would get over this problem
>
> de Denis EI6HB
> ei6hb@eircom.net
>
> "John R. Strohm" <strohm@airmail.net> wrote in message
> news:bg75fc$kr3@library2.airnews.net...
> > "Denis O' Flynn" <denisf@eircom.net> wrote in message
> > news:bfzVa.25241$pK2.39673@news.indigo.ie...
> > > Anyone have circuit diagram for an external voice keyer?
> >
> > Sorry, Denis, but do you mean a VOX, or something else?
> >
> >
>
>

741. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 03:05:47 UTC
From: eternalsquire@comcast.net
Message-ID: <904dab11.0307301905.1a772793@posting.google.com>
Source record: 33758

At this point in my life I would attempt to dissuade ANYONE from attempting
to build a career from technology of any sort, unless it is totally in that
person's blood. I am talking dedication far in excess one would normally
give a spouse.

Reasons:

1. There are now very heavy market forces toward globalization. This means
most technology jobs at the low and medium ends of the scale are being outsourced
to third-world countries such as India, Mexico, and China.

2. There is rampant age discrimination in the field, and companies
make it extremely expensive to prove such. Your chances of getting and keeping an
engineering, software, or electronics job diminish greatly upon reaching the
age of about 35. Your chances of such upon the age of 40 are such that a
great amount of luck is called for.

3. Engineers and other "techies" have now become such a commodity that at
many large companies treat them with a fair degree of contempt. Basically,
Dilbert is more true to life than you might think.

4. Craftsmanship is no longer a guarantee of immortality. Whatever dedication
you place into your work will largely wind up in a landfill eventually.

Yes, this all sounds bleak. But this is life.

In your point in life, I would recommend working your way through an
accelerated liberal arts degree at a community college where you could
possibly obtain some credits for life experience. Take practical
courses: accounting, computer programming, 4 units of a foreign
language, and how to teach English as a second language. Take some
arts: pottery is generaly easy. Take math up to integral calculus.
Then fill your mind with civics, western history, and culture.

At that point you should be prepared to teach English in the Peoples' Republic of China.

Good luck,

The Eternal Squire

742. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 03:07:24 UTC
From: eternalsquire@comcast.net
Message-ID: <904dab11.0307301907.7b1be132@posting.google.com>
Source record: 33759

At this point in my life I would attempt to dissuade ANYONE from attempting
to build a career from technology of any sort, unless it is totally in that
person's blood. I am talking dedication far in excess one would normally
give a spouse.

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1. There are now very heavy market forces toward globalization. This means
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2. There is rampant age discrimination in the field, and companies
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Then fill your mind with civics, western history, and culture.

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Good luck,

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743. Paragon modification?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 03:33:52 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <rb3hivggs0ni66u9jn7kjet2mrl345ese3@4ax.com>
Source record: 33760

I understand that there is a modification that can be made to the
TenTec Paragon so that it will transmit on the new 60-meter band.
Does anyone have that information and can help me out?

Thanks,
Danny, K6MHE

744. Re: Trap test trauma

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 04:23:47 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F2899CE.591FC55B@bellatlantic.net>
Source record: 33761

Dutchman wrote:
>
> Hi all,
>
> I need some advice (moral support?) as to the correct interpretation of
> an MFJ259B output when testing traps as its handbook gives no guidance
> for trap testing. Intuitive interpretation leads one up the garden path?
> A commercial and home-brew trap gave the same results. Tests were done
> as
> follows:
> (All measurements were verified by an additional external freq. counter)
>
> A 50 ohm carbon resistor was used in series with the hot output which
> connected to a 2-turn 55mm dia loop of wire that was loosely coupled to
> a
> trap for 40m; the other end of the loop going back to the MFJ ground.
> The total loop alone measures R=51 X=14.
> Tuning the frequency with the trap in-situ resulted in 3 points of
> interest:
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> a) 7.00 MHz R=51 X=0
> b) 7,08 MHz R=60 X=14
> c) 7,20 MHz R=120 X=42
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> Which is the actual parallel resonance of the trap? My guess is point
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> This is an in-between point that has no sharp tuning like points (a) and
> (c)
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> I also assume point (a) is where the loop and trap combination present a
> pure high dynamic impedance to the MFJ output.
>
> The same test with a dip-meter and its associated coil only showed a dip
> at point a) which I consider close but incorrect. The trap is admittedly
> series-resonant and absorbs maximum power from the dip-meter but I
> contend
> that testing open-ended traps may be deceptive as they seem to exhibit
> both
> a series and parallel resonance not far apart.
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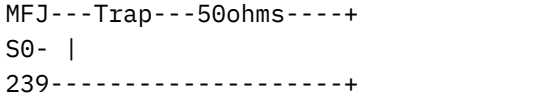
> Terminating the open end eliminates point (c) altogether as I proved

> with a
> swept measurement using an IFR analyzer: There is only a minimum
> response
> visible on the scope display around 7,20 MHz (c) which must be a
> parallel
> resonance as the trap is in series with the IFR input. However, the
> proximity
> of the trap body to the faceplate could influence the frequency but NOT
> the
> fact that the series resonance has totally disappeared.
>
> Any comments will be welcome!
> Thanks
> Hans ZS6KR

What happens if you try this? No link coupling - direct
impedance reading. Wouldn't resonance be at lowest Z on
the MFJ readout?



745. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 05:16:21 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bga8n5$86n$0@208.206.142.77>
Source record: 33762

Sage advice, I fear. Not long ago there were some EE's on a usenet group lamenting the shipping of so much engineering work offshore to places like India and the Middle East. Even Microsoft is doing it, so I read. I wonder who they plan to sell all their products to with all the unemployment they generate?

Not a good time to become a techie, indeed, even in computing, as they're importing computer engineers under a special visa plan, to work at reduced rates. Nice.

Some years ago when my son in law was in engineering school deciding on a major, my daughter suggested transportation engineering, as there seems to be no end to the growth in that field. Turns out to be one of the areas where it is difficult to ship the work out of country, too. You can't build a highway in Texas by doing the engineering overseas, it's largely got to be done on site!
He's doing quite well in that field.

The Eternal Squire wrote:

> At this point in my life I would attempt to dissuade ANYONE from
> attempting
> to build a career from technology of any sort, unless it is totally in
> that
> person's blood. I am talking dedication far in excess one would
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> 2. There is rampant age discrimination in the field, and companies
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> age of about 35. Your chances of such upon the age of 40 are such
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> 3. Engineers and other "techies" have now become such a commodity
> that at
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> Basically,
> Dilbert is more true to life than you might think.
>
> 4. Craftsmanship is no longer a guarantee of immortality. Whatever
> dedication
> you place into your work will largely wind up in a landfill
> eventually.
>
> Yes, this all sounds bleak. But this is life.
>
> In your point in life, I would recommend working your way through an
> accelerated liberal arts degree at a community college where you could
> possibly obtain some credits for life experience. Take practical
> courses: accounting, computer programming, 4 units of a foreign
> language, and how to teach English as a second language. Take some
> arts: pottery is generaly easy. Take math up to integral calculus.
> Then fill your mind with civics, western history, and culture.
>
> At that point you should be prepared to teach English in the Peoples'
> Republic of China.
>
> Good luck,
>
> The Eternal Squire

746. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 06:48:57 UTC
From: john_c@tpg.com.au
Message-ID: <3f28765b.18859795@News.CIS.DFN.DE>
Source record: 33763
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 30 Jul 2003 21:28:29 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>>Even if you do not fit the AM set to the robot, take the
>>working AM set in a box to the venue and see if the
>>servos misbehave in that electrical noisy environment.
>
>See above. We won't be using that set-up ever again for this
>application!
>--

Hello Paul,
I think you are missing my point when you said,
"We won't be using that set-up ever again for this application!"

My point is this. If the radio control set works OK, while just
sitting in its own cardboard box , at the noisy Venue, meaning,
the servos work nice and smooth. If you then install that same
Rx and servo set into your metal box robot and the servos
play up, that is now an " installation problem."
You cannot blame the gear.

Let's try and sort this out with some basic checks.

Using a field strength meter (which is just a simple
crystal set with a large moving coil meter as discussed
months ago, I assume you have made one already), are
both the Sanwa and Futaba transmitters producing
similar output power when compared to a known
good working transmitter? Yes or No?

At your place, are range checks of both the Sanwa
and Futaba R/C sets, on there own, not installed
in anything, over 100 yards . Yes or No?

At your place, are range checks of both the Sanwa and
Futaba R/C sets installed in the robot or metal test box
with "no" drive motors connected still over 100 yards.
Yes or No?

At your place, are range checks of both Sanwa and
Futaba with drive motors being controlled and
running nicely, still over 100 yards. Yes or No?

At the noisy Venue, while doing a range check of less than
30 yards with all other competitors absent or their

transmitters switched off in the Tx compound, do both
your Sanwa and Futaba R/C sets play up?
Yes or no?

At The Venue, do other competitor's radio control
sets play up like yours Yes or No?

At the Venue have you scanned the band with a
simple crystal set type radio or fancy scanner for some
bastard with a transmitter who is determined to give
you, personally, a hard time?

One last thought, I take it that you have sorted your
aerial out so that you do not have a long dangly
piece of wire as an antenna lead-in, inside the
metal robot body from the base of your whip antenna
mounting bracket to the Rx input.
If you do have a long wire lead-in, that is bad as it
will pick up local motor noise very nicely.
If your Rx is a long way away from your antenna base,
use coax for the lead-in as explained here.
http://homepages.which.net/~paul.hills/Radio/Radio.html

If after all that basic stuff has been checked and still no joy
then consider a dual conversion superhet Rx. like this one.
http://www.norcim.fsnet.co.uk/Index.htm#U
You could scratch build from the given circuit and the
description of how it works on that web site.
Or buy the kit from Micron for 32 quid.

If you are still having problems after all that,
sorry Paul, I give up.

Regards,
John Crighton
Sydney

747. FA : Minisynth systhesised VFO pcb & data

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 07:17:12 UTC
From: Adrian <adrian@ambquality.co.uk>
Message-ID: <VA.00003d43.0d562b50@ambquality.co.uk>
Source record: 33764

Hi all

For auction on Ebay - compact PCB provides highly stable local
oscillator for homebrew TX / RX, with IF offsets etc.

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&category=1501&item=3038
292883

also nice 2m / 70cm mobile whip antenna

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&category=1502&item=3038
292833

Watch out for the linewrap on these URLs!

73
Adrian G0THW
Suffolk UK

748. Re: Trap test trauma

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 09:18:41 UTC
From: Dutchman <h@ns.co.za>
Message-ID: <3f28f45f$0$231@hades.is.co.za>
Source record: 33768

<ehsjr@bellatlantic.net> wrote in message
news:3F2899CE.591FC55B@bellatlantic.net...

Dutchman wrote:

Hi all,

I need some advice (moral support?) as to the correct interpretation
of an MFJ259B output when testing traps as its handbook gives no
guidance for trap testing. Intuitive interpretation leads one up the
garden path?
A commercial and home-brew trap gave the same results. Tests were done
as follows:
(All measurements were verified by another external freq. counter)

A 50 ohm carbon resistor was used in series with the hot output which
connected to a 2-turn 55mm dia loop of wire that was loosely coupled
to a trap for 40m; the other end of the loop going back to the MFJ
ground. The total loop alone measures R=51 X=14.
Tuning the frequency with the trap in-situ resulted in 3 points of
interest:

a) 7.00 MHz R=51 X=0
b) 7,08 MHz R=60 X=14
c) 7,20 MHz R=120 X=42

Which is the actual parallel resonance of the trap?
My guess is point(b) where no reactance is added or subtracted by the
"load" and the trap is not seen by the MFJ.
This is an in-between point that with no sharp tuning like points a)or
c)

I also assume point (a) is where the loop and trap combination present a
pure high dynamic impedance to the MFJ output.

The same test with a dip-meter and its associated coil only showed a dip
at point a) which I consider close but incorrect. The trap is admittedly
series-resonant and absorbs maximum power from the dip-meter but I
contend that testing open-ended traps may be deceptive as they seem to
exhibit both a series and parallel resonance not far apart.

Terminating the open end eliminates point (c) altogether as I proved
with a swept measurement using an IFR analyzer: There is only a minimum
response visible on the scope display around 7,20 MHz (c) which must be
a parallel resonance as the trap is in series with the IFR input.
However, the proximity of the trap body to the faceplate could influence
the frequency but NOT the fact that the series resonance has totally

disappeared.

Any comments will be welcome!
Thanks
Hans ZS6KR

| What happens if you try this? No link coupling - direct
| impedance reading. Wouldn't resonance be at lowest Z on
| the MFJ readout?
|
| MFJ---Trap---50ohms----+
| S0- |
| 239--------------------+

Thanks for your suggestion but this also gives the same as the terminated measurement where the only only throughput occurs way off parallel resonance both sides but using the MFJ the actual parallel resonance point cannot be measured due to infinite SWR being out of range of the meter.

749. Re: Neighbor Tanning Nude -- VIRUS ALERT!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 10:06:04 UTC
From: dsouter@lycos.com
Message-ID: <3f30f771.306467987@souter.pouter>
Source record: 33765
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
-----BEGIN PGP SIGNED MESSAGE-----

On 31 Jul 2003 09:45:24 GMT, dsouter@-remove-bellsouth.net (Don
Souter) wrote:

>
>Do not download or open this message. It contains the
>W32/spybot.worm.gen virus. If you have d/l'd it, delete it
>immediately. The troll from Altopia has now become a federal
>law breaker.

Quick, call your lawyer, write to Altopia, post to altnet.general or
alt.privacy.anon-server....

FOR GOD'S SAKES DON'T LET THIS OPPORTUNITY TO SNITCH ON SOMEONE PASS
YOU BY. LOLOLOLOL

You are too pathetic for words. <g>

-----BEGIN PGP SIGNATURE-----
Version: PGPfreeware 6.5.8 for non-commercial use <http://www.pgp.com>

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=JRru
-----END PGP SIGNATURE-----
```

750. Re: Remote Control signals over coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 10:32:35 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <bs6Wa.264$7%5.100594@newsfep1-win.server.ntli.net>
Source record: 33766

"Joel" <joel@cyberbest.com> wrote in message
news:s%YVa.1754$P%1.659440850@twister2.starband.net...
> I have a DSS receiver that I run into a modulator and then can use the
> Satellite all over the house as if it was cable. The problem is we need to
> extend the IR from the remote control. We are now using some RF units from
> RCA and while they worked well for a few years, over time they are
drifting
> off frequency. It seems to me it would make more sense to build some
sort
> of 'device' to send the IR signals over the coax and then pull it out at
the
> receiver end. Anyone have any suggestion or experience with building such
an
> animal?
==========
Just for info :
To watch TV and switch channels from a remote location in the house other then the location where the digital sat rx and another TV set are located , I have installed a piece of consumer electronics costing equiv US $ 150.-

It comprises a 2.4 GHz tx at the digital sat rx site and an identically looking 2.4 GHz rx at the remote location . This link takes cares of picture and sound to be carried to the remote location.

In addition ,the enclosure of the above 2.4 GHz rx accomodates a 433 MHz LPD (low power device) link tx receiving its input from an infrared handheld device at the remote location.
The enclosure of the 2.4GHz tx accommodates the 433 MHz LPD link rx ,its output being fed to a separate infra red output device which is fitted in such a way that it can be seen by the infrared receptor of the digital sat rx.
This facility makes it possible to select any digital sat rx channel from the remote location .
The infra red handheld device at the remote location can also control the audio volume of the TV set at the remote location through this TV set's own built-in infra red receptor.

Hence there are NO cables (coax or otherwise) required between the 2 sites
I imagine this type of kit is also available from outlets in the USA like Ratshack.

In Europe (CEPT countries) the 433 MHz LPD band is used for various unlicensed devices including car key fobs.

Note : If the above remote TV set is installed in a kitchen equipped with a microwave oven ,the oven when switched on would cause interference to the

2.4GHz picture/audio link (although only the picture will likely be affected).

Frank GM0CSZ / KN6WH

751. Re: Paragon modification?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 10:42:05 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <cs6Wa.265$7%5.100594@newsfep1-win.server.ntli.net>
Source record: 33767

"Dan Richardson" <ChangeThisToCallSign@mendolink.com> wrote in message
news:rb3hivggs0ni66u9jn7kjet2mrl345ese3@4ax.com...
> I understand that there is a modification that can be made to the
> TenTec Paragon so that it will transmit on the new 60-meter band.
> Does anyone have that information and can help me out?
==========
Yes ,you simply remove 1 wire link making the tx operable across the HF
spectrum.
Manual Reference figure 6-57 Logic Board (81267) Component Layout
Remove link marked HAM located near R13 and R14.

Frank GM0CSZ / KN6WH

752. Re: Neighbor Tanning Nude -- VIRUS ALERT!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 11:44:21 UTC
From: dsouter@lycos.com
Message-ID: <3f34febe.339008147@souter.pouter>
Source record: 33776
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

-----BEGIN PGP SIGNED MESSAGE-----

On Thu, 31 Jul 2003 11:34:08 GMT, dsouter@-remove-bellsouth.net (Don
Souter) wrote:

>
>On 31 Jul 2003 09:45:24 GMT, Fake Don Souter wrote:
>>
>> Do not download or open this message. It contains the
>
>This time you have impersonated both me and my domain name
>from Altopia. Complaint registered with abuse@alt.net.

This time you have tried to impersonate someone with a brain and have
again totally failed. <g>

- -remove-bellsouth.net is not a domain name, ya dope. LOL

Contact your lawyer and have him explain the finer points of
impersonation to you before you try to impersonate someone with any
intelligence from now on. .

Congratulations to Aunt Bea, Stagger Lee and Abdullah Mutlag Naser
Mussaed Hawran Shbeib Al-Mutairi for making you dance the dance and
jump through their hoops. <g>

-----BEGIN PGP SIGNATURE-----
Version: PGPfreeware 6.5.8 for non-commercial use <http://www.pgp.com>

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=QFK6
-----END PGP SIGNATURE-----

753. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 12:09:08 UTC
From: Denis O' Flynn <denisf@eircom.net>
Message-ID: <ov8Wa.25510$pK2.40070@news.indigo.ie>
Source record: 33770

Hi agn John

Yes that's bascially it. A means to key the rig and call CQ etc without
using and losing your voice.

de Denis EI6HB

"John R. Strohm" <strohm@airmail.net> wrote in message
news:bg9slt$9ps@library2.airnews.net...
> OK, I've been out of ham radio for a lot of years. What *IS* a voice
keyer?
>
> Is this a solid-state voice recorder/player, that lets you can certain
> phrases the way a CW memory keyer lets you can CW fragments, to make it
> easier to do contesting, or is there more to it?
>
> Inquiring minds want to know...
>
> "Denis O' Flynn" <denisf@eircom.net> wrote in message
> news:wHTVa.25387$pK2.39399@news.indigo.ie...
> > Hi John
> >
> > No, A voice keyer for contests etc. I use the VoiceKey Express
> software
> > but I have to highlight the programme to activate the keyer and then
> > activate the logging programme to log the station. If I had an external
> > keyer hooked up to the rig it would get over this problem
> >
> > de Denis EI6HB
> > ei6hb@eircom.net
> >
> > "John R. Strohm" <strohm@airmail.net> wrote in message
> > news:bg75fc$kr3@library2.airnews.net...
> > > "Denis O' Flynn" <denisf@eircom.net> wrote in message
> > > news:bfzVa.25241$pK2.39673@news.indigo.ie...
> > > > Anyone have circuit diagram for an external voice keyer?
> > >
> > > Sorry, Denis, but do you mean a VOX, or something else?
> > >
> > >
> >
> >
>
>

754. Re: Trap test trauma

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 12:35:19 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bgb2e7$i6f$1@titan.btinternet.com>
Source record: 33769

To check resonant frequency of an antenna trap -

Put a 1-turn loop around centre of trap, closely coupled.

Extend the loop wires to the 259B or Autek via 6 or 8 or 10 inches of
loosely twisted pair of wires.

Switch meter to Z range.

Initially the meter will read a very low value of Z.

Slowly vary frequency until impedance increases very sharply to several
hundred ohms. Vary frequency for maximum impedance indication.

Resonance will be very sharp. If the meter should go past full scale
reading, slacken off the loop.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

755. VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 15:13:19 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bgbbu3$8ca$1@reader08.wxs.nl>
Source record: 33771

Hello,
I've made a VHF receiver and I want to add a PLL to control the VCO. In order to calculate the loop filter, I need to know the VCO gain, but I don't know how to calculate (or measure) it. For information the VCO is a colpitts oscillator.
Could someone help me ?

Thank you in advance ;-)

756. Re: Trap test trauma

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 15:40:04 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F293846.5E56E8A0@bellatlantic.net>
Source record: 33772

Dutchman wrote:
>
> <ehsjr@bellatlantic.net> wrote in message
> news:3F2899CE.591FC55B@bellatlantic.net...
>
> Dutchman wrote:
>
> Hi all,
>
> I need some advice (moral support?) as to the correct interpretation
> of an MFJ259B output when testing traps as its handbook gives no
> guidance for trap testing. Intuitive interpretation leads one up the
> garden path?
> A commercial and home-brew trap gave the same results. Tests were done
> as follows:
> (All measurements were verified by another external freq. counter)
>
> A 50 ohm carbon resistor was used in series with the hot output which
> connected to a 2-turn 55mm dia loop of wire that was loosely coupled
> to a trap for 40m; the other end of the loop going back to the MFJ
> ground. The total loop alone measures R=51 X=14.
> Tuning the frequency with the trap in-situ resulted in 3 points of
> interest:
>
> a) 7.00 MHz R=51 X=0
> b) 7,08 MHz R=60 X=14
> c) 7,20 MHz R=120 X=42
>
> Which is the actual parallel resonance of the trap?
> My guess is point(b) where no reactance is added or subtracted by the
> "load" and the trap is not seen by the MFJ.
> This is an in-between point that with no sharp tuning like points a)or
> c)
>
> I also assume point (a) is where the loop and trap combination present a
> pure high dynamic impedance to the MFJ output.
>
> The same test with a dip-meter and its associated coil only showed a dip
> at point a) which I consider close but incorrect. The trap is admittedly
> series-resonant and absorbs maximum power from the dip-meter but I
> contend that testing open-ended traps may be deceptive as they seem to
> exhibit both a series and parallel resonance not far apart.
>
> Terminating the open end eliminates point (c) altogether as I proved

> with a swept measurement using an IFR analyzer: There is only a minimum
> response visible on the scope display around 7,20 MHz (c) which must be
> a parallel resonance as the trap is in series with the IFR input.
> However, the proximity of the trap body to the faceplate could influence
> the frequency but NOT the fact that the series resonance has totally
> disappeared.
>
> Any comments will be welcome!
> Thanks
> Hans ZS6KR
>
> | What happens if you try this? No link coupling - direct
> | impedance reading. Wouldn't resonance be at lowest Z on
> | the MFJ readout?
> |
> | MFJ---Trap---50ohms----+
> | S0- |
> | 239--------------------+
>
> Thanks for your suggestion but this also gives the same as the
> terminated measurement where the only only throughput occurs way off
> parallel resonance both sides but using the MFJ the actual parallel
> resonance point cannot be measured due to infinite SWR being out of
> range of the meter.

Sorry - my mistake. Resonance occurs at highest Z, so
it won't work the way I posted. How about this:

```
MFJ---Trap--A--50ohms-------+
S0- |
239---------B---------------+
```

At points A & B you connect an RF probe to measure
the RF voltage across the resistor. At lowest voltage
you are at resonance. I've never tried that, but it
might work.

757. Re: VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 16:32:35 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bgbgekgbp1@reader10.wxs.nl>
Source record: 33774

Okay, but as it isn't constant over the tuning range, do I have to use the average value of it in the formulas of the filter ?

> VCO gain is basically the first derivative (slope) of the tuning voltage vs.
> frequency function. It's rare to find a VCO that tunes truly linearly, so
> it will differ over the tuning range.
>
>
> There are two ways I've plotted the tuning voltage vs. frequency. One
> of them is the obvious way; connect a frequency counter to the output
> of the VCO (taking care not to load the VCO output inappropriately;
> you'll want to simulate the conditions under which the VCO will actually
> be used), and then vary the tuning voltage very carefully, plotting the
> voltage vs. frequency. From this you can calculate the tuning gain.
>
> Another way, and it might be easier, is to include the VCO in a PLL. Guess at
> the parameters and you'll probably get a loop that locks up. As long as the loop
> is in lock, you can vary the frequency by programming the PLL and measure the
> tuning voltage. As long as your loop reference is reasonably accurate you'll
> get at least as good results as if you used a frequency counter and I believe this
> method is better since you're measuring the VCO gain in the system.
>
> Enjoy!
> Dana K6JQ
>

758. Re: VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 16:35:50 UTC
From: Dana Myers K6JQ <k6jq@arrl.net>
Message-ID: <23046ae680749d827859260aa8f4ece7@free.teranews.com>
Source record: 33773

Damien Teney wrote:
> Hello,
> I've made a VHF receiver and I want to add a PLL to control the VCO. In
> order to calculate the loop filter, I need to know the VCO gain, but I don't
> know how to calculate (or measure) it. For information the VCO is a colpitts
> oscillator.
> Could someone help me ?

VCO gain is basically the first derivative (slope) of the tuning voltage vs. frequency function. It's rare to find a VCO that tunes truly linearly, so it will differ over the tuning range.

There are two ways I've plotted the tuning voltage vs. frequency. One of them is the obvious way; connect a frequency counter to the output of the VCO (taking care not to load the VCO output inappropriately; you'll want to simulate the conditions under which the VCO will actually be used), and then vary the tuning voltage very carefully, plotting the voltage vs. frequency. From this you can calculate the tuning gain.

Another way, and it might be easier, is to include the VCO in a PLL. Guess at the parameters and you'll probably get a loop that locks up. As long as the loop is in lock, you can vary the frequency by programming the PLL and measure the tuning voltage. As long as your loop reference is reasonably accurate you'll get at least as good results as if you used a frequency counter and I believe this method is better since you're measuring the VCO gain in the system.

Enjoy!
Dana K6JQ

759. Marconi Signal Source type 6059A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 18:50:32 UTC
From: g3pho@blueyonder.co.uk
Message-ID: <3f28191a.9564258@news.blueyonder.co.uk>
Source record: 33775

Marconi Signal Source type 6059A

Has anyone got the circuit diagram for this solid state microwave signal source (or any of its "cousins" in the 605## series) ? Would appreciate a copy if you have.

Peter, G3PHO

760. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 19:22:38 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.1993368f70ed140a98973e@news.east.earthlink.net>
Source record: 33777
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <5u55ivsetqf79rf36bvo0rjk26jb3d50fo@4ax.com>,
redscar@waitrose.notformail.com says...
>
> Hi chaps,
>
> I've decided to bite the bullet and try to build an RF filter for
> 40Mhz. This filter will ideally have a very, very sharp characteristic
> at one single spot frequency +-20Khz and attenuate the crap out of
> anything either side of this. It'll need to be tunable over a range of
> say 200Khz. Can anyone give me a steer on what type of arrangement
> would be best suited to fit this purpose?
> Thanks,
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill
>

i just read this thread and had a few thoughts. i don't know what kind of interference you're dealing with, nor do i know what restrictions are placed on your competitions.

i was thinking about front end overload, also. the types of interference vary in different countries, but those paging towers and, taxis, etc. all play hell on a front end. you really need a spectrum analyser to figure out what you're deaaling with.

as for those ceramic resonators, they're ok, but in the better receivers, they're followed by if xfmrs to get rid of the spurious response of the ceramic filter.

since you are thinking of just starting from scratch, here's what i'd do if you're not bound by rules.

http://www.aerocomm.com
http://www.radiometrix.com

cost? i dunno. i figure if you can afford one, good. then you can spend more time on the robotics and weaponry.

if you can use these, the question becomes a matter of whether you can retrofit one of these in time. i'm not ready to look into using them yet and therefore haven't gotten into the details. so i don't know what

you'd have to do to get a PWM signal in and out, but since they handle a higher data rate (1 Mbps) than std R/C PWM, you could bust the PWM signal up into little "chips" and reconstruct it on the receiving end. maybe an integrator/LPF would be all you need. on the other hand, maybe you can just send" the PWM directly. I'm sure the applications engineers could help.

hope this helps.

mike

761. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 19:48:07 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.19933c866d21bf5e989740@news.east.earthlink.net>
Source record: 33778
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

sorry, i did mean PPM, not PWM

a link was provided earlier. might be this, or it may link to this.

there're links to radios for robot wars. according to this page there are 2 bands allowed, so maybe those 2.4GHz radios are verbotten. that sucks! it's a robot competition, not a ham competition.

http://homepages.which.net/~paul.hills/Radio/Radio.html

mike

762. Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 20:19:49 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0307311219.c6b7da5@posting.google.com>
Source record: 33779

Have your circuit-building activities led you to a career? I know Roy does RF engineering consulting work and is most famous for NEC code for antenna simulation. Any others? Is anyone here working at Perkin-Elmer? OI Corporation? Or any of the numerous smaller instrumentation companies? I can see what types of engineering careers homebrewing can lead to: not only RF, but also instrumentation/controls. In fact, many of the projects in the ARRL books are electronic measuring devices.

I graduated with my BSEE from UIUC in 1996. If I had been a ham radio operator and a homebrewer as an undergraduate in electrical engineering, I would probably have invented a time machine by now. :)

In fact, if it were not for ham radio and the Northern Virginia QRP group, I would have no business in EE today. Although I had originally intended to study RF engineering when I applied for graduate schools last year, I changed my mind and switched to the control systems specialty when I enrolled. Working on simple electronics projects (like a car battery tester and electromagnetic field monitor) opened my mind to other parts of EE. I saw that instrumentation and control systems are used in a much wider variety of industries than RF systems. I saw instrumentation/controls as an area that would have value in many areas outside telecom and defense.

Last semester, I designed and built a better SWR/wattmeter, one that could handle 100W like the MFJ versions, provide good measurements at QRP power levels, AND provide good resolution at high SWR levels. (I owe a thank-you to those of you who helped answer my questions.)

I am scheduled to graduate with my MSEE next year, but I am willing to delay my graduation for an electronic instrumentation engineering position.

Jason Hsu, AG4DG
usenet@@@@jasonhsu.com

763. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 21:00:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vij0s4jklcm896@corp.supernews.com>
Source record: 33780

Much as I'd like to take credit for playing any part in the development of the NEC codes, I can't. NEC-2 and its successors were developed mainly at Lawrence Livermore National Laboratory, and I had no part in that work. What I did was to first take MININEC (developed independently by John Logan and Jay Rockway) and make a usable interface for it. This program was called ELNEC. Later, I adapted the interface to NEC-2, naming the result EZNEC. ELNEC and EZNEC are really interfaces to the underlying calculating engines, which I had no part in developing.

I'll second Jason's reminder that there's a lot more to EE than RF. In my career, I've designed video test equipment including a very fancy TV camera, slow scan video instruments, switching power supplies, micropower vehicular speed recording and data logging equipment, very high speed pulse generation and sampling gear, high precision samplers, delay line compensation networks, infrared imaging equipment, time bases and other oscilloscope circuitry, and many other types of equipment. Traditional RF circuitry is more a part of my hobby than my career, although as Jason said, I've done some consulting work in that field.

And those of us who are engineers weren't born that way. I began as a ham when I was a kid, studied for and got my FCC commercial license, worked as a broadcast engineer and then chief engineer, went through the Air Force radar school, worked as a radar technician, and fixed radios, TVs, and telephone answering machines before working my way through school (with a bit of help from Uncle S.) first as a technician then as a design engineer. People following a path like that can "get off" at any point where the work is satisfying and interesting.

Right now and for the foreseeable future, it looks like there are opportunities in EMC (electromagnetic compatibility -- EMI reduction). With the proliferation of wireless devices, the EMC environment is getting tougher and tougher. Antenna design seems to be in steady demand. And there's plenty of work for a good analog or analog/digital engineer, and technicians, in a wide variety of small, mostly startup companies. I haven't seen age as an issue -- in fact, it seems that there aren't many young folks learning some of these skills. If you can do the job, you should be able to get a job.

Roy Lewallen, W7EL

Jason Hsu wrote:
> Have your circuit-building activities led you to a career? I know Roy
> does RF engineering consulting work and is most famous for NEC code
> for antenna simulation. . .

764. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 21:08:30 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <b2viivc3t876evaeu6ft216ad4bjngbe0u@4ax.com>
Source record: 33785
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 31 Jul 2003 06:48:57 GMT, john_c@tpg.com.au (John Crighton)
wrote:

>My point is this. If the radio control set works OK, while just
>sitting in its own cardboard box , at the noisy Venue, meaning,
> the servos work nice and smooth. If you then install that same
>Rx and servo set into your metal box robot and the servos
>play up, that is now an " installation problem."
>You cannot blame the gear.
>
>
>Let's try and sort this out with some basic checks.
>
>Using a field strength meter (which is just a simple
>crystal set with a large moving coil meter as discussed
>months ago, I assume you have made one already), are
>both the Sanwa and Futaba transmitters producing
>similar output power when compared to a known
>good working transmitter? Yes or No?

Thanks again for your input, John.
I only have these two r/c model transmitters to test against
themselves. It would be a remarkable coincidence if *both* were
defective to the same degree. I can, however, confirm that they both
put out almost exactly the same power as each other. I infer from that
that there is no problem with either.

>At your place, are range checks of both the Sanwa
>and Futaba R/C sets, on there own, not installed
>in anything, over 100 yards . Yes or No?

Yes.

>At your place, are range checks of both the Sanwa and
>Futaba R/C sets installed in the robot or metal test box
>with "no" drive motors connected still over 100 yards.
> Yes or No?

Yes.

>At your place, are range checks of both Sanwa and
>Futaba with drive motors being controlled and
>running nicely, still over 100 yards. Yes or No?

Ah, well I haven't tried that one. Good suggestion. I'll do so as soon
as I have a colleague handy to assist!

>At the noisy Venue, while doing a range check of less than
>30 yards with all other competitors absent or their
>transmitters switched off in the Tx compound, do both
>your Sanwa and Futaba R/C sets play up?
>Yes or no?

No one's permitted to carry out such tests at the venue. As soon as each competitor arrives, all transmitters are immediately impounded and only released on a book-out/book-in basis under supervision of one of the organisers' technical bods and only then if no one else is using that frequency elsewhere in the building at the time.

>At The Venue, do other competitor's radio control
>sets play up like yours Yes or No?

It's a very common problem indeed, yes.

>At the Venue have you scanned the band with a
>simple crystal set type radio or fancy scanner for some
>bastard with a transmitter who is determined to give
>you, personally, a hard time?

It's a pity I sold my last spectrum analyser about the same time as I started this lark! Big mistake, that. :-(However, I'm given to understand the studio people have one and keep an eye open for any such 'irregularities'.

[other valid points noted and snipped]

Things are looking very much better this time than last. I've discovered a good many possible causes of the problems we had last time out and have remedied all those I've found. I've also carried out improvements suggested here by your good self and others. I'm leaving nothing to chance this time!

>If you are still having problems after all that,
>sorry Paul, I give up.

So will I.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

765. Re: Hi-Q RF filters, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 21:08:34 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <650jivgsie988qi3f26sv4n3j6jqh7s1f7@4ax.com>
Source record: 33784
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 31 Jul 2003 19:48:07 GMT, Active8
<mcolasono@earthlink.net.invalid> wrote:

>
>
>sorry, i did mean PPM, not PWM
>
>a link was provided earlier. might be this, or it may link to this.
>
>there're links to radios for robot wars. according to this page there
>are 2 bands allowed, so maybe those 2.4GHz radios are verbotten. that
>sucks! it's a robot competition, not a ham competition.
>
>http://homepages.which.net/~paul.hills/Radio/Radio.html

Thanks for your input, Mike. Yes, the microwave band you mention is
forbidden. We can use either 40Mhz or some other band up in the
400-500Mhz region somewhere.
I'll check out the links you provided.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

766. web page for filter and knob info

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 21:22:49 UTC
From: mikemaghakian@yahoo.com
Message-ID: <7f80c3b4.0307311322.67e94686@posting.google.com>
Source record: 33781
Cross-posted to: rec.radio.amateur.swap,rec.radio.amateur.homebrew

I have an excellent tuning knob and ceramic filter for sale and I have
a web page with info and pics:

http://home.att.net/~maghakian/wsb/html/view.cgi-home.html-.html

767. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 21:51:45 UTC
From: dt@dt.prohosting.com
Message-ID: <ufzkmgya6.fsf@dt.prohosting.com>
Source record: 33782

>>>>> "TES" == The Eternal Squire <eternalsquire@comcast.net> writes:

TES> At this point in my life I would attempt to dissuade ANYONE
TES> from attempting to build a career from technology of any
TES> sort, unless it is totally in that person's blood. I am
TES> talking dedication far in excess one would normally give a
TES> spouse. [...]

Rush Limbaugh is always talking about this kind of bitter advice. Young people who are interested in getting into the radio business often ask their more senior counterparts, only to be told, "you better not get into this business -- you'll get eaten alive". Sure, it's hard, but if you ask someone who hasn't been successful himself, that's the kind of answer you'll get. Rush encourages would-be radio personalities to follow their dreams.

My philosophy on this type of thing is simple, and mirrors Rush's. If you do what you love, you'll be great at it. If you do what you don't love, you'll be mediocre. I had a girlfriend who was fascinated with psychology but took computer programming because she thought that was where the money would be. When she graduated she got a job she didn't like, and she didn't do very well, even as others did great in the same field.

To his credit, Mr. Squire did mention that someone who is passionate can do fine in his chosen field, even in hard times. I suppose if you've made up your mind in advance that you will be mediocre no matter what you do, then you might as well choose a field where mediocrity is punished the least, but I can't imagine living my life like that.

TES> 1. There are now very heavy market forces toward
TES> globalization. This means most technology jobs at the low
TES> and medium ends of the scale are being outsourced to
TES> third-world countries such as India, Mexico, and China.

Not to slam those countries or the accomplished professionals in them, but some types of work are more easily outsourced than others. Some of the most exciting work in technology fields is not exported.

TES> 2. There is rampant age discrimination in the field, and
TES> companies make it extremely expensive to prove such. Your
TES> chances of getting and keeping an engineering, software, or
TES> electronics job diminish greatly upon reaching the age of
TES> about 35. Your chances of such upon the age of 40 are such
TES> that a great amount of luck is called for.

This type of bitter (though generally true) remark reminds me of the lament of many single people. Sure, the vast majority of people you could possibly date won't work out, but you only need to find a few good fits in your entire life. Why be content to have an ordinary job, or an ordinary mate? The median age where I work is around 40, and our most cutting edge research is being done by people in their 50s and 60s. I'm 37 and I think I'm currently the youngest in our department.

TES> 3. Engineers and other "techies" have now become such a
TES> commodity that at many large companies treat them with a fair
TES> degree of contempt. Basically, Dilbert is more true to life
TES> than you might think.

True enough. Drunk, drooling men in bars are a commodity, too, receiving a good deal of contempt. When I set out to meet a woman, I make sure I'm not drunk and drooling (or even in a bar!). Likewise, when I apply for a job, I emphasize my unique abilities.

TES> 4. Craftsmanship is no longer a guarantee of immortality.
TES> Whatever dedication you place into your work will largely
TES> wind up in a landfill eventually.

Our landfills are full of successful products which have made fortunes for their creators, but I assume you're talking about projects being scrapped instead of completed. Again, my outlook is far more positive. If you can make machines bend to your will, your skills will always be in demand.

TES> Yes, this all sounds bleak. But this is life.

TES> In your point in life, I would recommend working your way
TES> through an accelerated liberal arts degree at a community
TES> college where you could possibly obtain some credits for life
TES> experience. Take practical courses: accounting, computer
TES> programming, 4 units of a foreign language, and how to teach
TES> English as a second language. Take some arts: pottery is
TES> generaly easy. Take math up to integral calculus. Then fill
TES> your mind with civics, western history, and culture.

TES> At that point you should be prepared to teach English in the
TES> Peoples' Republic of China.

Wow, this sounds bitter. The original poster expressed enthusiasm and an interest in a specific field, and now you'd have him put his time and energy into just about everything else! Every one of the jobs you mentioned has a dreary place for its mediocre practitioners: accounting sweatshops, computer code grinders, etc. And for goodness sake why take up an art just because it's "generally easy"? I'm starting to wonder if Mr. Squire has ever felt like doing something and then done it and enjoyed it and felt good about it.

To the original poster of this thread, I'd say, examine your reasons for pursuing electronics. If it's because you think you'll enjoy it

and really dig in, then do that. If it's just because you heard that's where the money is these days, take a lesson from my old girlfriend (and me, and Rush Limbaugh) and do something you're passionate about.

David

768. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 21:55:17 UTC
From: dt@dt.prohosting.com
Message-ID: <ud6fqgy4a.fsf@dt.prohosting.com>
Source record: 33783

Homebrewing led me directly to my present job and has gotten me many others as well. In fact, I'm not sure I could cite a job where homebrewing wasn't a factor in getting the job.

A great thing about the job I have now is that the bosses recognize the link between homebrewing and learning, so I get to take parts from our stockroom for my projects.

David

769. Re: VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-07-31 22:46:02 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19933c08b9458c3198969b@news-central.giganews.com>
Source record: 33786

In article <bgbgekgbp1@reader10.wxs.nl>, damien.teney@sobelairva.net
says...
> Okay, but as it isn't constant over the tuning range, do I have to use the
> average value of it in the formulas of the filter ?
>

Usual practice is to design the loop for the geometric mean of the VCO's
frequency range.

Say you have a VCO covering 1000 to 2000 MHz. The geometric mean is
sqrt(1000*2000), or 1414 MHz. Either check the manufacturer's data
sheets for Kvco at that frequency, or, if that's not practical, apply
enough voltage to the tuning line to reach, say, 1409 MHz. Then bump
the voltage up to reach 1419 MHz, and note the difference. Kvco is then
determined by dividing the voltage difference by 10 MHz. It'll be an
approximation to the true derivative, of course, but that's fine because
the VCO's nonlinearity will normally represent a far-greater source of
error.

The most common 'gotcha' here is confusing radians/volt and Hz/volt.
Some PLL data sheets and textbooks use radians, while others use hertz.
Since the difference is more than 6:1, you want to make sure you get
this part right, or you'll end up with a broadband jammer.

-- jm

----
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
----

770. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 02:20:54 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <a8kWa.15106$Vx2.7490341@newssvr28.news.prodigy.com>
Source record: 33787

Jason,

Congratulations on your choice of career direction. I wish you well. I'm not sure whether or not homebrewing makes you a good engineer, or if being a good engineer triggers something that makes you homebrew. Bob Pease (I think) once said something to the effect that the really good engineers he'd hired were the ones who continued to do engineering things even when they weren't at work. (My apologies to Bob if I've misstated his intent.) The idea is that doing technical things is a passion for some of us. We'd do these things even if we don't get paid. Homebrewing is a passion.

A general observation - many young engineers (and far too many older engineers) have little or no hands-on experience. They can model something and run great simulations, but are stopped cold when it comes to actually troubleshooting hardware. Knowing how real hardware works will give you an edge. Homebrewing is a great education.

Bruce Raymond/ND8I

"Jason Hsu" <jason_hsu@my-deja.com> wrote in message news:f7d9a152.0307311219.c6b7da5@posting.google.com...
> Have your circuit-building activities led you to a career? I know Roy
> does RF engineering consulting work and is most famous for NEC code
> for antenna simulation. Any others? Is anyone here working at
> Perkin-Elmer? OI Corporation? Or any of the numerous smaller
> instrumentation companies? I can see what types of engineering
> careers homebrewing can lead to: not only RF, but also
> instrumentation/controls. In fact, many of the projects in the ARRL
> books are electronic measuring devices.

<snip>

771. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 03:58:58 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <6AlWa.79359$3o3.5450620@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33788

I think that homebrewing gives very good experience.....this is what got me in the door at both Rockwell-Collins, and Motorola. Now, I am working at an engineering firm. One thing that I've observed over the years.....when you are debugging a new design in the engineering lab, it is almost the same as working on a project at home. It wasn't until I worked for a crystal filter company, that I realized that "gimmick" capacitors are used for fine tuning the filter's characteristics before filling the filter with potting compound. Homebrewing is great!

Pete

Bruce Raymond <raymondb@dma.org> wrote in message
news:a8kWa.15106$Vx2.7490341@newssvr28.news.prodigy.com...
> Jason,
>
> Congratulations on your choice of career direction. I wish you well.
> I'm not sure whether or not homebrewing makes you a good
> engineer, or if being a good engineer triggers something that makes
> you homebrew. Bob Pease (I think) once said something to the
> effect that the really good engineers he'd hired were the ones who
> continued to do engineering things even when they weren't at work.
> (My apologies to Bob if I've misstated his intent.) The idea is that
> doing technical things is a passion for some of us. We'd do these
> things even if we don't get paid. Homebrewing is a passion.
>
> A general observation - many young engineers (and far too many
> older engineers) have little or no hands-on experience. They can
> model something and run great simulations, but are stopped cold
> when it comes to actually troubleshooting hardware. Knowing
> how real hardware works will give you an edge. Homebrewing
> is a great education.
>
> Bruce Raymond/ND8I
>
>
>
> "Jason Hsu" <jason_hsu@my-deja.com> wrote in message
> news:f7d9a152.0307311219.c6b7da5@posting.google.com...
> > Have your circuit-building activities led you to a career? I know Roy
> > does RF engineering consulting work and is most famous for NEC code
> > for antenna simulation. Any others? Is anyone here working at
> > Perkin-Elmer? OI Corporation? Or any of the numerous smaller
> > instrumentation companies? I can see what types of engineering
> > careers homebrewing can lead to: not only RF, but also
> > instrumentation/controls. In fact, many of the projects in the ARRL

> > books are electronic measuring devices.
>
> <snip>
>
>
>

772. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 04:29:27 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0307312029.333b15ce@posting.google.com>
Source record: 33789

dt@dt.prohosting.com (David B. Thomas) wrote in message
news:<ud6fqgy4a.fsf@dt.prohosting.com>...
> Homebrewing led me directly to my present job and has gotten me many
> others as well. In fact, I'm not sure I could cite a job where
> homebrewing wasn't a factor in getting the job.
>
> A great thing about the job I have now is that the bosses recognize
> the link between homebrewing and learning, so I get to take parts from
> our stockroom for my projects.
>
What company are you working for? What does it produce? What other
companies did you work for, and what did they do?

Jason Hsu, AG4DG
usenet@@@jasonhsu.com

773. Re: Persuing a Career in Electronics, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 06:02:41 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <9LKcnRJv_bltYLSiXTWJkg@comcast.com>
Source record: 33790

"DBT" == David B. Thomas <dt@dt.prohosting.com> wrote in message
news:ufzkmgya6.fsf@dt.prohosting.com...
DBT> >>>>> "TES" == The Eternal Squire <eternalsquire@comcast.net> writes:
DBT>
DBT> TES> At this point in my life I would attempt to dissuade ANYONE
DBT> TES> from attempting to build a career from technology of any
DBT> TES> sort, unless it is totally in that person's blood. I am
DBT> TES> talking dedication far in excess one would normally give a
DBT> TES> spouse. [...]
DBT>
DBT> Rush Limbaugh is always talking about this kind of bitter advice.
DBT> Young people who are interested in getting into the radio business
DBT> often ask their more senior counterparts, only to be told, "you better
DBT> not get into this business -- you'll get eaten alive". Sure, it's
DBT> hard, but if you ask someone who hasn't been successful himself,
DBT> that's the kind of answer you'll get. Rush encourages would-be radio
DBT> personalities to follow their dreams.

I listen to Rush from time to time, and while I think he is halfway decent
in his reading of modern geopolitics, I find his liberal-bashing,
homophobia,
emotionalism, and and xenophobia downright nauseating... which is quite
something considering that I'm hetero, happily married, and have a baby
on the way.

DBT> My philosophy on this type of thing is simple, and mirrors Rush's. If
DBT> you do what you love, you'll be great at it. If you do what you don't
DBT> love, you'll be mediocre. I had a girlfriend who was fascinated with
DBT> psychology but took computer programming because she thought that was
DBT> where the money would be. When she graduated she got a job she didn't
DBT> like, and she didn't do very well, even as others did great in the
DBT> same field.

While I do not consider Rush to be a proper role model for children and
polite company, what you are saying is true to a point.

But consider this: the 5 percent who enter the field for love wind up to be
the
people who clean up after the 95 percent who enter the field for money, and
those 5 percent would prefer to do something creative rather than clean up
the
team's garbage so the project actually functions. To make things worse,
the
lead is generally a professional manager with nearly non-existent skills in
the

people being supervised, which makes it extremely hard for the manager to tell who is actually doing the work in a team and who isn't.

This type of nonsense is truer for engineering than for other fields, so these
are the dues which a person contemplating entering this field should be prepared to pay.

DBT> To his credit, Mr. Squire did mention that someone who is passionate
DBT> can do fine in his chosen field, even in hard times. I suppose if
DBT> you've made up your mind in advance that you will be mediocre no
DBT> matter what you do, then you might as well choose a field where
DBT> mediocrity is punished the least, but I can't imagine living my life
DBT> like that.

Wake up and smell the coffee! In the real business world, mediocrity is indeed
punished the least, at least most places. After 15 years of working in tiny startups
run by corrupt managers, dysfunctional corporate cultures, and co-workers who
took pleasure in sandbagging the true believers, I snapped. I resigned without
notice, filed bankruptcy, and in general stayed away from engineering for about
18 months. I bounced around some shelters across the country, found work making
sandwhiches and cappucinos, washed dishes, cashiered at Toys R US; and I
also took antidepressants and psychotherapy.

I was prepared to stay like that forever, because I had completely lost my trust
in the engineering workplace. No matter how talented or passionate I was, at
the start of that time away my hands started shaking at the mere thought of writing or debugging another line of code. And people actually gave me far more common courtesy as a barista and cashier, than I ever obtained as a software designer up until that point in time.

After 16 months, life was starting to become comfortably routine, my therapist
noticed this and advised that I take a gamble and shop my resume, just once,
to a headhunter. I did so, and I thought nothing of it for the next 2 weeks.
Imagine my astonishment when a Fortune 500 wanted to fly me down for an interview,
complete with rent-a-car, an overnight stay at a Sheraton, and 5-star dining! Their
mission statement placed integrity first above all other things (with, of course,
a honest days work being consider part of integrity).

During my interview, I was very candid about my experiences without being overly
negative about them. I basically told them that they got my attention, that there was
quite I lot I could do for them, and I was ready to take a chance on them if they were
ready to take a chance on me. Not only did I get the job, but I wound up being paid
more than I ever did in my life for doing less than I ever did in my life. I was actually
starting to get bored, so I wound up volunteering to write tools for people, and I brought
to bear all my small-company experience to bear on this. I've been there for a few years
now, being allowed to work with very loose supervision, in the process generating results
equivalent to a small team and gaining a lot of respect in the process. This has helped
all the other areas of my life: I've actually developed enough confidence in my career
and in myself to date, marry and start a family.

Moral of the story: Passion for your work is only effective when reciprocated with
respect and empathy from your work. Following your dream can otherwise wind up
becoming following through a nightmare.

DBT> Not to slam those countries or the accomplished professionals in them,
DBT> but some types of work are more easily outsourced than others. Some
DBT> of the most exciting work in technology fields is not exported.

Untrue. Untrue. Untrue. These countries have us beat regarding education of thier
elites, who with world-class MS and Ph.D. degrees based on European standards
are more than capable of performing technically challenging and original work.
These people don't need passion, they're satisfied to do as much as the most
passionate person in our country, for a living wage in thier country. And they're
willing to take the abuse of the workplace because compared to their cultures,
our expectations of personal fulfillment through work are, quite frankly, infantile.

>
> TES> 2. There is rampant age discrimination in the field, and
> TES> companies make it extremely expensive to prove such. Your
> TES> chances of getting and keeping an engineering, software, or
> TES> electronics job diminish greatly upon reaching the age of
> TES> about 35. Your chances of such upon the age of 40 are such

> TES> that a great amount of luck is called for.
>
DBT> This type of bitter (though generally true) remark reminds me of the
DBT> lament of many single people. Sure, the vast majority of people you
DBT> could possibly date won't work out, but you only need to find a few
DBT> good fits in your entire life. Why be content to have an ordinary
DBT> job, or an ordinary mate? The median age where I work is around 40,
DBT> and our most cutting edge research is being done by people in their
DBT> 50s and 60s. I'm 37 and I think I'm currently the youngest in our
DBT> department.

Congratulations on finding yet another workers' paradise, but don't forget
to
look over your shoulder from time to time.

>
> TES> 3. Engineers and other "techies" have now become such a
> TES> commodity that at many large companies treat them with a fair
> TES> degree of contempt. Basically, Dilbert is more true to life
> TES> than you might think.
>
> True enough. Drunk, drooling men in bars are a commodity, too,
> receiving a good deal of contempt. When I set out to meet a woman, I
> make sure I'm not drunk and drooling (or even in a bar!). Likewise,
> when I apply for a job, I emphasize my unique abilities.

Sorry, the comparison doesn't wash. You can be a great, dapper, neat,
sociable, and well dressed engineer, and still be treated with a great
deal of contempt for not having the cojones to go into management, sales,
marketing, or legal. Engineering has actually become an entry level job
in the average organization regardless of size. Anyone who stays in
engineering after a few years is considered to lack ambition and therefore,
after that time, becomes layoff bait.

>
> TES> 4. Craftsmanship is no longer a guarantee of immortality.
> TES> Whatever dedication you place into your work will largely
> TES> wind up in a landfill eventually.
>
> Our landfills are full of successful products which have made fortunes
> for their creators, but I assume you're talking about projects being
> scrapped instead of completed. Again, my outlook is far more
> positive. If you can make machines bend to your will, your skills
> will always be in demand.

Again, I ask, where's the immortality? Lawyers make laws. Doctors
prolong life. Soldiers get monuments. Owners make endowments and
fund chairs.

I have decided that I would rather seek immortality through my children
than attempt further to seek immortality in my chosen field. While the
work is great right now, and my passion for my work is back at the

level it used to be, I have learned my lesson: passion has to be tempered with an awareness of the real world.

DBT>
DBT> TES> Yes, this all sounds bleak. But this is life.
DBT>
DBT> TES> In your point in life, I would recommend working your way
DBT> TES> through an accelerated liberal arts degree at a community
DBT> TES> college where you could possibly obtain some credits for life
DBT> TES> experience. Take practical courses: accounting, computer
DBT> TES> programming, 4 units of a foreign language, and how to teach
DBT> TES> English as a second language. Take some arts: pottery is
DBT> TES> generaly easy. Take math up to integral calculus. Then fill
DBT> TES> your mind with civics, western history, and culture.
DBT>
DBT> TES> At that point you should be prepared to teach English in the
DBT> TES> Peoples' Republic of China.
DBT>
DBT> Wow, this sounds bitter. The original poster expressed enthusiasm and
DBT> an interest in a specific field, and now you'd have him put his time
DBT> and energy into just about everything else! Every one of the jobs you
DBT> mentioned has a dreary place for its mediocre practitioners:
DBT> accounting sweatshops, computer code grinders, etc. And for goodness
DBT> sake why take up an art just because it's "generally easy"? I'm
DBT> starting to wonder if Mr. Squire has ever felt like doing something
DBT> and then done it and enjoyed it and felt good about it.

Read again what the poster is saying: he's tired of dead end jobs, and he wants
to do something, anything, that is different, but doesn't exactly know what that
is. My advice is designed to shake up his life in ways no one, not even
he, can predict... that's what's part of the fun. Consider:

1) A liberal arts college program is the very best way to begin gaining the perspective needed to decide one's life's ambition. I emphasize some courses
for the sake of later survival, but these should not dominate the real work of the
curriculum, which is to develop an understanding of the greater reality of the
world beyond work.

2) Even dead end jobs can be compensated for through the development of the pleasures involved in living the life of the mind. These jobs can even be a good
break from studying and pondering and questioning.

The orignal poster may or may not be able to find a better job after finishing
a completely technical program of study, but if the technical market is dry or

his chances of psychological survival are not significantly increased. However,
a liberal education mixed with a sprinkling of additional survival skills will make
him far more adaptable to stagnation or even outright adversity.

3) I forgot to mention the other side of finding one or more arts or activities
which are generally easy to learn... these things are also generally easy to teach!

Being able to teach a few skills which are easy to master tends to open more doors
than you might think: it endears one to the vulnerable and gains respect from
those who care for them.

4) I'm not being cynical regarding teaching English in the Peoples' Republic. I have
been given the same advice from a dear friend of mine, long since passed away, who
did this and wound up teaching far more than just English in a classroom.

You're teaching not just about what you speak, but also about your entire life.
This is an experience which forces one to re-examine one's entire life from every
angle, while at the same time developing confidence in all the smaller things about
life by sharing them with other people who consider them exotic and entertaining.

>
> To the original poster of this thread, I'd say, examine your reasons
> for pursuing electronics. If it's because you think you'll enjoy it
> and really dig in, then do that. If it's just because you heard
> that's where the money is these days, take a lesson from my old
> girlfriend (and me, and Rush Limbaugh) and do something you're
> passionate about.
>
> David

Our friend, however, has nothing to lose by doing the completely unexpected.
My presciption for him is that he undertake a genuine adventure, with adequate
preparation up front for all the surprises he will certainly encounter along the way.

I was on the verge of doing this myself until I took the coward's way out and gave
engineering one last chance. But I'm happy and reconciled with who I am, I have

love and family, and in general I am more content even thought I did not dare take
the road less traveled.

The Eternal Squire

774. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 07:37:40 UTC
From: Jack Bennett <j.bennett@lboro.ac.uk>
Message-ID: <bgd5ce$6ll$1@sun-cc204.lut.ac.uk>
Source record: 33791

Jason,

Take my advise, graduate first then look for a job! You could finish up with
a job going belly up and have no MSEE.

Play it safe, get the ticket first. I see this happen all the time.

Good luck & 72/73

Jack
G3PVG

"Jason Hsu" <jason_hsu@my-deja.com> wrote in message >
> I am scheduled to graduate with my MSEE next year, but I am willing to
> delay my graduation for an electronic instrumentation engineering
> position.
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

775. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 07:52:11 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <1aFXpiErwhK$EAzh@ifwtech.co.uk>
Source record: 33794

Bruce Raymond wrote:
>A general observation - many young engineers (and far too many older
>engineers) have little or no hands-on experience. They can model
>something and run great simulations, but are stopped cold when it comes
>to actually troubleshooting hardware. Knowing how real hardware works
>will give you an edge.

Very true - though only if you can join those two different kinds of experience together.

Modern electronic designs spend most of their time in the computer, being laid out, modeled and optimized, before the soldering iron is ever switched on. Then you build it, and it works first time. It has no other choice.

Lots of old-timers will say "Oh yeah?"... but it's becoming increasingly true. The aim in modern electronic design is to give the finished products absolutely no other choice but to work.

If you've never had any contact with this modern approach, you may be surprised by how close it's possible to come to that ideal. Things that used to be exclusively practical, like the effects of component value spreads and temperature, can now all be done in the computer. It's not perfect, but it can usually show you the weak points in your original design, so then you can re-work the design to make it more tolerant.

Thinking about it some more, that's actually *three* different kinds of experience that need to be joined up. The first is design, which is essentially a creative process. Circuits don't design themselves - someone has to have the basic ideas first, and both experience and creativity are needed there. Then a computer can help refine the design (for example filter synthesis).

So we're actually looking at a three-step process:
DO
1. Design
2. Model
3. Build
LOOP UNTIL (ItWorks)

The DO...LOOP thing is a way of saying that it's a learning process. The key is to know how to feed *all* your real-world experience back into that process, so your next design will be a better one, and your next model comes that much closer to real life. RF and fast digital circuits can be tricky... but once you've mastered those tricks, you'll never lack for employment.

> Homebrewing is a great education.
>
If you decide to *let* it educate you! Hams have a choice about that -
but tomorrow's professional RF engineers don't... not if they want some
control over their lives.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

776. Re: VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 09:03:41 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bgdakl$9c8$1@reader08.wxs.nl>
Source record: 33792

> The most common 'gotcha' here is confusing radians/volt and Hz/volt.
> Some PLL data sheets and textbooks use radians, while others use hertz.
> Since the difference is more than 6:1, you want to make sure you get
> this part right, or you'll end up with a broadband jammer.

Yep right, my formulas use radians/volt, so, how can I transform the hz/v
value that I got with your trick, to rad/v ?

777. Re: VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 09:09:32 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bgdaob$t0o$1@sparta.btinternet.com>
Source record: 33793

"Damien Teney" <damien.teney@sobelairva.net> wrote in message
news:bgdakl$9c8$1@reader08.wxs.nl...
> > The most common 'gotcha' here is confusing radians/volt and Hz/volt.
> > Some PLL data sheets and textbooks use radians, while others use hertz.
> > Since the difference is more than 6:1, you want to make sure you get
> > this part right, or you'll end up with a broadband jammer.
>
> Yep right, my formulas use radians/volt, so, how can I transform the hz/v
> value that I got with your trick, to rad/v ?

omega = 2*PI*f

that's where the >6:1 came from. 8-)

73, Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

778. Re: Trap test trauma

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 12:21:37 UTC
From: Dutchman <h@ns.co.za>
Message-ID: <3f2a5b52$0$230@hades.is.co.za>
Source record: 33795

Thank you for your reply but that is what I did except
I had a 2-turn loop and 50 ohms in series.
My common sense told me that if I again read that 50 ohms
approximately, then the open-ended trap is not loading the
loop ie it is high Z. Thus the MFJ reads SWR=1 due to the
50 ohms. This resulted in >7.15MHz.
You suggest no series resistance ie the MFJ sees more or
less a short with virtually no inductance at LF and when
increasing freq to reach there is a minimum of absorbtion
from the loop or alternatively speaking, a high reflected
impedance.
I tried that and yes, I get a sharp Zmax at 7.00MHz and no
other peaks or dips.
However, coming back to a swept test with an IFR 1200S
the frequency is 7.15MHz ; the same as my assumed point (b)
with the MFJ in my original correspondence.
I presume I canot attach a jpg in a newsgroup so I will
email the jpg to you.
Maybe all this is academic as adjustment of antenna legs
can easily compensate. Nevertheless, precision is my game.
Regards.

----- Original Message -----
From: "Reg Edwards" <g4fgq.regp@btinternet.com>
Newsgroups: rec.radio.amateur.homebrew
Sent: Thursday, July 31, 2003 2:35 PM
Subject: Re: Trap test trauma

| To check resonant frequency of an antenna trap -
|
| Put a 1-turn loop around centre of trap, closely coupled.
|
| Extend the loop wires to the 259B or Autek via 6 or 8 or 10 inches of
| loosely twisted pair of wires.
|
| Switch meter to Z range.
|
| Initially the meter will read a very low value of Z.
|
| Slowly vary frequency until impedance increases very sharply to
several
| hundred ohms. Vary frequency for maximum impedance indication.
|
| Resonance will be very sharp. If the meter should go past full scale
| reading, slacken off the loop.

```
| ----
| ========================
| Regards from Reg, G4FGQ
| For Free Radio Design Software
| go to http://www.g4fgq.com
| ========================
|
|
```

779. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 12:56:35 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F2A6383.1020101@hotmail.com>
Source record: 33796

I agree, homebrewing is great. It actually got me interested in taking engineering in College. I started homebrewing partially out of interest, and mostly because I couldn't afford real gear! After a few simple transmitters, receivers and stuff, I realized that I REALLY enjoy this stuff, so I decided to go with it.

Alex/VE3LEG

Bruce Raymond wrote:
> Jason,
>
> Congratulations on your choice of career direction. I wish you well.
> I'm not sure whether or not homebrewing makes you a good
> engineer, or if being a good engineer triggers something that makes
> you homebrew. Bob Pease (I think) once said something to the
> effect that the really good engineers he'd hired were the ones who
> continued to do engineering things even when they weren't at work.
> (My apologies to Bob if I've misstated his intent.) The idea is that
> doing technical things is a passion for some of us. We'd do these
> things even if we don't get paid. Homebrewing is a passion.
>
> A general observation - many young engineers (and far too many
> older engineers) have little or no hands-on experience. They can
> model something and run great simulations, but are stopped cold
> when it comes to actually troubleshooting hardware. Knowing
> how real hardware works will give you an edge. Homebrewing
> is a great education.
>
> Bruce Raymond/ND8I
>
>
>
> "Jason Hsu" <jason_hsu@my-deja.com> wrote in message
> news:f7d9a152.0307311219.c6b7da5@posting.google.com...
>
>>Have your circuit-building activities led you to a career? I know Roy
>>does RF engineering consulting work and is most famous for NEC code
>>for antenna simulation. Any others? Is anyone here working at
>>Perkin-Elmer? OI Corporation? Or any of the numerous smaller
>>instrumentation companies? I can see what types of engineering
>>careers homebrewing can lead to: not only RF, but also
>>instrumentation/controls. In fact, many of the projects in the ARRL
>>books are electronic measuring devices.
>
>

> <snip>
>
>
>

780. Re: VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 13:14:43 UTC
From: mikea@mikea.ath.cx
Message-ID: <bgdp43$4rm$2@puck.litech.org>
Source record: 33697

Leon Heller <leon_heller@hotmail.com> wrote:

> "Damien Teney" <damien.teney@sobelairva.net> wrote in message
> news:bgdakl$9c8$1@reader08.wxs.nl...

> > Yep right, my formulas use radians/volt, so, how can I transform the hz/v
> > value that I got with your trick, to rad/v ?

> omega = 2*PI*f

> that's where the >6:1 came from. 8-)

One cycle = 360 degrees = 2*pi radians, which makes
radians/volt = 2*pi*hz/volt.

--
"Of course they're pallid and mushroom-like, Howard!
They're _mushrooms_!"
-- from a Gahan Wilson cartoon
involving H.P. Lovecraft

781. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 13:20:11 UTC
From: mikea@mikea.ath.cx
Message-ID: <bgdpeb$4rm$3@puck.litech.org>
Source record: 33698

Bruce Raymond <raymondb@dma.org> wrote:
> Jason,

> Congratulations on your choice of career direction. I wish you well.
> I'm not sure whether or not homebrewing makes you a good
> engineer, or if being a good engineer triggers something that makes
> you homebrew. Bob Pease (I think) once said something to the
> effect that the really good engineers he'd hired were the ones who
> continued to do engineering things even when they weren't at work.
> (My apologies to Bob if I've misstated his intent.) The idea is that
> doing technical things is a passion for some of us. We'd do these
> things even if we don't get paid. Homebrewing is a passion.

> A general observation - many young engineers (and far too many
> older engineers) have little or no hands-on experience. They can
> model something and run great simulations, but are stopped cold
> when it comes to actually troubleshooting hardware. Knowing
> how real hardware works will give you an edge. Homebrewing
> is a great education.

My father, one of the great mechanical design engineers, used to
tell the know-it-all recent graduates that an engineer was just
a technician with no practical experience. It holds true in most
fields. He was very strong on getting his EITs and co-op students
into the machine shop to make things and to work with the people
who had to use them.

He turned out some awfully good engineers by using those methods.

--
"I think when people get on the Internet their common sense may be
weakened if not suspended."
- Charles Harwood, regional director of the Federal
Trade Commission's Seattle office.

782. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 13:41:49 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <vikrgsdgv4u178@corp.supernews.com>
Source record: 33699

Bruce Raymond wrote:
>
> A general observation - many young engineers (and far too many
> older engineers) have little or no hands-on experience. They can
> model something and run great simulations, but are stopped cold
> when it comes to actually troubleshooting hardware. Knowing
> how real hardware works will give you an edge. Homebrewing
> is a great education.
>

A good *design* engineer has a deep understanding of fundamental principles based on, but not confined to, mathematics (a good math program like Mathcad is a very powerful tool). This is a lifelong process, and not just part of a classroom curriculum. He has skills (but perhaps not great expertise) in the difficult process of computer modeling and analysis.

He has good intuitions about how things work. Intuition is always very important, but should not be overemphasized. Too often intuition, by itself, can be a mental "trap" that we fall into.

Design engineering work is not the predictable straight-line process that some think is so desirable. A good engineer knows the benefits of being wrong from time to time.

He is also a "practical" person who is competent at a work bench. He is *highly* skilled in the usage of measurement equipment to evaluate, troubleshoot and modify what he has designed (and modified).

He is also comfortable within a design *group* environment. The concept of the "lone wolf" engineer died a century ago. However, original ideas very often come from one individual. On the other hand, orthodoxy (the group mentality) can be an engineer's worst enemy (ask NASA about this).

Homebrewing is a very valuable experience, unless it involves only "copycat" engineering. "Learning" from what others have done is not the same thing and is of a higher order than "imitating" what

others have done.

Bill W0IYH

783. Re: VCO gain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 13:57:03 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bgdrqnial1@reader08.wxs.nl>
Source record: 33700

Thanks, everything is okay, now I hope it will works ;-)

> > > Yep right, my formulas use radians/volt, so, how can I transform the
hz/v
> > > value that I got with your trick, to rad/v ?
>
> > omega = 2*PI*f
>
> > that's where the >6:1 came from. 8-)
>
> One cycle = 360 degrees = 2*pi radians, which makes
> radians/volt = 2*pi*hz/volt.

784. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 19:07:35 UTC
From: James Horn <jimhorn@svn.net>
Message-ID: <vilejn4bodma0@corp.supernews.com>
Source record: 33701

Hello, Jason!

Having had electronics as a hobby / passion since I was given a Knight Kit 21-in-1 electronics 'lab' while 10 years old, I ended up choosing a college (IIT), major (EE), and career accordingly. While some career fields can lead to burnout, the terrific diversity of electrical engineering has always left me learning and enjoying more. Modern field programmable logic, high performance CPUs, signal conversion, and more open avenues that were undreamed of just recently. And homebrewing lets you get your learning and experience with portions of the field that you may not be using at work but can pay great dividends in future projects.

Most jobs that have hired me - and the resulting seniority there - have been due to my range of proven capabilities (analog, RF, digital, FPGAs, embedded processors; software and hardware; telecom, test and measurement systems, semiconductor production, motion control; etc.). Amateur radio has helped a lot (since building my own transmitter when 16) as has involvement with the Experimental Aircraft Association and other active groups which give you a chance to jump into projects and learn.

Back in school I was amazed at some engineering students who wouldn't know which end of a soldering iron to grab. Homebrew projects can make a world of difference in practical knowledge.

Best to you and your career - the world always needs more engineers with passion, skill, and knowledge!

Jim Horn, WB9SYN/6 (Love what I do - and get paid, too!)

785. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 19:28:57 UTC
From: troglodite@aol.com
Message-ID: <20030801152857.18287.00000845@mb-m17.aol.com>
Source record: 33702

>Back in school I was amazed at some engineering students who wouldn't know
>which end of a soldering iron to grab.

One mistake will permanently imbed this information.

786. Re: How to Impress the XYL and Fellow Hams

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 20:11:09 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <othlivkhk7ogb3mjmme0jf9tb7cs30srdp@4ax.com>
Source record: 33703

On Fri, 01 Aug 2003 11:43:58 -0700, Keith
<kilowattradio_spam@earthlink.net> wrote:

> The names have been removed to protect the innocent.
>;-)
>
>Hello Group
>Well, I was at Wall Mart the other day. In the sporting good section they
>had a fiberglass tent pole repair kit. Looked like a opportunity to make a
>collapsible antenna for my ft-817. Sorta like the folding whip for some
>military PRC manpack equipment.
>
>I decided to test the fiberglass to see if it was OK for HF RF use.
>So i cut off a 1cm section of the fiberglass tent pole. I dunked it
>in a glass microwave container full of water. Then nuked it for about 5
>min. I pulled it out of the water and it was only about as hot as the
>water. So far so good.
>
>Sooo, then i put the little peice of fiberglass directly into the
>microwave. The scientific assumption was it would not get hot as it
>was like other dielectric material.
>
With the piece of fiberglass IN the cup of water in your first test,
you have no idea which got hot. They will always end up the same
temperature because they are touching.

A far better test would be to put a cup of water in the microwave, and
the fiberglass NEXT to it. If the water gets hot and the part doesn't,
it is potentially OK.

Your second test should never be done, because (if you were right
about the material) there was nothing in the microwave to absorb the
energy, and if it did absorb the energy, you would have unexpected
results.

Note that the microwave test may not be valid for all RF frequencies.

Carbon fiber is much more expensive, and if the part you bought had
any, they would have made a fuss over it.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

787. Re: need circuit of miser's dream

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 20:28:08 UTC
From: blyoung@hal-pc.org
Message-ID: <33cb2455.0308011228.3b1c22ab@posting.google.com>
Source record: 33704

N2EY@AOL.COM (N2EY) wrote in message
news:<c2356669.0307291333.28a6dfb@posting.google.com>...
> scharkalvin <wa2mze@bellsouth.net> wrote in message
news:<3F25AD4D.2070705@bellsouth.net>...
> > Ashhar Farhan wrote:
> > > old timers will remember that goodman (w1dx, i think) broke ground
> > > with a receiver using single conversion, high if frequency, full
> > > hang-agc in a simple 5 tube receiver called the miser's dream. i guess
> > > it was published in qst as well as the handbook of 60s.
> > > i am interested in brewing that receiver. if anyone has the circuit, i
> > > will be obliged. u can mail the scanned copy to farhan@hotfoon.com
> > >
> > > thanks.
> > > -de farhan (vu2fax)
> >
> > I have the HB that the article was in (1967), but the book is buried at
> > the moment. I hope in a month or two to (finally) get to unpacking
> > my ham stuff, I'll be happy to scan it then for you. Drop an email
> > reminder in the fall.
>
> You folks are talking about two different but related receivers.
>
> The whole thing started with a 1957 QST article titled "What's Wrong
> With Our Present Receivers?" which showed the weaknesses of the
> multiconversion designs of those days, and how they could be overcome
> by the use of recently announced packaged high frequency crystal
> filters. That article described a 2215 kHz IF strip and rear end to
> demonstrate the principles. The IF was chosen because a National
> NC-300 receiver was avaliable for use as a front end, and the '300
> used a first IF of 2215 kHz.
>
> In QST for May, 1965, W1DX (By Goodman) described a 7 tube receiver
> called the "Miser's Dream". This double-conversion rx was based upon a
> pair of 2215 kHz packaged xtal filters from Hycon Eastern - later
> versions of the filters used in the "What's Wrong" IF strip. Similar
> filters were also made by Blackhawk. These filters were $44 each in
> 1959, and the receiver used two of them, one for CW (250 Hz) and one
> for SSB (2.7 kHz?). It used the famous Eddystone 898 sliderule dial,
> RF Q-multiplication, audio-derived hang-AGC, S-meter and plug-in coils
> a la the HBR receivers. It is pictured on the cover of that QST issue.
> The article does not give complete construction data - it shows a
> block diagram, and partial schematic. It's more of an idea article
> rather than something you'd want to duplicate wire-for-wire. Lots of
> good solid rx design philosophy presented in clear readable terms that

> is well worth reading today.
>
> While the Miser's dream was relatively simple, it was obviously not
> inexpensive to build, considering that many of the key parts were
> expensive and almost certainly had to be bought new. The dial, tuning
> capacitor and filters alone would cost about $120 in the mid-1960s.
>
>
> The 1967 ARRL Radio Amateur's Handbook features the "Junior Miser's
> Dream" (JMD) receiver. This is a single-conversion 5 tube rx that is
> obviously derived from the 1965 article, meant for easier duplication
> and lower total cost. The "JMD" rx uses a two-speed Miller
> planetary-drive dial that was popular and relatively inexpensive at
> the time, RF Q-multiplication, bandswitching, and Miller slug-tuned
> coils in the front end. Selectivity is from a two-crystal filter at
> 3300 kHz. I recall that the JMD did not include AGC or an S-meter. The
> article points out that the Miller coils used in the front end are an
> important part of the performance and that substitutes should not be
> used.
>
> Both receivers used built-in solidstate power supplies, a single-ended
> 7360 first mixer and no RF stage. Both were relatively simple compared
> to many of the multiconversion multibottle designs of the time. Both
> suffer from relatively poor image rejection and drift on the higher
> bands. The former is due to too few tuned circuits ahead of the first
> mixer, and the latter to the instability inherent in a simple tunable
> LO operating at relatively high frequencies. The main problem with
> duplication today is finding the parts.
>
> --
>
> For about a dozen years or so I owned a small 7 tube receiver that was
> obviously based on the Miser's Dream. I bought it at a hamfest in the
> early '80s and sold it to another ham some years back. I don't know
> who built it or when, but the construction quality/craftsmanship was
> excellent. I built a small power supply for it, which was also sold.
> This little receiver uses an uncalibrated National dial, IF in the
> ~1500 kHz range, and covers 80 and 40 meters by means of band imaging.
> Instead of an RF Q multiplier it uses a dual tuned input circuit. No S
> meter but it had the audio-derived hang AGC.
>
> Schematics of the little receiver and power supply may be seen at:
>
> http://www.qsl.net/ab0cw/littlereceiver1.jpg
>
> http://www.qsl.net/ab0cw/littlereceiver2.jpg
>
> http://www.qsl.net/ab0cw/littlereceiver3.jpg
>
> And a picture of the receiver itself:

>
> http://www.qsl.net/ab0cw/littlereceiver.jpg
>
> The wood cabinbet was added by the ham who bought it from me.
>
> Between those schematics and the QST article it should not be too
> difficult to recreate a schematic of the Miser's Dream. Coil data
> would have to be derived all over again.
>
> --
>
> My suggestion for a "2003 Miser's Dream" would combine features of all
> three receivers, and be based on available parts. I'd dispense with
> the RF Q multiplier and use a double-tuned input circuit with either
> big air-core coils or toroids. Depending on the crystal filters
> available, either a band-imaging design or a multiband premixer-LO
> system would be used. The 7360 beam-deflection first mixer could be
> replaced with a 6JH8, or perhaps a 6ES8 in the classic Pullen circuit.
> A variable capacitor with integral dial drive from a junked BC-221
> frequency meter or ARC-5 transmitter would not only reduce cost but
> also do a better job. Power supply would be external for size, heat
> and weight reasons.
>
> 73 de Jim, N2EY

I'm looking at my worn copy of the 1966 ARRL handbook. On page 124 is the Junior Miser's Dream receiver. The 1966 version used two International crystals for the IF filter: one at 3300 kc's(I know it's kHz now) and the other at 3301 kcs. On page 139 is the HB-65 five band receiver which didn't have a crystal filter in the IF section but did have a double tuned front end. There's also a four transistor regenerative receiver on page 120 which used SK3004 and SK3006 transistors. The two SK3006's are in a two transistor detector-oscillator configuration. Bill Young WD5HOH

788. Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 21:12:07 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ehjlivs9hiobb7ib0hqs4bsb2u38p7efk6@4ax.com>
Source record: 33706
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hi chaps,

Can anyone suggest a suitable material from which to make an
ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
something that can be bent to 90 degrees at a very small radius and
still return to reasonable straightness.

Thanks,

p.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

789. Re: How to Impress the XYL and Fellow Hams

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 21:44:39 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f2adf3f$0$48906$edfadb0f@dtext02.news.tele.dk>
Source record: 33705

Hello

> Carbon fiber is much more expensive, and if the part you bought had
> any, they would have made a fuss over it.

It is probaly the color, a lot of color used to color fiberglas and other plastic materials are based on graphite.

Regards Max

790. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 22:22:19 UTC
From: Zak <Zak@spam.invalid>
Message-ID: <vKBWa.20717$KF1.308575@amstwist00>
Source record: 33707
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:
> Hi chaps,
>
> Can anyone suggest a suitable material from which to make an
> ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
> something that can be bent to 90 degrees at a very small radius and
> still return to reasonable straightness.

I think thin piano wire will give the best results. Place a lot of them in a flexible tube to gain some thickness and have them silvered for conductivity - or add a stranded copper wire.

Spring metal strip may also work, especially if you can manage some type of hinge at the base that allows it to turn when sideways force is exerted, or if the force is in one plane.

Thomas

791. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 22:53:49 UTC
From: jgboyles@aol.com
Message-ID: <20030801185349.28370.00000702@mb-m24.aol.com>
Source record: 33708

>Can anyone suggest a suitable material from which to make an
>> ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
>> something that can be bent to 90 degrees at a very small radius and
>> still return to reasonable straightness.

Sure, get some 1/4 inch fiberglass rod, loosely helix some #22 wire up the length, and secure with some heat-shrink tubing. You can bend this into a near circle.
73 Gary N4AST

792. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 23:09:33 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0308011509.3ee29c55@posting.google.com>
Source record: 33709

"Jack Bennett" <j.bennett@lboro.ac.uk> wrote in message
news:<bgd5ce$6ll$1@sun-cc204.lut.ac.uk>...
>
> Take my advise, graduate first then look for a job!

Try telling that to the people who graduate with 5 or more job offers.
Do you really think these individuals waited until graduation day
before seriously conducting their job search? Of course, if you know
of a silver bullet for figuring out which specific companies are
actually hiring at any given moment, let me know. (Such silver
bullets from everyone else on this newsgroup are welcome.)

> You could finish up with a job going belly up and have no MSEE.
> Play it safe, get the ticket first. I see this happen all the time.
>
It sounds like you think the credentials are the most important thing.
The problem with this thinking is that many with this attitude end up
becoming the engineer who looks good on paper but can't engineer
his/her way out of a paper bag. What I learn and accomplish are the
most important things. You could argue that the BSEE is essential,
but I already have that.

The irony of my graduate school experience is that I feel like I have
accomplished more in one year than I did in 4 years as an
undergraduate despite the fact that UIUC (my undergraduate school) is
vastly superior to GMU (my graduate school) at hardware and controls.

If I felt that my MSEE and GPA were the #1 thing, I would not have
been able to take control systems or signal processing classes. I had
NO control systems background as an undergrad, and my signal
processing background was nothing more than earning a C in the
3-credit-hour introductory signal processing class. GMU, like all but
a handful of schools, is weak in control systems, and my graduation
date may be delayed by insufficient control systems course offerings.
Then there's the most important thing: If I defined myself by
credentials, then I would NOT have been able to do last semester's
independent study project, as it was very time-consuming and
difficult. If you think that one can become competent in an
engineering topic simply by plowing through the class, then I have
some Enron stock to sell you.

Bottom line: Because my MSEE is not that critical, I can afford to
take some calculated risks. Isn't that something every engineer needs
to be able to do?

Jason Hsu, AG4DG
usenet@@@@jasonhsu.com

793. Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-01 23:58:49 UTC
From: snef73@hotmail.com
Message-ID: <50bd7fef.0308011558.2af6cdc7@posting.google.com>
Source record: 33710
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hi, I am looking for advice on how to integrate a PIC microchip with a ham radio transciever. I will use this in a robot. I am looking for 100 - 300 mile range. I have a ham radio license.

Thanks for the help

794. FA:BIRD LOAD + 24VCT 1A XFMRS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 00:21:29 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <duDWa.80630$3o3.5534074@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33711

BIDR 500 Watt load + 24vct 1A Xfmrs

see at ebay under seller heytubeguy

795. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 03:25:47 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.1994f9452b280a55989755@news.east.earthlink.net>
Source record: 33712
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <vKBWa.20717$KF1.308575@amstwist00>, Zak@spam.invalid says...
> Paul Burridge wrote:
> > Hi chaps,
> >
> > Can anyone suggest a suitable material from which to make an
> > ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
> > something that can be bent to 90 degrees at a very small radius and
> > still return to reasonable straightness.
>
> I think thin piano wire will give the best results. Place a lot of them
> in a flexible tube to gain some thickness and have them silvered for
> conductivity - or add a stranded copper wire.
>
> Spring metal strip may also work, especially if you can manage some type
> of hinge at the base that allows it to turn when sideways force is
> exerted, or if the force is in one plane.
>
>
> Thomas

what is a tight bend? music wire comes in diff sizes and the number in
the tube and how tightly the tube conforms to it will have an effect on
the flexibility.

a shorty could be made from those old storm door return springs inside
shink tube which is what i'd suggest putting the music wire in. use the
copper wire, i'd think. seal the ends from the elements, except for fire
:-0

short segments of wire(s) with return spring segments as connectors?

OTOH, mobile whips with base springs are common enough if all you're
worried about is those friggin' trees hanging over the road that no one
cuts, or the drive through windows. why such a tight bend spec?

regards,
mike
>
>

796. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 03:57:30 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F2B36AA.37E14FD2@ob-wan.com>
Source record: 33714
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Fishing rod.

Paul Burridge wrote:
>
> Hi chaps,
>
> Can anyone suggest a suitable material from which to make an
> ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
> something that can be bent to 90 degrees at a very small radius and
> still return to reasonable straightness.
>
> Thanks,
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

797. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 04:28:22 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.199507eb14814f44989757@news.east.earthlink.net>
Source record: 33713
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <50bd7fef.0308011558.2af6cdc7@posting.google.com>, snef73
@hotmail.com says...
> Hi, I am looking for advice on how to integrate a PIC microchip with a
> ham radio transciever. I will use this in a robot. I am looking for
> 100 - 300 mile range. I have a ham radio license.

aw hell.

i hope you're the AH i figure you for. if not, and this is just innocent
ignorance (is that possible?) don't take this too hard. just listen.

<!-- if you are an AH... -->
<script language="AH_Blaster">
<flame level=150%">

stop bs'ing.

1. if you have a license, you should know that you can only control
cars, boats, and aircraft at 1 watt which hopefully keeps the model
within eyesight.

i don't know what's legal for bot's, but AFAIK the max power will be .75
- 1 watt.

2. are you stupid? if you transmit that far or even just out of
eyesight, you'll

a) mung any legit R/C craft affected by your signal.
b) probably hurt someone with your POS robot.
c) cause a legit craft to hurt someone.
d) interfere with anyone communicating.

>
> Thanks for the help
>
here's your help:

buy the most expensive books you can get until you're broke and can't
afford dangerous toys. go into debt to keep you out of trouble in the
future.

buy a cheap pic and glue it to a radio with no power cord or battery.
now it's "integrated."

</flame>
</script>

<noscript>
read a pic data sheet. PIC12F84A is pretty basic. get the software to go
with 'em.

figure out what you mean, next.

then ask more specific questions.
</noscript>

798. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 07:32:25 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.1995331130098b1898975b@news.east.earthlink.net>
Source record: 33715
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

boy, i must have had a bad day.

799. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 08:46:28 UTC
From: onestone <onestone@bigpond.net.au>
Message-ID: <ETKWa.6446$bo1.2035@news-server.bigpond.net.au>
Source record: 33716
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Must have been a real stinker ;@}.

Obviously only conventional R/C stuff is power limited in the way you describe.

The op stated Ham radio gear,from which I assume SW, and not subject to the same limitations power wise. However first problems he needs to solve are probably getting a high enough data rate to know what the robot is doing. Video is doable, but pretty hard over SW, I don't know what bandwidths Hams are allowed. Integrating to any micro is simply a case of converting data into a format that the micro can understand, ie NRZ serial, or pulse length coded. I would start by looking at something like the FX929 from CML. it handles the micro to radio interface, and includes FEC etc, it is designed for short packets. failing that packet radio, which, as a Ham you should probably knwo more about than I do, is designed explicitly for data comms like this. You can then choose to implement your own direct control scheme of the robot, ie PWM motor controol or what have you, or read up on R/C servos. these are pretty simple, IIRC 20ms between pulse, and pulse of from 1-2ms to set the 'position' of the servo. Use the micro to convert complex instructions into servo control signals.

Al

Active8 wrote:

> boy, i must have had a bad day.

800. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 10:11:31 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <en1nivog5l012vlskd8k3tr9v415adme2q@4ax.com>
Source record: 33718
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 02 Aug 2003 03:25:47 GMT, Active8
<mcolasono@earthlink.net.invalid> wrote:

>In article <vKBWa.20717$KF1.308575@amstwist00>, Zak@spam.invalid says...
>> Paul Burridge wrote:
>> > Hi chaps,
>> >
>> > Can anyone suggest a suitable material from which to make an
>> > ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
>> > something that can be bent to 90 degrees at a very small radius and
>> > still return to reasonable straightness.
>>
>> I think thin piano wire will give the best results. Place a lot of them
>> in a flexible tube to gain some thickness and have them silvered for
>> conductivity - or add a stranded copper wire.
>>
>> Spring metal strip may also work, especially if you can manage some type
>> of hinge at the base that allows it to turn when sideways force is
>> exerted, or if the force is in one plane.
>>
>>
>> Thomas
>
>what is a tight bend? music wire comes in diff sizes and the number in
>the tube and how tightly the tube conforms to it will have an effect on
>the flexibility.

Yeah, sorry chaps, I should have better defined what I meant by 'very
small radius'. I compete in radio-controlled model battles, so the
model stands to get fipped upside down from time to time in a very
bruising environment and it already has a very low ground-clearance,
so using a spring as a base mounting won't help much, I'm afraid.
We're talking about radiuses of as little as 5mm! How about the
specific grade of stainless steel in wire form that springs are made
from? I know where I can get hold of some of that....
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

801. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 10:11:33 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ua2nivon19cnudcvacbjlbrk5eep9l81j6@4ax.com>
Source record: 33719
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 02 Aug 2003 08:46:28 GMT, onestone <onestone@bigpond.net.au>
wrote:

>Must have been a real stinker ;@}.

Indeed. I must admit to being very curious as to what the application
is, though!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

802. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 10:57:29 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <tOMWa.15265$Vx2.7731704@newssvr28.news.prodigy.com>
Source record: 33717
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Allan York" <snef73@hotmail.com> wrote in message
news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
> Hi, I am looking for advice on how to integrate a PIC microchip with a
> ham radio transciever. I will use this in a robot. I am looking for
> 100 - 300 mile range. I have a ham radio license.
>
> Thanks for the help

Better pick up a copy of the FCC rule book and read it thoroughly before
embarking on this project to insure that it is legal.

Dee D. Flint, N8UZE

803. Re: Has homebrewing led you to a career?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 12:47:48 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F2BB2F4.C188DE2B@ob-wan.com>
Source record: 33720

Troglodite wrote:
>
> >Back in school I was amazed at some engineering students who wouldn't know
> >which end of a soldering iron to grab.
>
> One mistake will permanently imbed this information.

I used to have a bad habit of sniffing the end of the iron to see if it
was heated yet. The obvious happened eventually ... I don't recommend a
blistered nose to anyone. :)

Rob

804. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 15:40:43 UTC
From: cpemma <cpm@mexbroREMOVE.co.uk>
Message-ID: <bggm1p$a9u$1@news6.svr.pol.co.uk>
Source record: 33721
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:
> On Sat, 02 Aug 2003 03:25:47 GMT, Active8
> <mcolasono@earthlink.net.invalid> wrote:
>
>> In article <vKBWa.20717$KF1.308575@amstwist00>, Zak@spam.invalid
>> says...
>>> Paul Burridge wrote:
>>>> Hi chaps,
>>>>
>>>> Can anyone suggest a suitable material from which to make an
>>>> ultra-flexible mobile whip antenna say about 3 to 4 feet long. I
>>>> need something that can be bent to 90 degrees at a very small
>>>> radius and still return to reasonable straightness.
>>>
>>> I think thin piano wire will give the best results. Place a lot of
>>> them in a flexible tube to gain some thickness and have them
>>> silvered for conductivity - or add a stranded copper wire.
>>>
>>> Spring metal strip may also work, especially if you can manage some
>>> type of hinge at the base that allows it to turn when sideways
>>> force is exerted, or if the force is in one plane.
>>>
>>>
>>> Thomas
>>
>> what is a tight bend? music wire comes in diff sizes and the number
>> in the tube and how tightly the tube conforms to it will have an
>> effect on the flexibility.
>
> Yeah, sorry chaps, I should have better defined what I meant by 'very
> small radius'. I compete in radio-controlled model battles, so the
> model stands to get fipped upside down from time to time in a very
> bruising environment and it already has a very low ground-clearance,
> so using a spring as a base mounting won't help much, I'm afraid.
> We're talking about radiuses of as little as 5mm! How about the
> specific grade of stainless steel in wire form that springs are made
> from? I know where I can get hold of some of that....
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

The alloy is Type 301 (17% chromium, 7% nickel stainless steel) hard drawn wire, or even better is a 17/7PH (precipitation hardening) grade that our firm once produced for tank aerials, that also may take a few knocks. ;)

Both (especially the PH grade) need a final heat-treatment (420C for a few minutes IIRC) for ultimate spring properties, but to get such a tight bend you'd need quite a thin wire. It's a matter of the proof strain or limit of proportionality, how much the outer skin can stretch without taking a permanent set, compared to the neutral central axis, on the bend.

805. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 16:24:24 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbinpdo.1ku9.bit-bucket@localhost.config.com>
Source record: 33722
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 02 Aug 2003 11:11:31 +0100, Paul Burridge hath writ:
>>> Paul Burridge wrote:
>>> >
>>> > Can anyone suggest a suitable material from which to make an
>>> > ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
>>> > something that can be bent to 90 degrees at a very small radius and
>>> > still return to reasonable straightness.
>
> Yeah, sorry chaps, I should have better defined what I meant by 'very
> small radius'. I compete in radio-controlled model battles, so the
> model stands to get fipped upside down from time to time in a very
> bruising environment and it already has a very low ground-clearance,
> so using a spring as a base mounting won't help much, I'm afraid.
> We're talking about radiuses of as little as 5mm! How about the
> specific grade of stainless steel in wire form that springs are made
> from? I know where I can get hold of some of that....

You might try a section from a steel tape measure.
(Just don't select one of the cheap, Made-In-China plastic/mylar
ones. HI!HI!)
Additionally, try to mount the antenna in a "well" on the robot.
Even a well of 5-10 mm will help out.

HTH,
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

806. am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 17:43:43 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <t_SWa.34180$Ne.22532@fed1read03>
Source record: 33723

Hi folks,
I've been lurking here for awhile and this is my first post.

I own a whole bunch of older tube radios. The majority of them are AM BC/SW. I found a great site on the internet that broadcasts old radio programs (http://www.yesterdayusa.com/) via the internet. Its great to listen to while I answer emails etc, but when I am away from the PC, I cant listen to it......So,,, I hooked up an older tube Eico 324 am signal generator to the headphone jack of the PC and attached my SWL indoor random wire antenna (it runs around the ceiling of the home office I have (about 12 feet on each of the 4 sides, plus 6 feet of lead in)... Well,,, low and behold, I now have a great little transmitter that transmits on BC and SW. It works great in all rooms (the old radios are spread around the house).

Now to the question. What or how can I match the audio input to the input of the signal generator?
The manual for the signal generator suggests a 70k ohm AF (audio freq) input.
I am guessing that the PC headphone jack is 8 ohms, big mismatch.
What issues will this cause??????
The manual also has modulation notes that state "External AF voltage required for 30% modulation at 1mc rf setting (1000 cps signal) aprox 3.0 volts" What the heck does that mean????

I am also unsure of how to match the antenna to the signal generator. The manual does not state what the output could or should be.

Note that the generator does not run hot and has been recapped and calibrated, to the best of my abilities!!!

I am a novice in terms of RF, but have been around TTL logic and have a good general (read self taught) understanding of electronics. I am concerned that long term mismatches may cause problems with the signal generator (I know enough to be concerned, but not how to insure my fears are groundless, for the issue is fixed.)

If anyone has any ideas they would be appreciated.

Thanks in advance
Bob in phx

807. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 18:24:57 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.1995cc07c96849e2989761@news.east.earthlink.net>
Source record: 33724
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <en1nivog5l012vlskd8k3tr9v415adme2q@4ax.com>,
redscar@waitrose.notformail.com says...
> On Sat, 02 Aug 2003 03:25:47 GMT, Active8
> <mcolasono@earthlink.net.invalid> wrote:
>
> >In article <vKBWa.20717$KF1.308575@amstwist00>, Zak@spam.invalid says...
> >> Paul Burridge wrote:
> >> > Hi chaps,
> >> >
> >> > Can anyone suggest a suitable material from which to make an
> >> > ultra-flexible mobile whip antenna say about 3 to 4 feet long. I need
> >> > something that can be bent to 90 degrees at a very small radius and
> >> > still return to reasonable straightness.
> >>
> >> I think thin piano wire will give the best results. Place a lot of them
> >> in a flexible tube to gain some thickness and have them silvered for
> >> conductivity - or add a stranded copper wire.
> >>
> >> Spring metal strip may also work, especially if you can manage some type
> >> of hinge at the base that allows it to turn when sideways force is
> >> exerted, or if the force is in one plane.
> >>
> >>
> >> Thomas
> >
> >what is a tight bend? music wire comes in diff sizes and the number in
> >the tube and how tightly the tube conforms to it will have an effect on
> >the flexibility.
>
> Yeah, sorry chaps, I should have better defined what I meant by 'very
> small radius'. I compete in radio-controlled model battles, so the
> model stands to get fipped upside down from time to time in a very
> bruising environment and it already has a very low ground-clearance,
> so using a spring as a base mounting won't help much, I'm afraid.
> We're talking about radiuses of as little as 5mm! How about the
> specific grade of stainless steel in wire form that springs are made
> from? I know where I can get hold of some of that....
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill
>
oh, hi. it's the battle bot guy. i should have caught that, duh!

mike

808. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 18:30:08 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.1995cd3a90183063989762@news.east.earthlink.net>
Source record: 33725
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <tOMWa.15265$Vx2.7731704@newssvr28.news.prodigy.com>,
deehays@qix.net says...
>
> "Allan York" <snef73@hotmail.com> wrote in message
> news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
> > Hi, I am looking for advice on how to integrate a PIC microchip with a
> > ham radio transciever. I will use this in a robot. I am looking for
> > 100 - 300 mile range. I have a ham radio license.
> >
> > Thanks for the help
>
> Better pick up a copy of the FCC rule book and read it thoroughly before
> embarking on this project to insure that it is legal.
>
> Dee D. Flint, N8UZE
>
>
he'd have to know what i said about type of craft and power limits to
pass the technician class test. there's a few high data rate tranceivers
ready to go and certified that will do this. the vagueness of the
question, range, and just the mention of the license (who asked for a
qualifier) scares me.

mike

809. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 18:44:04 UTC
From: A E <aeisenhut@videotron.ca>
Message-ID: <3F2C0674.5BADCD61@videotron.ca>
Source record: 33726
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Active8 wrote:

> boy, i must have had a bad day.

Yeah, but it saves the rest of us a lot of typing....

810. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 18:46:02 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vio1nmk0houk11@corp.supernews.com>
Source record: 33727
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> I will use this in a robot. I am looking for 100 - 300 mile range.

That's a pretty tall order for a reliable 24/7 communications link to a robot on the ground with a short whip antenna unless you use a satellite link of some sort.

811. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 18:59:43 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <gxedneaeZ8Mwl7GiXTWJkw@ctc.net>
Source record: 33728

> I found a great site on the internet that broadcasts old radio programs
> (http://www.yesterdayusa.com/) via the internet. Its great to listen to
> while I answer emails etc, but when I am away from the PC, I cant listen
to
> it......So,,, I hooked up an older tube Eico 324 am signal generator to
the
> headphone jack of the PC and attached my SWL indoor random wire antenna
(it
> runs around the ceiling of the home office I have (about 12 feet on each
of
> the 4 sides, plus 6 feet of lead in)... Well,,, low and behold, I now have
a
> great little transmitter that transmits on BC and SW. It works great in
all
> rooms (the old radios are spread around the house).
>
> Now to the question. What or how can I match the audio input to the input
of
> the signal generator?
> The manual for the signal generator suggests a 70k ohm AF (audio freq)
> input.
> I am guessing that the PC headphone jack is 8 ohms, big mismatch.
> What issues will this cause??????
> The manual also has modulation notes that state "External AF voltage
> required for 30% modulation at 1mc rf setting (1000 cps signal) aprox 3.0
> volts" What the heck does that mean????
>
>
> I am also unsure of how to match the antenna to the signal generator. The
> manual does not state what the output could or should be.
>
> Note that the generator does not run hot and has been recapped and
> calibrated, to the best of my abilities!!!
>
>
> I am a novice in terms of RF, but have been around TTL logic and have a
good
> general (read self taught) understanding of electronics. I am concerned
> that long term mismatches may cause problems with the signal generator (I
> know enough to be concerned, but not how to insure my fears are
groundless,
> for the issue is fixed.)

The signal generator will run into any type of load without harm. Don't worry about matching it to an antenna. Just don't go too long with the antenna and while you probably will not get into any trouble , you are suspose to stay within certain frequencies. I think anywhere in the standard broadcast band will be ok if you keep the power to under 100 miliwatts. Probably more than the generator can put out anyway. As long as you are not causing any problems in the local area and staying below 2 MC or so the FCC has too much other stuff to worry about .

If you are plugging the audio from the sound card to the generator and it sounds ok, don't worry about matching the 8 ohms to the generator. Usually going from a low (8 ohm) impedance into a high impedance is not problem except maybe getting enough voltage to put into the generator. The "External AF voltage
required for 30% modulation at 1mc rf setting (1000 cps signal) aprox 3.0 volts" means that to get a certain ammount of audio on the output signal you need 3 volts out of the sound card. Those numbers are a standard for testing a receiver. Again if it sounds good don't worry about it. If the audio is too low on a receiver then put more audio into the generator, if it is distorted then cut the level of the audio down some.

812. Just when you thought you had all this figured out

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 20:25:31 UTC
From: "John F. Grimes" <jfgrimes@bigfoot.com>
Message-ID: <3f2c1e38@212.67.96.135>
Source record: 33729

http://physics.nist.gov/cuu/Units/binary.html

813. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 20:28:00 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bgh8oj$ucb@library2.airnews.net>
Source record: 33730
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Allan York" <snef73@hotmail.com> wrote in message
news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
> Hi, I am looking for advice on how to integrate a PIC microchip with a
> ham radio transciever. I will use this in a robot. I am looking for
> 100 - 300 mile range. I have a ham radio license.
>
> Thanks for the help

Y'know, this is the first ham radio operator I've ever encountered who
DIDN'T sign a radio-related post with his callsign.

Makes ya wonder, doesn't it???

814. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 20:55:22 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <vd6oivs8upesrun8cvoadvq603kjg8agur@4ax.com>
Source record: 33732
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 2 Aug 2003 16:40:43 +0100, "cpemma" <cpm@mexbroREMOVE.co.uk>
wrote:

>The alloy is Type 301 (17% chromium, 7% nickel stainless steel) hard drawn
>wire, or even better is a 17/7PH (precipitation hardening) grade that our
>firm once produced for tank aerials, that also may take a few knocks. ;)
>
>Both (especially the PH grade) need a final heat-treatment (420C for a few
>minutes IIRC) for ultimate spring properties, but to get such a tight bend
>you'd need quite a thin wire. It's a matter of the proof strain or limit of
>proportionality, how much the outer skin can stretch without taking a
>permanent set, compared to the neutral central axis, on the bend.

There speaks a man who obviously knows what he's talking about. Yes, I
believe we can order 301 from our guy in N. London who's very
accommodating on such matters. Thanks for a valuable steer!
Just one point, though: is stainless steel a reasonable radiator of RF
energy?

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

815. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 20:55:24 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ra6oivgotrv7tg84e45elivi334kt3rhkh@4ax.com>
Source record: 33733
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On 2 Aug 2003 16:24:24 GMT, Allodoxaphobia <bit-bucket@config.com>
wrote:

>You might try a section from a steel tape measure.
>(Just don't select one of the cheap, Made-In-China plastic/mylar
>ones. HI!HI!)
>Additionally, try to mount the antenna in a "well" on the robot.
>Even a well of 5-10 mm will help out.

Not sure about the tape measure suggestion, but mounting in a well is
something I'd not considered and am most grateful for the idea of!
Thanks...
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

816. Re: Just when you thought you had all this figured out

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 21:16:57 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Gb8L5lOJpCL$EAsb@ifwtech.co.uk>
Source record: 33731

John F. Grimes wrote:
>http://physics.nist.gov/cuu/Units/binary.html
>
>
There are 10 different kinds of people: those who understand binary and
those who don't.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

817. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 22:21:01 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.1996035af86f37c7989766@news.east.earthlink.net>
Source record: 33734
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <vio1nmk0houk11@corp.supernews.com>, "Bob Lewis \(AA4PB\)"
<rlewis@staffnet.com> says...
> > I will use this in a robot. I am looking for 100 - 300 mile range.
>
> That's a pretty tall order for a reliable 24/7 communications link to
> a robot on the ground with a short whip antenna unless you use a
> satellite link of some sort.
>
>
>
hi bob:

exactly. not to mention, you have data bandwidth limitations. you can't do much legally with OP's 50MHz. if you have a commercial link it's easy. for a commercial app we're looking at something along the lines of plant control. I'd opt for a setup where i could check the status of the bot via inet, cellphone, or satcom through a server at the plant interfaced with those precertified 2.4Ghz links. 1Mbps! tell your bots to do something. "hey, bot! pack a dozen cases of Bacardi." the bot should have enough brains to do that, right? "make 500 line number blah blah boards. oh yeah, and by the way, bot, here's the files. Have a nice day! :-)"

hopefully, there's someone around if the bots go nuts. at least someone who can shut 'em down before they drink all the Bacardi. assuming he/she hasn't drunk it all him/herself. :-0

so if anyone's alive when things settle down, perhaps they could page someone to pulease come in and fix things. if the plant computer detects no life readings it would have to page someone itself :-(

a POTs setup would be good in tandem with this setup. call your plant computer and use DTMF commands.

heh, heh... hope this works, right? better tell the security bot to be extra alert.

BRs,
mike

818. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 22:22:51 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.199603cb83539ba3989767@news.east.earthlink.net>
Source record: 33735
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <3F2C0674.5BADCD61@videotron.ca>, aeisenhut@videotron.ca
says...
>
>
> Active8 wrote:
>
> > boy, i must have had a bad day.
>
> Yeah, but it saves the rest of us a lot of typing....
>
>
almost ROFLMAO^2

mike

819. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 22:32:22 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.19960603ac7abae0989768@news.east.earthlink.net>
Source record: 33736
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <bgh8oj$ucb@library2.airnews.net>, strohm@airmail.net says...
> "Allan York" <snef73@hotmail.com> wrote in message
> news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
> > Hi, I am looking for advice on how to integrate a PIC microchip with a
> > ham radio transciever. I will use this in a robot. I am looking for
> > 100 - 300 mile range. I have a ham radio license.
> >
> > Thanks for the help
>
> Y'know, this is the first ham radio operator I've ever encountered who
> DIDN'T sign a radio-related post with his callsign.
>
> Makes ya wonder, doesn't it???
>
>
>
that's the first thing i looked for when i read the post and that got me
on a roll. the absurdity of the whole post wasn't lost on me either.
you'd expect a question more along the lines of how to decode the FSK or
RTTY used in the ham RC band, the freq of which he most likely didn't
even know.

mike

820. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 22:36:17 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <_FydncrJIvwFoLGiU-KYgg@ctc.net>
Source record: 33737
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

```
:
>
> >The alloy is Type 301 (17% chromium, 7% nickel stainless steel) hard
drawn
> >wire, or even better is a 17/7PH (precipitation hardening) grade that our
> >firm once produced for tank aerials, that also may take a few knocks. ;)
> >
> >Both (especially the PH grade) need a final heat-treatment (420C for a
few
> >minutes IIRC) for ultimate spring properties, but to get such a tight
bend
> >you'd need quite a thin wire. It's a matter of the proof strain or limit
of
> >proportionality, how much the outer skin can stretch without taking a
> >permanent set, compared to the neutral central axis, on the bend.
>
> There speaks a man who obviously knows what he's talking about. Yes, I
> believe we can order 301 from our guy in N. London who's very
> accommodating on such matters. Thanks for a valuable steer!
> Just one point, though: is stainless steel a reasonable radiator of RF
> energy?

Back years ago (30 or so) there was an ad in a magazine about either a
loaded CB or 5/8 two meter whip about 36 inches long bent in a circle made
of the 17/7 material. Not sure what the whips are actually made of but
most are some kind of steel .
```

821. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-02 23:24:44 UTC
From: john graesser <graesser@tca.net>
Message-ID: <viohtmqmntb15b@corp.supernews.com>
Source record: 33738
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ra6oivgotrv7tg84e45elivi334kt3rhkh@4ax.com...
> On 2 Aug 2003 16:24:24 GMT, Allodoxaphobia <bit-bucket@config.com>
> wrote:
>
> >You might try a section from a steel tape measure.
> >(Just don't select one of the cheap, Made-In-China plastic/mylar
> >ones. HI!HI!)
> >Additionally, try to mount the antenna in a "well" on the robot.
> >Even a well of 5-10 mm will help out.
>
> Not sure about the tape measure suggestion, but mounting in a well is
> something I'd not considered and am most grateful for the idea of!
> Thanks...

Does it have to be a whip antenna? Why not try a horizontal circular loop? Since you are working line of sight to the robot, the signal loss from going from vertical to horizontal shouldn't matter much unless your transmitter is extremely low power. A loop could be mounted inside a wooden or fiberglas body and be pretty safe from attack.

Is there anything in the rules forbidding your installing a jammer transmitter to cause the other bot to lose its command channel? Probobly a poor use of what little electrical capacity the onboard battery holds, but it would be one way of causing the other bot to freeze in place and become like a deer in the headlights.
thanks, John.
KC5DWD

822. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 04:46:09 UTC
From: eternalsquire@comcast.net
Message-ID: <904dab11.0308022046.78061e06@posting.google.com>
Source record: 33739

Max,

I've been looking for a regenerative preselector on the net but can't find any. The few links I did find are broken.

I also looked at Q-multipliers, but there was no theory available for me to understand how I could construct one to work at RF, let alone couple it into the RF signal path.

Hints, please?

> 1967 ARRL HB had a receiver with an RF Q multipler.

I don't have access to this. Can you email me the schematic? Doing this is fair use, not a copyright violation.

Thanks,

The Eternal Squire

Amin,

I have some good news. I, too, had felt the need for a 3 khz bandwidth
tunable preselector, so I had been exploring gyrator-based filter circuits
where I substitute FETS for the resistors in the gyrators and then apply
voltage to the grids of the FETS for voltage tuning.

In a 3rd-order pi bandpass circuit in LTSpice using gyrators made from Maxim
1Ghz bandwidth op-amps, the voltage tuning part works nicely from up
to 30 Mhz, but the selectivity is about 150khz to 250khz. I do no better with higher
order filters, which I suppose is par since all I am using is an LC design
even though the L's are now all gyrators.

Looking for better selectivity, I happened about the Q-multiplier discussions,
only to find few circuits and no explanations. The few I saw indicate a fixed
tank circuit as the basis of the regenerative oscillator.

I think if we take a working example of an regenerative preselector and
subsitute a gyrator-based tank circuit, we can get a voltage tunable

rf regenerative preselector, which is what we both want!

So, if you can find the preselector, I can try to simulate it in
LTSpice
with the gyrator-based tank I've designed.

What do you think?

The Eternal Squire

scharkalvin <wa2mze@bellsouth.net> wrote in message
news:<3F2082FB.8010200@bellsouth.net>...
> Max wrote:
> > Hello Amin
> >
> >
> >>I'm thinking of homebrewing a "tunable preselector" with a very narrow
> >>bandwidth. If we can implant the Q-multiplier concept into the tunable
> >>preselector, it should be very much cheaper than building one from a
> >>combination of coroidal cores to get the best Q factor.
> >
> >
> > The idea is known as a regenerative preselector and there is a
> > lot of them on the net.
> >
> > Regards Max
> >
> >
>
> 1967 ARRL HB had a receiver with an RF Q multipler.

823. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 07:34:23 UTC
From: Zak <Zak@spam.invalid>
Message-ID: <3W2Xa.20893$KF1.308694@amstwist00>
Source record: 33740
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:

> Just one point, though: is stainless steel a reasonable radiator of RF
> energy?

Stainless steel is awful at conducting electricity - so it won't make a very efficient antenna. But how much it really matters, I don't know.

Thomas

824. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 08:19:12 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f2cc577$0$48900$edfadb0f@dtext02.news.tele.dk>
Source record: 33741

Hello

> I've been looking for a regenerative preselector on the net but can't
> find any. The few links I did find are broke.

http://members.aol.com/lwcanews/unipre.htm

http://www.mitedu.freeserve.co.uk/Circuits/RF/qmult.html

If you can read German, then I have a project I can scan and
mail you.

Regards Max

825. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 08:55:25 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.1996980d9916fe2798976a@news.east.earthlink.net>
Source record: 33742
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

```
In article <viohtmqmntb15b@corp.supernews.com>, graesser@tca.net says...
>
> "Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
> news:ra6oivgotrv7tg84e45elivi334kt3rhkh@4ax.com...
> > On 2 Aug 2003 16:24:24 GMT, Allodoxaphobia <bit-bucket@config.com>
> > wrote:
> >
> > >You might try a section from a steel tape measure.
> > >(Just don't select one of the cheap, Made-In-China plastic/mylar
> > >ones. HI!HI!)
> > >Additionally, try to mount the antenna in a "well" on the robot.
> > >Even a well of 5-10 mm will help out.
> >
> > Not sure about the tape measure suggestion, but mounting in a well is
> > something I'd not considered and am most grateful for the idea of!
> > Thanks...
>
> Does it have to be a whip antenna? Why not try a horizontal circular loop?
> Since you are working line of sight to the robot, the signal loss from going
> from vertical to horizontal shouldn't matter much unless your transmitter is
> extremely low power. A loop could be mounted inside a wooden or fiberglas
> body and be pretty safe from attack.
>
> Is there anything in the rules forbidding your installing a jammer
> transmitter to cause the other bot to lose its command channel? Probobly a
> poor use of what little electrical capacity the onboard battery holds, but
> it would be one way of causing the other bot to freeze in place and become
> like a deer in the headlights.
> thanks, John.
> KC5DWD
>

i always thought jamming would be a great weapon, but i bet it's
illegal. i'd like to see the rules for some of those competitions. i'd
think it would be fun to try sometime. i wan't to smash jay leno's bot.
come on. "chinkilla"? who writes his lines?

Paul's restricted to two bands, which i think stinks. he's probably not
allowed to jam. The band restriction i really don't like since it's a
bot competition not a DX contest.

BR,
mike
>
```

>

826. Re: Just when you thought you had all this figured out

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 09:47:04 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F2CDA18.82B7F53A@ob-wan.com>
Source record: 33745

John F. Grimes wrote:
>
> http://physics.nist.gov/cuu/Units/binary.html

Gibibytes? Naah, it'll never do.

Rob

827. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 10:41:03 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <e5mpiv45521jd7ng0pjnj6hmanaeo6s9mh@4ax.com>
Source record: 33744
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 2 Aug 2003 18:24:44 -0500, "john graesser" <graesser@tca.net>
wrote:

>Does it have to be a whip antenna? Why not try a horizontal circular loop?
>Since you are working line of sight to the robot, the signal loss from going
>from vertical to horizontal shouldn't matter much unless your transmitter is
>extremely low power. A loop could be mounted inside a wooden or fiberglas
>body and be pretty safe from attack.

If I believed this idea was workable I'd have implemented it by now.
You need to bear in mind that immediately beneath the polycarbonate
surface armor, there's a hulking great metal framework. Consequently,
sandwiching the antenna between the armour and the frame is going to
lead to unacceptable loss of radiated energy, I'd have thought. Unless
anyone knows differently..

>Is there anything in the rules forbidding your installing a jammer
>transmitter to cause the other bot to lose its command channel? Probobly a
>poor use of what little electrical capacity the onboard battery holds,

There's a considerable amount of battery power on board, actually,
since the peak current draw is well over 100 Amps at times. A few
milliwatts for a local jammer would therefore be a negligable drain on
resources. *However* as you've already guessed, jammers are banned, as
are EMP pulse type weapons and such like. The reason for this is very
sound, when you think about it: it makes for really bad TV. The
producers want to see as much *action* as possible. You ain't gonna
get that if everybody's disabled everybody else's robot!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

828. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 10:41:05 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <d4npivsqn336t6cfpd0u6mug7ore2qma1i@4ax.com>
Source record: 33743
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 2 Aug 2003 15:28:00 -0500, "John R. Strohm"
<strohm@airmail.net> wrote:

>"Allan York" <snef73@hotmail.com> wrote in message
>news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
>> Hi, I am looking for advice on how to integrate a PIC microchip with a
>> ham radio transciever. I will use this in a robot. I am looking for
>> 100 - 300 mile range. I have a ham radio license.
>>
>> Thanks for the help
>
>Y'know, this is the first ham radio operator I've ever encountered who
>DIDN'T sign a radio-related post with his callsign.
>
>Makes ya wonder, doesn't it???

Not really. I've got one but I don't shout about it. Chiefly because I
frequently ask seriously ***dumb*** questions the nature of which I
should already know. Saves embarrasment. :-)

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

829. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 14:05:57 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bgj4s8$p0kb1$1@ID-134747.news.uni-berlin.de>
Source record: 33746
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

You need to remember that the only "stupid"
question is the one that is not asked. If the
responders wish to demonstrate the maturation
level by denigrating your question that is their
problem.

That said don't ask me the same stupid question
three or four times, listen to the answer the
first time.

--
73 es cul

wb3fup
a Salty Bear

"Paul Burridge" <redscar@waitrose.notformail.com>
wrote in message
news:d4npivsqn336t6cfpd0u6mug7ore2qma1i@4ax.com...
> On Sat, 2 Aug 2003 15:28:00 -0500, "John R.
Strohm"
> <strohm@airmail.net> wrote:
>
> >"Allan York" <snef73@hotmail.com> wrote in
message
>
>news:50bd7fef.0308011558.2af6cdc7@posting.google.
com...
> >> Hi, I am looking for advice on how to
integrate a PIC microchip with a
> >> ham radio transciever. I will use this in a
robot. I am looking for
> >> 100 - 300 mile range. I have a ham radio
license.
> >>
> >> Thanks for the help
> >
> >Y'know, this is the first ham radio operator
I've ever encountered who
> >DIDN'T sign a radio-related post with his
callsign.
> >
> >Makes ya wonder, doesn't it???
>

> Not really. I've got one but I don't shout about
it. Chiefly because I
> frequently ask seriously ***dumb*** questions
the nature of which I
> should already know. Saves embarrasment. :-)
>
>
> --
>
> "I believe history will be kind to me, since I
intend
> to write it." - Winston Churchill

830. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 14:34:18 UTC
From: cpemma <cpm@mexbroREMOVE.co.uk>
Message-ID: <bgj6h8$v25$1@newsg2.svr.pol.co.uk>
Source record: 33647
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Zak wrote:
> Paul Burridge wrote:
>
>> Just one point, though: is stainless steel a reasonable radiator of
>> RF energy?
>
> Stainless steel is awful at conducting electricity - so it won't make
> a very efficient antenna. But how much it really matters, I don't
> know.
>
So's my body, but I get a decent TV picture if I touch the aerial input ;-)

831. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 15:40:55 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <viqb8od731slb2@corp.supernews.com>
Source record: 33648
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> Stainless steel is awful at conducting electricity - so it won't
make a
> very efficient antenna.

I doubt that the difference in resistance between stainless and copper
is going to cause any significant additional losses in a whip antenna.
That difference will be small compared to the other losses. Stainless
is often used for whip antennas because of its mechanical properties.

832. Re: Just when you thought you had all this figured out

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 16:47:36 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1996dc8521c758e198999e@192.168.42.131>
Source record: 33649

In article <3F2CDA18.82B7F53A@ob-wan.com>, Rob Judd says...

> John F. Grimes wrote:
> >
> > http://physics.nist.gov/cuu/Units/binary.html
>
> Gibibytes? Naah, it'll never do.

'Kibibytes' sounds like something you might feed your dog...

Who dreams this stuff up, anyway?

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

833. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 17:19:55 UTC
From: Richard Henry <rphenry@home.com>
Message-ID: <1vbXa.5048$Ye.1939@fed1read02>
Source record: 33650
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Active8" <mcolasono@earthlink.net.invalid> wrote in message
news:MPG.1996980d9916fe2798976a@news.east.earthlink.net...
> In article <viohtmqmntb15b@corp.supernews.com>, graesser@tca.net
says...
> >
> > "Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
> > news:ra6oivgotrv7tg84e45elivi334kt3rhkh@4ax.com...
> > > On 2 Aug 2003 16:24:24 GMT, Allodoxaphobia <bit-bucket@config.com>
> > > wrote:
> > >
> > > >You might try a section from a steel tape measure.
> > > >(Just don't select one of the cheap, Made-In-China plastic/mylar
> > > >ones. HI!HI!)
> > > >Additionally, try to mount the antenna in a "well" on the robot.
> > > >Even a well of 5-10 mm will help out.
> > >
> > > Not sure about the tape measure suggestion, but mounting in a well
is
> > > something I'd not considered and am most grateful for the idea of!
> > > Thanks...
> >
> > Does it have to be a whip antenna? Why not try a horizontal circular
loop?
> > Since you are working line of sight to the robot, the signal loss
from going
> > from vertical to horizontal shouldn't matter much unless your
transmitter is
> > extremely low power. A loop could be mounted inside a wooden or
fiberglas
> > body and be pretty safe from attack.
> >
> > Is there anything in the rules forbidding your installing a jammer
> > transmitter to cause the other bot to lose its command channel?
Probobly a
> > poor use of what little electrical capacity the onboard battery
holds, but
> > it would be one way of causing the other bot to freeze in place and
become
> > like a deer in the headlights.
> > thanks, John.
> > KC5DWD
> >
>

> i always thought jamming would be a great weapon, but i bet it's
> illegal. i'd like to see the rules for some of those competitions. i'd
> think it would be fun to try sometime. i wan't to smash jay leno's
bot.
> come on. "chinkilla"? who writes his lines?
>
> Paul's restricted to two bands, which i think stinks. he's probably
not
> allowed to jam. The band restriction i really don't like since it's a
> bot competition not a DX contest.

I have a friend who competes. I suggested jamming to him; he said it
was not allowed.

Besides, they're not really robots. All of them are just RC toys. I'll
be more impressed when they are autonomous.

834. scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 17:52:42 UTC
From: swells8044@aol.com
Message-ID: <20030803135242.00688.00001248@mb-m25.aol.com>
Source record: 33651

I was given a BK1570a scope but I need probes can these be homebrewed?Im a newby to scopes so this is a learn as you go project.Any help is appreciated.
Steve

835. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 18:29:07 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <2-OcnZwovotG0rCiXTWJjQ@comcast.com>
Source record: 33652

Max,

I can likely use AltaVista BabelFish to translate the German. I use
BabelFish
to view Japanese ham web-pages.

I took a look at the links. From what I am understanding these are
front-end
regenerative circuits. I guess that what I can do is instead of using a
loop I
could use a broadband coupling transformer, and then place the tank in shunt
with the output of the coupling transformer.

Thing is, I don't understand how the regenerative preamp is different from
the regenerative recever (aka regenerative mixer down to baseband audio).
Can you enlighten me?

Thanks,

The Eternal Squire

Max <Max_Jens@post9.tele.dk.invalid> wrote in message
news:3f2cc577$0$48900$edfadb0f@dtext02.news.tele.dk...
> Hello
>
> > I've been looking for a regenerative preselector on the net but can't
> > find any. The few links I did find are broke.
>
> http://members.aol.com/lwcanews/unipre.htm
>
> http://www.mitedu.freeserve.co.uk/Circuits/RF/qmult.html
>
> If you can read German, then I have a project I can scan and
> mail you.
>
> Regards Max
>
>

836. Re: scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 18:35:40 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bgjkst$6u8@library2.airnews.net>
Source record: 33653

"Swells8044" <swells8044@aol.com> wrote in message
news:20030803135242.00688.00001248@mb-m25.aol.com...
> I was given a BK1570a scope but I need probes can these be homebrewed?Im a
> newby to scopes so this is a learn as you go project.Any help is
appreciated.

Depends on what you plan to be looking at.

For audio, you can probably get away with whatever wire you have around, but
don't try to do any critical measurements.

For RF or digital work, no, you can't homebrew those probes, any more than
you can homebrew the scope itself. An oscilloscope probe is part of a
precision measurement system, and the actual requirements that it must meet,
to pass a complex signal UNDISTORTED IN ANY WAY, are TOUGH.

Last time I bought probes, commodity probes were running around forty bucks
each, new. And worth it. Real Tektronix probes, new, will cost you a LOT
more, and they're worth every penny.

837. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 19:39:25 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <vllqivsu3obdfgsp2an3eocbsec2epamlo@4ax.com>
Source record: 33655
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 3 Aug 2003 11:40:55 -0400, "Bob Lewis \(AA4PB\)"
<rlewis@staffnet.com> wrote:

>> Stainless steel is awful at conducting electricity - so it won't
>make a
>> very efficient antenna.
>
>I doubt that the difference in resistance between stainless and copper
>is going to cause any significant additional losses in a whip antenna.
>That difference will be small compared to the other losses. Stainless
>is often used for whip antennas because of its mechanical properties.

Yes, I've several proprietory s/steel whip antennas that give
excellent results. But a question springs to mind. If a s/steel
antenna has slightly higher resistance, does that appreciably lower
its Q?

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

838. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 19:39:26 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <0rlqiv4ndofnic9j1i2coefor1q4f4rei2@4ax.com>
Source record: 33656
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 3 Aug 2003 10:19:55 -0700, "Richard Henry" <rphenry@home.com>
wrote:

>Besides, they're not really robots. All of them are just RC toys. I'll
>be more impressed when they are autonomous.

That's not entirely true these days. Autonomy in certain areas of
control is becoming increasingly prevalent. It'll be interesting to
see how this particular aspect of design develops over the coming
years...
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

839. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 19:43:04 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f2d65c0$0$48906$edfadb0f@dtext02.news.tele.dk>
Source record: 33654

Hello

> I took a look at the links. From what I am understanding these are
> front-end
> regenerative circuits. I guess that what I can do is instead of using a
> loop I
> could use a broadband coupling transformer, and then place the tank in
shunt
> with the output of the coupling transformer.
>
> Thing is, I don't understand how the regenerative preamp is different from
> the regenerative recever (aka regenerative mixer down to baseband audio).
> Can you enlighten me?

Just to make a few things clear, I would like to say.

There is no differents between a frontend and a preamp, it is the same only
thing is the mechanical layout.

The only differents there is between a regenerative reciever and a
regenerative
preamplifier is that the reciever has a detector, the way of function is the
same.

I will scan the 4 pages I have with a Q-multiplying preamp and mail them to
you, so please tell me if the e-mail adress you are using is valid.

Regards Max

840. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-03 23:16:27 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.199761d6cb46082698976e@news.east.earthlink.net>
Source record: 33657
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <vllqivsu3obdfgsp2an3eocbsec2epamlo@4ax.com>,
redscar@waitrose.notformail.com says...
> On Sun, 3 Aug 2003 11:40:55 -0400, "Bob Lewis \(AA4PB\)"
> <rlewis@staffnet.com> wrote:
>
> >> Stainless steel is awful at conducting electricity - so it won't
> >make a
> >> very efficient antenna.
> >
> >I doubt that the difference in resistance between stainless and copper
> >is going to cause any significant additional losses in a whip antenna.
> >That difference will be small compared to the other losses. Stainless
> >is often used for whip antennas because of its mechanical properties.
>
> Yes, I've several proprietory s/steel whip antennas that give
> excellent results. But a question springs to mind. If a s/steel
> antenna has slightly higher resistance, does that appreciably lower
> its Q?
>
>
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill
>

you mean it's bandwidth? probably, but why worry? it's not cut to
resonance, anyway. it's a resistor in an E field. Tx units can be run
with the telescoping verticle collapsed and still control the toy at
short ranges. i think the biggest prob would be front end overload
regardless of the antenna, which i'd try to deal with in an active
antenna setup which is well suited to short verticles, you just can't
let it blast the front end of one of those little RC Rxs.

i've used all kinds of different scraps of wire to get FM RXs going to
see if they work. how about those little pieces of scrap wire on RC
cars? they're no better than yours.

BR,
mike

841. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 01:24:32 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <virdevi5trv95d@corp.supernews.com>
Source record: 33658
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> If a s/steel antenna has slightly higher resistance, does that
> appreciably lower its Q?

I don't have any figures available but I wouldn't think so. The
difference between the resistance of a 2-foot piece of copper and a
2-foot piece of stainless is going to be pretty small.

842. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 02:32:14 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <V5mdndMD86-OXLCiXTWJig@comcast.com>
Source record: 33659

In the W1FB regen receiver circuit, there was no detector stage, the regen oscillator was being used as a direct conversion mixer. Are you sure tthat the preamp will not behave this way?

obtw, my address is good. all others, no spam please!

Max <Max_Jens@post9.tele.dk.invalid> wrote in message news:3f2d65c0$0$48906$edfadb0f@dtext02.news.tele.dk...
> Hello
>
> > I took a look at the links. From what I am understanding these are
> > front-end
> > regenerative circuits. I guess that what I can do is instead of using a
> > loop I
> > could use a broadband coupling transformer, and then place the tank in
> shunt
> > with the output of the coupling transformer.
> >
> > Thing is, I don't understand how the regenerative preamp is different
from
> > the regenerative recever (aka regenerative mixer down to baseband
audio).
> > Can you enlighten me?
>
> Just to make a few things clear, I would like to say.
>
> There is no differents between a frontend and a preamp, it is the same
only
> thing is the mechanical layout.
>
> The only differents there is between a regenerative reciever and a
> regenerative
> preamplifier is that the reciever has a detector, the way of function is
the
> same.
>
> I will scan the 4 pages I have with a Q-multiplying preamp and mail them
to
> you, so please tell me if the e-mail adress you are using is valid.
>
> Regards Max
>
>

843. Re: Ethernet Wired Homes - Interference prone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 03:00:13 UTC
From: opcom <nounwantedmail_eccm@swbell.net>
Message-ID: <3F2DE7B7.DD83A9DF@swbell.net>
Source record: 33660

Like wise, here.

The DSL comes to the house, goes into a plastic conduit, under the ground, 50' to the lab, into the ADSL modem, out as ethernet to a hub, then one line to the server and one back to the house, where it comes in and goes to two
more hubs and 4 computers.

The The noise is heard as a popping sound in the receivers, and is present in the lab, and in the house. It's worst around 10MHz and 15 MHz, and occurs when there's ethernet traffic. I hope that putting the antenna up on a tower
will help. Right now I SWL with an antenna in the attic.

The server is a large minicomputer, maybe it's not intended for operation in the home, maybe has less EMI restrictions?

"Jim, N2VX" wrote:
>
> On Tue, 1 Jul 2003 21:28:36 -0400, "DOUGLAS SNOWDEN"
> <SNOWDEN@peoplepc.com> wrote:
>
> >Just curious, have any of you had trouble with your neighbors that have had
> >their homes wired with CAT5 cable? Does it want to act like an antenna and
> >cause intereference (to them and you) ???
> >
> >Doug N4IJ
> >
>
> Ours generates noise on HF. I have a vertical antenna about 15 feet
> from the house and that doesn't help. We didn't have problems with
> the old-style coax cable ethernet. I'll switch to shielded cat-5
> cable in the near future.
>
> 73,
> Jim
> N2VX

844. Re: scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 03:32:28 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.199773ab6c23c4c89899a0@192.168.42.131>
Source record: 33661

In article <20030803135242.00688.00001248@mb-m25.aol.com>, Swells8044
says...

> I was given a BK1570a scope but I need probes can these be homebrewed?Im a
> newby to scopes so this is a learn as you go project.Any help is appreciated.
> Steve

For audio? Maybe. For anything higher, definitely not. Good O-
scope probes (thinking Tektronix here) are made with a high degree of
precision, and outstanding quality in materials. This is not something
that can be duplicated at home without investing a small fortune in
specialized manufacturing equipment.

You're far better off picking up some surplus Tektronix probes at
whatever ham swap meet or electronic surplus place is local to you.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

845. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 05:51:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <virt3tjkfu1p33@corp.supernews.com>
Source record: 33662
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

The short answer is that stainless probably won't make a noticeable difference in loss, and therefore won't make a significant difference in Q.

The conductor loss of an antenna of a given wavelength size gets less as the frequency gets higher. That's because the antenna length decreases in inverse proportion to the frequency, while the loss per unit length increases only as the square root of the frequency. So for a given wire diameter, a half wavelength dipole at, say, 10 MHz has half the loss of a half wavelength dipole at 2.5 MHz. Stainless steel whips are fine at 2 meters. But an 80 meter dipole made from small or moderate gauge stainless wire could be pretty lossy -- almost certainly so, if the stainless is a magnetic alloy. (Being magnetic greatly increases the RF loss -- by a factor of the square root of the permeability.)

Loss becomes very important when a whip is a lot shorter than a quarter wavelength. However, in many or most cases (like an HF mobile whip), the whip typically has a fairly large diameter where the current is high, and the whip loss is swamped by other losses, so the whip loss isn't objectionable.

It's always possible to come up with a combination of whip diameter, length, and frequency where stainless could be a poor choice -- but it's uncommon in typical applications.

Roy Lewallen, W7EL

Paul Burridge wrote:
> On Sun, 3 Aug 2003 11:40:55 -0400, "Bob Lewis \(AA4PB\)"
> <rlewis@staffnet.com> wrote:
>
>
>>>Stainless steel is awful at conducting electricity - so it won't
>>
>>make a
>>
>>>very efficient antenna.
>>
>>I doubt that the difference in resistance between stainless and copper
>>is going to cause any significant additional losses in a whip antenna.
>>That difference will be small compared to the other losses. Stainless
>>is often used for whip antennas because of its mechanical properties.
>
>
> Yes, I've several proprietory s/steel whip antennas that give
> excellent results. But a question springs to mind. If a s/steel

> antenna has slightly higher resistance, does that appreciably lower
> its Q?
>
>
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

846. Re: scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 06:00:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <virtkp2pqm5b0b@corp.supernews.com>
Source record: 33663

I heartily endorse what the others have said about scope probes. And there is a big difference between Tek probes and commodity probes. A quick Web search shows this is an 80 MHz scope, so a good probe will be necessary if you want to get the most out of it. A lot of Tek probes show up on eBay. They're pretty rugged, so your chances of getting a good one are probably better than for a lot of other electronic equipment. Check your scope's input capacitance, and make sure the probe you get is compatible with it. You should be able to find input C specs for most common probes on the probe manufacturer's web site or elsewhere on the Web. If this is a two-channel scope, it's a very good idea to get two probes of the same type and cord length. You might want an additional probe for the external trigger. This one can be lower quality without having a big impact.

Roy Lewallen, W7EL

Swells8044 wrote:
> I was given a BK1570a scope but I need probes can these be homebrewed?Im a
> newby to scopes so this is a learn as you go project.Any help is appreciated.
> Steve

847. Re: scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 07:00:39 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F2E0497.270EDEAA@ob-wan.com>
Source record: 33665

You can buy them at any good electronics store.

Swells8044 wrote:
>
> I was given a BK1570a scope but I need probes can these be homebrewed?Im a
> newby to scopes so this is a learn as you go project.Any help is appreciated.
> Steve

848. Kenwood V-7

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 07:31:30 UTC
From: todd & dawn <n8lrp@cinci.rr.com>
Message-ID: <3F2E0BD4.8FA99E1C@cinci.rr.com>
Source record: 33664

I was wondering if anyone knows how to turn up the audio on a V-7

849. Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 10:43:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vise6d4i2r9p2c@corp.supernews.com>
Source record: 33666

For years I've had a relay box in the back yard to remotely switch among antennas. The plastic freezer boxes I used deteriorate in the sun and have to be replaced from time to time. Last time I was at the surplus store I picked up an ammo box which will be the new home for the relays. I plan on using N connectors for the RF due to their weatherproof construction. The problem is a connector for the relay control cable. I want a weatherproof bulkhead connector with at least 8 or 9 conductors, and I'd like the cable part to be weatherproof also. I don't want to use an in-line connector because of the problems of weatherproofing and strain relieving wires going through the box wall.

There are a bunch of old military connectors that would be fine, but I need a set of complete ones, with back shell for the cable end, etc. I've been keeping an eye on eBay, but so far haven't spotted anything quite right.

Does anyone know a source for a suitable connector set?

Roy Lewallen, W7EL

850. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 11:05:05 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3F2E3DDF.9010805@invalid.invalid>
Source record: 33667

Roy Lewallen wrote:
> For years I've had a relay box in the back yard to remotely switch among
> antennas. The plastic freezer boxes I used deteriorate in the sun and
> have to be replaced from time to time. Last time I was at the surplus
> store I picked up an ammo box which will be the new home for the relays.
> I plan on using N connectors for the RF due to their weatherproof
> construction. The problem is a connector for the relay control cable. I
> want a weatherproof bulkhead connector with at least 8 or 9 conductors,
> and I'd like the cable part to be weatherproof also. I don't want to use
> an in-line connector because of the problems of weatherproofing and
> strain relieving wires going through the box wall.
>
> There are a bunch of old military connectors that would be fine, but I
> need a set of complete ones, with back shell for the cable end, etc.
> I've been keeping an eye on eBay, but so far haven't spotted anything
> quite right.
>
> Does anyone know a source for a suitable connector set?

I'd take a look at the "circular plastic connectors" sold by Digi-Key.
(among others)

They're not inherently weatherproof but some silicon sealant will make
them that way.

That's what's used on the pan/tilt heads that aim the transmit antennas
on TV microwave remote trucks - certainly at least as difficult an
application as what you're doing. The connectors far outlast the drive
gears!
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

851. FS:2A3'S-Pair Tung-Sol

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 12:30:23 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <zlsXa.84035$3o3.5810129@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33668
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

A NIB pair of Tung-Sol black plate 2A3's that tested 74 (Min. 38) on TV-7/U. Insurance required for shipment.Great for audio ham applications. Have other 2A3's coming + single plate too.

See above at ebay under seller heytubeguy or 2A3

73 Joe <heytubeguy>

852. Re: htx-252 compatible mic???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 14:22:28 UTC
From: bball@green.home.org
Message-ID: <slrnbissb6.1bk.bball@green.home.org>
Source record: 33669

- thanks for the info!

On Mon, 04 Aug 2003 03:12:57 -0500, Mike M <MikeM> wrote:
> On Thu, 10 Jul 2003 18:52:57 GMT, bball@green.home.org wrotF:
>
>>- just a quick question:
>>
>>how hard would it be to wire up a third-party mic to an htx-252?
>>
>>the htx-252 pinouts are available... AFAIK, no audio is sent to
>>the 'standard' mic...
>>
>>oh, and i don't care about DTMF, although i do have a spare
>>yaesu DTMF on hand...
>>
>>if anyone has done this i'd appreciate a tip or two!
>>
>>tia!
> This is kind of a late response to your question, but it is not too
> hard to do. I built a little adapter box with a 5 pin DIN jack on one
> side and a short 8 conductor cable with an 8 pin mic plug on the
> other. I have 6 push button switches wired to replace the radio
> control switches. I have a .22 mfd cap in series with the audio lead
> to the mic. Keying is a 2.2k resistor switched from the radio side of
> the cap to ground.
>
> I have a Turner desk mic connected now, and it works. Just how well
> I'm not sure. Around here no one complains unless you are totally
> unintelligible. So far I haven't touched the deviation limiter pot.

853. 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 14:23:44 UTC
From: nothing40@yahoo.com
Message-ID: <e8d7125c.0308040623.44ebac07@posting.google.com>
Source record: 33670

Hey Gang..

I have recently become interested in the 1750 meter band (160-180 khz).I have been searching the net for information,circuits,reports,anything I can find!
I plan on homebrewing a TX/RX pair,once I do a little more research. I have found a few Schematics,and plans for a couple different transmitters,and antenna's,but no plans for recievers. Can anyone help me out? I'd prefer to go the homebrew route,mostly for experience,and for a learning experience.I don't have much experience with RF electronics,and have been working my way into this "grey area/black magic" ;-) I have built a few FM transmitters,amplifiers,etc..
(I'm really proud o the FM amp I built,1 watt from a 6AK5,First RF project I have built from scratch that worked!)

Any schematics,links,suggestions on circuits,antennas,etc,etc would be great!

Thanks a bunch! Patrick.

854. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 16:10:15 UTC
From: Max <Max_Jens@post9.tele.dk.invalid>
Message-ID: <3f2e855b$0$48896$edfadb0f@dtext02.news.tele.dk>
Source record: 33671

Hello

> Any schematics,links,suggestions on circuits,antennas,etc,etc would be
> great!

Make a search for VLF gear, it is for 137 KHz but should be no problem
for redesigning to 160 KHz.

Regards Max

855. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 16:18:09 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bgm101$n5v$1@freenet9.carleton.ca>
Source record: 33672

Nothing40 (nothing40@yahoo.com) writes:
> Hey Gang..
>
> I have recently become interested in the 1750 meter band (160-180
> khz).I have been searching the net for
> information,circuits,reports,anything I can find!
> I plan on homebrewing a TX/RX pair,once I do a little more research. I
> have found a few Schematics,and plans for a couple different
> transmitters,and antenna's,but no plans for recievers. Can anyone help
> me out? I'd prefer to go the homebrew route,mostly for experience,and
> for a learning experience.I don't have much experience with RF
> electronics,and have been working my way into this "grey area/black
> magic" ;-) I have built a few FM transmitters,amplifiers,etc..
> (I'm really proud o the FM amp I built,1 watt from a 6AK5,First RF
> project I have built from scratch that worked!)
>
> Any schematics,links,suggestions on circuits,antennas,etc,etc would be
> great!
>
> Thanks a bunch! Patrick.

I think you will rarely see a receiver for this band.

There is no, or virtually no, commercially made transmitters for
this frequency and power, so you don't have much choice but to
build. Plus, a transmitter is nice and simple, so you might
as well build it.

But due to the very low allowed power, and the low frequency of
the band (and associated inefficiencies of the antenna), you really
need to go with a good receiver. So I'm sure many would use an
existing receiver that happens to cover the frequency, with it's
good selectivity and features.

If their receiver doesn't cover the band, then they'd add a converter.
I have no idea what's on the web, but there have been a number of converters
for this band described in the magazines over the years.

People building receivers are likely building something really high
performance, maybe moving away from the common receiver schemes in order
to get the most performance for the limited conditions. I'm sure such a
receiver was described in the late Communications Quarterly in an early
issue. Unless you are willing to put in a lot of effort, duplicating
such receivers are not the route.

That said, many converter schematics can be used, so long as
you change the crystal frequency and the front end tuned circuits.
Decades ago, a common LF converter was a single transistor in
a pierce oscillator/mixer combination, and no tuned circuit (or a simple
low pass circuit) at the antenna. Likely not great performance, but
a way to get started and little to go wrong.

And just about any simple receiver design could be used to get
a simple 1750 meter receiver. Pick one with decent selectivy, and
then again modify the local oscillator and front end tuned circuits.

Michael VE2BVW

856. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 16:27:42 UTC
From: Wim Ton <wimton@blueyonder.co.uk>
Message-ID: <3QvXa.17023$SQ1.9292@news-binary.blueyonder.co.uk>
Source record: 33673
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> surface armor, there's a hulking great metal framework. Consequently,
> sandwiching the antenna between the armour and the frame is going to
> lead to unacceptable loss of radiated energy, I'd have thought. Unless
> anyone knows differently..
I do not know the frequencies, but if they are high enough, one could think
of a slot or a patch antenna
>
> >Is there anything in the rules forbidding your installing a jammer
If jamming would be allowed, it would be a totally different sport (but
interesting as well). In that case you may as well omit the robots See all
the military history about ECM, ECCM, ECCCM (Electronic Counter(*n)
Measures) etc.

Wim

857. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 16:29:14 UTC
From: Wim Ton <wimton@blueyonder.co.uk>
Message-ID: <wRvXa.17042$SQ1.10605@news-binary.blueyonder.co.uk>
Source record: 33674
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> Stainless steel is awful at conducting electricity - so it won't make a
> very efficient antenna. But how much it really matters, I don't know.
You can coat it with silver or copper, only the outer few microns conduct HF
(skin-effect)

Wim

858. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 16:49:50 UTC
From: Jim Candela <jcandela@prodigy.net>
Message-ID: <O8wXa.294$dA7.8412262@newssvr15.news.prodigy.com>
Source record: 33675

Patrick,

Check out this link:

http://www.lwca.org/

Regards,
Jim Candela
WD5JKO

"Nothing40" <nothing40@yahoo.com> wrote in message
news:e8d7125c.0308040623.44ebac07@posting.google.com...
> Hey Gang..
>
> I have recently become interested in the 1750 meter band (160-180
> khz).I have been searching the net for
> information,circuits,reports,anything I can find!
> I plan on homebrewing a TX/RX pair,once I do a little more research. I
> have found a few Schematics,and plans for a couple different
> transmitters,and antenna's,but no plans for recievers. Can anyone help
> me out? I'd prefer to go the homebrew route,mostly for experience,and
> for a learning experience.I don't have much experience with RF
> electronics,and have been working my way into this "grey area/black
> magic" ;-) I have built a few FM transmitters,amplifiers,etc..
> (I'm really proud o the FM amp I built,1 watt from a 6AK5,First RF
> project I have built from scratch that worked!)
>
> Any schematics,links,suggestions on circuits,antennas,etc,etc would be
> great!
>
> Thanks a bunch! Patrick.

859. Re: ST SM RF LDFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 18:19:29 UTC
From: Dan Martin <lsservice@knology.net>
Message-ID: <vit8sctg4j7sd4@corp.supernews.com>
Source record: 33676

Check ST Distributors here >>
http://us.st.com/stonline/address/distrib/usa.htm

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f227f77$0$23613$5a62ac22@freenews.iinet.net.au...
> I am looking for a source for the 12V SM FETs PD55003 and PD55008 for a
QRP
> HF SSB amp to about 10W out
> These devices from ST would seem to fit the bill quite well, but I am not
> sure if I can get them in retail quantities.
> Anyone got any ideas re such an amp and where I can get these devices?
>
> Thanks
> Richard
>
>

860. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 19:48:55 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <fRntLCDnirL$EAfY@ifwtech.co.uk>
Source record: 33679

Roy Lewallen wrote:
>For years I've had a relay box in the back yard to remotely switch
>among antennas. The plastic freezer boxes I used deteriorate in the sun
>and have to be replaced from time to time. Last time I was at the
>surplus store I picked up an ammo box which will be the new home for
>the relays. I plan on using N connectors for the RF due to their
>weatherproof construction. The problem is a connector for the relay
>control cable. I want a weatherproof bulkhead connector with at least 8
>or 9 conductors, and I'd like the cable part to be weatherproof also. I
>don't want to use an in-line connector because of the problems of
>weatherproofing and strain relieving wires going through the box wall.
>
A standard electrical cable gland will weatherproof the cable going through the box wall (or whatever you call that thing with a compressible rubber washer that squeezes down onto the cable). That would leaves an in-line connector pair which is a good shape to wrap with tape, so it needn't be inherently waterproof.

>There are a bunch of old military connectors that would be fine, but I
>need a set of complete ones, with back shell for the cable end, etc.
>I've been keeping an eye on eBay, but so far haven't spotted anything
>quite right.
>
>Does anyone know a source for a suitable connector set?

There's a fundamental strong repulsive force that pushes matching surplus plugs and sockets to opposite ends of the Universe.

I had some success with mounting a DIN plug and socket inside any old MIL connector shells for waterproofing. The only requirement is that the MIL housings are compatible - I'm presuming that the pin configurations don't match (see above) but that doesn't matter because you strip them all out.

Remove the backshells (cable clamps and water seals) and drill out the insides of the two MIL connectors to accept the two DIN connectors. Then mate the two MIL housings together (still with the backshells removed for access), push the DINs together inside the MIL housings and epoxy each half into its MIL shell. You now have a waterproof DIN connector.

I hope that makes enough sense...

The DIN connectors are OK for relay-type currents.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)

Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

861. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 19:49:11 UTC
From: donut <none@none.com>
Message-ID: <Xns93CD81E146C24donut@216.102.43.227>
Source record: 33677

nothing40@yahoo.com (Nothing40) wrote in
news:e8d7125c.0308040623.44ebac07@posting.google.com:

> Hey Gang..
>
> I have recently become interested in the 1750 meter band (160-180
> khz).I have been searching the net for
> information,circuits,reports,anything I can find!
> I plan on homebrewing a TX/RX pair,once I do a little more research. I
> have found a few Schematics,and plans for a couple different
> transmitters,and antenna's,but no plans for recievers. Can anyone help
> me out? I'd prefer to go the homebrew route,mostly for experience,and
> for a learning experience.I don't have much experience with RF
> electronics,and have been working my way into this "grey area/black
> magic" ;-) I have built a few FM transmitters,amplifiers,etc..
> (I'm really proud o the FM amp I built,1 watt from a 6AK5,First RF
> project I have built from scratch that worked!)
>
> Any schematics,links,suggestions on circuits,antennas,etc,etc would be
> great!
>
> Thanks a bunch! Patrick.

There was a nice article in the late 60's about buliding a rig for the
"forgotten band." It may have been in Popular Electronics, or Radio and
Electronics.

Is this band still allocated for low power experimental use without a
license?

862. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 20:04:33 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <udetivs5u10ecbtlh2nlmg006vjlcal9t9@4ax.com>
Source record: 33680
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 03 Aug 2003 22:51:50 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>The short answer is that stainless probably won't make a noticeable
>difference in loss, and therefore won't make a significant difference in Q.
>

[thorough-sounding explanation snipped]

Thanks, Roy. Sounds like i should be okay with ss at 40Mhz for this
purpose, then. I've been up to see my supplier in N. London today and
returned with a good selection of various ss spring wire to try out.
I'm given to understand that the rx antenna length isn't that
important with this r/c stuff, so I guess 30-35 inches should be fine.
I'll mount it in a conical well with curved sides as someone else
suggested to minimise any stressing.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

863. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 20:15:31 UTC
From: Richard Heindel <rheindel@neo.rr.com>
Message-ID: <D9zXa.47946$ib2.14090918@twister.neo.rr.com>
Source record: 33678

If you can find them one of the best sources for the 1750m band was Ken Cornell's "The Low & Medium Frequency Radio
Scrapbook". There were 4 editions, that I know of, from 1975 to 1982. They were a collection of circuits from everyone
that was experimenting at the time. Ken has long become a 'silent key' and so there hasn't been a new edition out in a
long time. Check around, you might find some available, they're well worth having.
73
Richard WB8KRN

864. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 21:40:58 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <5njtivocp9i1icgif08272l7cbs36agqve@4ax.com>
Source record: 33681

In <Xns93CD81E146C24donut@216.102.43.227>, donut <none@none.com> wrote:

>nothing40@yahoo.com (Nothing40) wrote in
>news:e8d7125c.0308040623.44ebac07@posting.google.com:
>
>> Hey Gang..
>>
>> I have recently become interested in the 1750 meter band (160-180
>> khz).I have been searching the net for
>> information,circuits,reports,anything I can find!
>> I plan on homebrewing a TX/RX pair,once I do a little more research. I
>> have found a few Schematics,and plans for a couple different
>> transmitters,and antenna's,but no plans for recievers. Can anyone help
>> me out? I'd prefer to go the homebrew route,mostly for experience,and
>> for a learning experience.I don't have much experience with RF
>> electronics,and have been working my way into this "grey area/black
>> magic" ;-) I have built a few FM transmitters,amplifiers,etc..
>> (I'm really proud o the FM amp I built,1 watt from a 6AK5,First RF
>> project I have built from scratch that worked!)
>>
>> Any schematics,links,suggestions on circuits,antennas,etc,etc would be
>> great!
>>
>> Thanks a bunch! Patrick.
>
>
>There was a nice article in the late 60's about buliding a rig for the
>"forgotten band." It may have been in Popular Electronics, or Radio and
>Electronics.

"Transmitter for the Neglected Band" and "Tuner for the Neglected Band", both written by Jim White/W5LET, were in the Jan and Feb 72 editions of Popular Electronics, respectively. You can probably find those issues on film at your local public library. Both are tube projects. The tuner (receiver) is some kind of funky TRF/superhet hybrid, and is tuned by adjusting four compression trimmers (IOW, the tuning is virtually fixed).

>Is this band still allocated for low power experimental use without a
>license?

Yep, limited to 1 watt power input to the final, and the total antenna/ground system is limited to 50 feet.

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 80,000 Newsgroups - 16 Different Servers! =-----

865. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 22:16:15 UTC
From: mcalhoun@ksu.edu
Message-ID: <bgmlvf$ahv@unix1.cc.ksu.edu>
Source record: 33682

>If you can find them one of the best sources for the 1750m band was Ken
>Cornell's "The Low & Medium Frequency Radio Scrapbook". There were 4
>editions, that I know of, from 1975 to 1982....

I have the 3rd edition (1977, 115 pages) and an "addendum '77/'78"
(1977, 73 pages). With Ken dead and Ham Radio defunct, I wonder
what the copyright laws say about photocopying such things?

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

866. GR 1710 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-04 23:19:33 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vitqgccdjq0cd8@corp.supernews.com>
Source record: 33683

I just got a General Radio 1710-P2 Transmission/Reflection Bridge with 4 ports. On the front, RF IN, REFLECTION OUT, REFERENCE OUT (-12dB), and on the left side, UNKNOWN B. I can't find any docs on google so can anyone please tell me the frequency range, impedance and how the 4th port is used, or perhaps where to find more info.
tnx
hank wd5jfr

867. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 00:38:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vitv54n9jprb28@corp.supernews.com>
Source record: 33684

You can get information about copyrights at http://www.uspto.gov. There's no doubt that the original copyright is still in force, since the term of a copyright is much longer than 30 years. (They've changed it recently -- I think it was from 75 to 125 years, under the urging of Disney, whose early copyrights were expiring.) Unless sold, a copyright owned by an individual becomes part of a deceased's estate, so if the author held the original copyright, it's probably owned by the author's heirs. If it was held by Ham Radio magazine, it might be owned by CQ, who took over Communications Quarterly, the successor to Ham Radio; or the ARRL, who took Communications Quarterly over from CQ. Or possibly Craig Clark, who bought the Ham Radio Bookstore from Ham Radio years ago. Or, the author might have had an agreement with the publisher to have the copyright revert back to him from the publisher after some period, in which case the heirs have it.

Of course, you can copy small portions for various uses under the "fair use" doctrine. But copying the whole thing would almost certainly be a copyright violation.

If you're really interested, I'd recommend seeing a qualified attorney before you proceed. I'm not one, and what I say shouldn't be taken as legal advice.

Roy Lewallen, W7EL

mcalhoun wrote:
>>If you can find them one of the best sources for the 1750m band was Ken
>>Cornell's "The Low & Medium Frequency Radio Scrapbook". There were 4
>>editions, that I know of, from 1975 to 1982....
>
>
> I have the 3rd edition (1977, 115 pages) and an "addendum '77/'78"
> (1977, 73 pages). With Ken dead and Ham Radio defunct, I wonder
> what the copyright laws say about photocopying such things?
>
> --Myron.

868. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 00:41:43 UTC
From: Keith Poindexter <ko4sx@alltel.net>
Message-ID: <xYCXa.1632$jq.1551@fe01.atl2.webusenet.com>
Source record: 33685
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

No..
"John R. Strohm" <strohm@airmail.net> wrote in message
news:bgh8oj$ucb@library2.airnews.net...
> "Allan York" <snef73@hotmail.com> wrote in message
> news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
> > Hi, I am looking for advice on how to integrate a PIC microchip with a
> > ham radio transciever. I will use this in a robot. I am looking for
> > 100 - 300 mile range. I have a ham radio license.
> >
> > Thanks for the help
>
> Y'know, this is the first ham radio operator I've ever encountered who
> DIDN'T sign a radio-related post with his callsign.
>
> Makes ya wonder, doesn't it???
>
>

869. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 01:36:49 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <RSDXa.6708$jg7.2318@newsread3.news.pas.earthlink.net>
Source record: 33686

----- Original Message -----
"Frank Gilliland" <sparky@NOSPAMaimcomm.net> Wrotee:
>
> >Is this band still allocated for low power experimental use without a
> >license?
>
> Yep, limited to 1 watt power input to the final, and the total
antenna/ground
> system is limited to 50 feet.
>
>

Yes, the Transmit is limited to that power and antenna. However, the Rx is not and I'd use a fairly large antenna or tuned antenna loop with a FET follower at these frequencies.

For the rest of the Rx, a converter is a good way to go and the FET will give a low enough output impedance for a regular mixer of some sort.

Jim Pennell
N6BIU

870. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 04:07:03 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <3bbuivgfh7q6s80ou92cmhiuar02tul3i6@4ax.com>
Source record: 33687

In <RSDXa.6708$jg7.2318@newsread3.news.pas.earthlink.net>, "Jim Pennell"
<NoSpam@killspam.com> wrote:

>
>----- Original Message -----
>"Frank Gilliland" <sparky@NOSPAMaimcomm.net> Wrotee:
>>
>> >Is this band still allocated for low power experimental use without a
>> >license?
>>
>> Yep, limited to 1 watt power input to the final, and the total
>antenna/ground
>> system is limited to 50 feet.
>>
>>
>
>
> Yes, the Transmit is limited to that power and antenna. However, the Rx
>is not and I'd use a fairly large antenna or tuned antenna loop with a FET
>follower at these frequencies.
>
> For the rest of the Rx, a converter is a good way to go and the FET will
>give a low enough output impedance for a regular mixer of some sort.
>
> Jim Pennell
> N6BIU
>

I've played around on this band for a few year now, and I've noticed a few
things. It doesn't seem to matter what receiver you use because the noise on the
band is almost always much higher than the receiver's front-end noise. Increase
the receiver's sensitivity and you increase the noise. Instead, work on the
receiver's selectivity. Or send the audio output from the receiver into your
computer's sound card and use one of those great FFT programs designed for
weak-signal work. Do that and you can see signals well below the noise floor.

As far as antennas are concerned, loops are popular but there are plenty of
other options. Remember that the band is for experimentation, and part of the
fun comes from experimenting with different antennas. But even with all the
noise on the band, you can still work 20+ miles CW with nothing more than a wire
in the tree and any old receiver that will tune the band.

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

871. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 07:03:45 UTC
From: Tony Williams <tonyw@ledelec.demon.co.uk>
Message-ID: <4c1d1752f1tonyw@ledelec.demon.co.uk>
Source record: 33688
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <udetivs5u10ecbtlh2nlmg006vjlcal9t9@4ax.com>,
Paul Burridge <redscar@waitrose.notformail.com> wrote:

> Thanks, Roy. Sounds like i should be okay with ss at 40Mhz for
> this purpose, then. I've been up to see my supplier in N. London
> today and returned with a good selection of various ss spring
> wire to try out. I'm given to understand that the rx antenna
> length isn't that important with this r/c stuff, so I guess 30-35
> inches should be fine. I'll mount it in a conical well with
> curved sides as someone else suggested to minimise any stressing.

Paul, it sounds like you need to get yourself a CPC catalogue,
pdq. It is similar to RS/Farnell, but the product range is more
aligned to your specific needs.

eg, In the Aerial section there are standard flexible and
super-flexible whip aerials, for cars. Wideband AM-FM reception,
complete with adjustable mounting block and output cable+plug.
About 340mm long on avg. Prices range from ï¿½2:92, to a horrific
ï¿¼4:86.

Note also that CPC does a range of build-it-yourself kits. eg,
Part number HK00224 is a wideband antenna amplifier kit. Metal
cased (24x36x86mm), with 22dB of gain over the range 10-150MHz.
Price is a bank-breaking ï¿½7:49.

See <http://www.cpc.co.uk> or 08701 202530 for a printed
catalogue or CDROM. Farnell own CPC, so if you have a
Farnell account you also automatically have a CPC account.

--
Tony Williams.

872. Kenwood TM-V7A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 07:23:13 UTC
From: todd & dawn <n8lrp@cinci.rr.com>
Message-ID: <3F2F5B6D.E351325D@cinci.rr.com>
Source record: 33689

Does anyone know how to turn up the mic gain on a V7? 2m and 70cm both?

873. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 08:00:00 UTC
From: Barry Lennox <pbarryplennoxp@operamail.com>
Message-ID: <gkouiv828kkn4v05niosvs1l3nee9fmble@4ax.com>
Source record: 33690
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 02 Aug 2003 21:55:22 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Sat, 2 Aug 2003 16:40:43 +0100, "cpemma" <cpm@mexbroREMOVE.co.uk>
>wrote:
>
>>The alloy is Type 301 (17% chromium, 7% nickel stainless steel) hard drawn
>>wire, or even better is a 17/7PH (precipitation hardening) grade that our
>>firm once produced for tank aerials, that also may take a few knocks. ;)
>>
>>Both (especially the PH grade) need a final heat-treatment (420C for a few
>>minutes IIRC) for ultimate spring properties, but to get such a tight bend
>>you'd need quite a thin wire. It's a matter of the proof strain or limit of
>>proportionality, how much the outer skin can stretch without taking a
>>permanent set, compared to the neutral central axis, on the bend.
>
>There speaks a man who obviously knows what he's talking about. Yes, I
>believe we can order 301 from our guy in N. London who's very
>accommodating on such matters. Thanks for a valuable steer!
>Just one point, though: is stainless steel a reasonable radiator of RF
>energy?

I presume you are operating at 35 MHz or so? So your losses in a 30"
whip are already rather high, especially into a typical RC Rx
front-end, so the material will not count for much either way.

A number of emergency beacons use a very robust antenna made from 3-4
laminations of stainless steel tape, something a little like the tape
in your retracting tape measure. That would be worth looking at. I
have seen such beacons/antennas survive and operate after severe, and
fatal, A/C crashes.

Barry Lennox

874. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 08:44:38 UTC
From: donut <none@none.com>
Message-ID: <Xns93CE1131AED4Edonut@216.102.43.227>
Source record: 33691

Frank Gilliland <sparky@NOSPAMaimcomm.net> wrote in
news:5njtivocp9i1icgif08272l7cbs36agqve@4ax.com:

> "Transmitter for the Neglected Band" and "Tuner for the Neglected
> Band", both written by Jim White/W5LET, were in the Jan and Feb 72
> editions of Popular Electronics, respectively. You can probably find
> those issues on film at your local public library. Both are tube
> projects. The tuner (receiver) is some kind of funky TRF/superhet
> hybrid, and is tuned by adjusting four compression trimmers (IOW, the
> tuning is virtually fixed).

Ah, that's the one. I remember it well. With the plethora of digital radios
that tune down to 150 kHz these days, the rx wouldn't even be a
consideration.

875. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 08:51:15 UTC
From: donut <none@none.com>
Message-ID: <Xns93CE12508151Fdonut@216.102.43.227>
Source record: 33692

Roy Lewallen <w7el@eznec.com> wrote in
news:vitv54n9jprb28@corp.supernews.com:

> You can get information about copyrights at http://www.uspto.gov.
> There's no doubt that the original copyright is still in force, since
> the term of a copyright is much longer than 30 years. (They've changed
> it recently -- I think it was from 75 to 125 years, under the urging of
> Disney, whose early copyrights were expiring.) Unless sold, a copyright
> owned by an individual becomes part of a deceased's estate, so if the
> author held the original copyright, it's probably owned by the author's
> heirs. If it was held by Ham Radio magazine, it might be owned by CQ,
> who took over Communications Quarterly, the successor to Ham Radio; or
> the ARRL, who took Communications Quarterly over from CQ. Or possibly
> Craig Clark, who bought the Ham Radio Bookstore from Ham Radio years
> ago. Or, the author might have had an agreement with the publisher to
> have the copyright revert back to him from the publisher after some
> period, in which case the heirs have it.
>
> Of course, you can copy small portions for various uses under the "fair
> use" doctrine. But copying the whole thing would almost certainly be a
> copyright violation.
>
> If you're really interested, I'd recommend seeing a qualified attorney
> before you proceed. I'm not one, and what I say shouldn't be taken as
> legal advice.
>

Here's what I don't understand about copyright law. If a hobbyist wants to
photocopy out of print work for his own use, or even to redistibute to
others with like interests, how is it a copyright violation unless he
either profits from it, or deprives the legal owner of the copyright from
profit?

I understand the concept - I just don't understand the way the law is
applied these days.

876. Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 09:23:44 UTC
From: qas@operamail.com
Message-ID: <64fa1080.0308050123.763aa9d0@posting.google.com>
Source record: 33693

hello,
I need a varaible 490-510 uH coil. any sugestions on making it at
home, or beter step by step directions.

thanks in advice,
beginer:)
73

877. Re: Kenwood TM-V7A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 09:29:36 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <3TKXa.21944$Id1.2235306@newsfep2-win.server.ntli.net>
Source record: 33695

> Does anyone know how to turn up the mic gain on a V7? 2m and 70cm both?
======
It probably being a FM dual band (handheld) transceiver , by increasing the
mic gain ,you'll also will increase the deviation .
Is that really what you want to do ?

Frank GM0CSZ / KN6WH

878. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 09:33:47 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bgntlt$p3rhl$1@ID-134747.news.uni-berlin.de>
Source record: 33694

Need to apply the "Reasonable Man" theory. If it would be reasonable for the copyright holder to profit, then he has been damaged. A copy, distributed to a limited audience, for scientific use probably would fall under a "fair use" exception. A "I have found this wonderful item, and here it is" distributed to persons who would have purchased the item had it not been distributed would be infringement. The subtle differences is why we have courts, and a legal system.

--
73 es cul

wb3fup
a Salty Bear

"donut" <none@none.com> wrote in message
news:Xns93CE12508151Fdonut@216.102.43.227...
> Roy Lewallen <w7el@eznec.com> wrote in
> news:vitv54n9jprb28@corp.supernews.com:
>
> > You can get information about copyrights at http://www.uspto.gov.
> > There's no doubt that the original copyright is still in force, since
> > the term of a copyright is much longer than 30 years. (They've changed
> > it recently -- I think it was from 75 to 125 years, under the urging of
> > Disney, whose early copyrights were expiring.) Unless sold, a copyright
> > owned by an individual becomes part of a deceased's estate, so if the
> > author held the original copyright, it's probably owned by the author's
> > heirs. If it was held by Ham Radio magazine, it might be owned by CQ,
> > who took over Communications Quarterly, the successor to Ham Radio; or
> > the ARRL, who took Communications Quarterly over from CQ. Or possibly
> > Craig Clark, who bought the Ham Radio Bookstore from Ham Radio years
> > ago. Or, the author might have had an agreement with the publisher to
> > have the copyright revert back to him from the publisher after some
> > period, in which case the heirs have it.
> >
> > Of course, you can copy small portions for various uses under the "fair
> > use" doctrine. But copying the whole thing would almost certainly be a
> > copyright violation.
> >
> > If you're really interested, I'd recommend seeing a qualified attorney
> > before you proceed. I'm not one, and what I say shouldn't be taken as
> > legal advice.
> >
>
>
> Here's what I don't understand about copyright law. If a hobbyist wants

to
> photocopy out of print work for his own use, or even to redistibute to
> others with like interests, how is it a copyright violation unless he
> either profits from it, or deprives the legal owner of the copyright from
> profit?
>
> I understand the concept - I just don't understand the way the law is
> applied these days.

879. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 09:57:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <viuvs5sj7vo7a5@corp.supernews.com>
Source record: 33696

Every once in a while I point out what the copyright or patent law says. I almost always get responses from people who feel they should be able to do something other than the law states -- for example, a lot of people feel that they should be able to build a patented item for their own personal use, while the law specifically forbids it. Or photocopy a book that's out of print. And so forth. I think most people don't really want to know what the law says -- they'd rather keep their notion of what they think it should say.

I don't make the laws. I don't enforce them. And, shoot, I'm not even qualified to say what they are or what they mean. Anyone really interested in learning what the laws say can go to http://www.uspto.gov or a bunch of other authoritative sources. Better yet, see a qualified attorney, who can also tell you how they're enforced. Then do whatever it is your conscience (or rationalization) lets you do. Most people are probably going to do what they want anyway, no matter what the laws say, and come with reasons to justify it.

Want to know why the law says what it does? Ask your congressperson. Have a complaint? Tell your congressperson. But be warned -- people who like sausages or have respect for the law shouldn't look too closely at how either is made. And it ain't pretty.

Roy Lewallen, W7EL

donut wrote:
>
> Here's what I don't understand about copyright law. If a hobbyist wants to
> photocopy out of print work for his own use, or even to redistibute to
> others with like interests, how is it a copyright violation unless he
> either profits from it, or deprives the legal owner of the copyright from
> profit?
>
> I understand the concept - I just don't understand the way the law is
> applied these days.

880. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 10:16:42 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0308050216.4c977e69@posting.google.com>
Source record: 33597

You are right on the money. I got out my telescope eyepiece and saw
088c6 on the IC then looking at the pinout from the link supplied
confirmed it.Thanks so much.
73
Ray KC8OJU

et472@FreeNet.Carleton.CA (Michael Black) wrote in message
news:<bfufnekmk1@freenet9.carleton.ca>...
> ray (ray_psi@yahoo.com) writes:
> > I got a FM broadcast band radio from the dollar store. In it it has a
> > 16 pin SMD IC of unknown brand. Although I plan using these for my
> > 10Ghz gunnplexers. There is one coil and a varactor diode. They use
> > push button up tuning and another to reset to the low end of the band.
> > I don't find any parts for an IF so it must be a TRF style receiver.
> > It has a stereo headphone jack but it's not stereo, and the headphone
> > cable is used for the antenna, And it runs off of 3 VDC. I'd like to
> > know what this chip is so I can take it down to 30Mhz.
> >
> > Later,
> > Ray KC8OJU
> >
> >
> I bought one of those two button radios, and below is a post I
> wrote in response to a similar question shortly after I opened
> the thing up back in March.
>
> Michael VE2BVW
> --
>
> Gary Tait (taitg@hurontel.on.ca) writes:
> > I am looking for the datasheet for the chip in one of those two button
> radios
> (you know,
> > scan, reset).
> >
> > It says on it:
> > HWCAT 1036AH (datecode?)
> > CSC1033M
> >
> > Ir is in a 16 pin SM DIP package.
>
> I bought one of those recently, when they were on sale for $1.99 at
> Pharmaprix (which is Shopper's Drug Mart in the rest of Canada).
> I was simply curious about what was inside, and the price became

> low enough that I didn't mind spending the money.
>
> I had problems reading the IC at first. So I started out tracing
> the circuit. At first, I thought/hoped it was the TDA7000, but
> the pin count was wrong. I looked up that IC at the Phillips'
> site (it was easier than trying to find where I'd stashed the
> paper datasheet), and they made mention of similar ICs, including
> two that had that tuning scheme. I went through them, and
> the match was the TDA7088. Looking more carefully at the IC,
> the "7088" was now visible, though it looked like it was a knockoff
> or a cheap second source, rather than an IC that came from Phillips.
>
> I'd say this is the same IC, since your "1033" could be a misread
> of "7088".
> Check the datasheet at
> http://www.semiconductors.philips.com/pip/TDA7088.html
>
> Likely by comparing the pinout from it with the actual circuit, you
> will find a match.
>
> I was going to post something about my findings, because they are a curiosity.
> But I'm not sure where my notes are, or even where I put the circuit board.
>
> The IC uses the same scheme as the TDA7000, ie a conversion to an IF
> of about 70KHz, where an active filter can be used for selectivity.
> And one of those Frequency Lock Loops which reduces the apparent deviation.
> Then they throw in the circuitry for the tuning scheme.
>
> Having once seen someone suggest using the TDA7000 as a direct conversion
> receiver (when they were readily available at Radio Shack), they claimed
> the mixer was double balanced, I couldn't help but think maybe these
> radios would be a cheap local source for a mixer. Leave the IC on
> the board, and just strip the unneeded parts of, wiring to the board
> rather than wiring to that smd IC. I assume the big problem would
> be that since the 7088 can't handle more than about 3V on the supply
> line, it will be even worse for signal handling than the NE602 is said
> to be. (And I am simply assuming it's a double balanced mixer.) But
> for a couple of dollars, there are times when someone might need
> a mixer that these radios can supply cheap and locally.
>
> Michael

881. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 10:22:51 UTC
From: Mark Fergerson <mfergerson1@cox.net>
Message-ID: <3F2F857B.8040004@cox.net>
Source record: 33598
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:
> On Sat, 2 Aug 2003 18:24:44 -0500, "john graesser" <graesser@tca.net>
> wrote:
>
>
>>Does it have to be a whip antenna? Why not try a horizontal circular loop?
>>Since you are working line of sight to the robot, the signal loss from going
>>from vertical to horizontal shouldn't matter much unless your transmitter is
>>extremely low power. A loop could be mounted inside a wooden or fiberglas
>>body and be pretty safe from attack.
>
>
> If I believed this idea was workable I'd have implemented it by now.
> You need to bear in mind that immediately beneath the polycarbonate
> surface armor, there's a hulking great metal framework. Consequently,
> sandwiching the antenna between the armour and the frame is going to
> lead to unacceptable loss of radiated energy, I'd have thought. Unless
> anyone knows differently..

Frequency limits prevent slot antennas in plate metal armor?

If so, loop antenna on top of the polycarb, with another
layer on top of that? You need a certain amount of standoff;
how much at your allowed frequencies? It'll amount to a box
or block of plastic stuck on the 'bot, but should be
relatively invulnerable.

Mark L. Fergerson

882. Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 12:21:16 UTC
From: Jayne Medley <kjm52@blomand.net>
Message-ID: <bgocj9$ddtu$1@news3.infoave.net>
Source record: 33599

Just getting started in homebrewing . Want to start with a 813 amp because I have the parts and tubes for amp .I have looked a some sites good info .

What I need is info on power supply I need drawing with all info as like how and what to do .

Thanks for any help N4VMV

883. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 14:15:06 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bgoe5a$f94$1@freenet9.carleton.ca>
Source record: 33600

ray (ray_psi@yahoo.com) writes:
> You are right on the money. I got out my telescope eyepiece and saw
> 088c6 on the IC then looking at the pinout from the link supplied
> confirmed it.Thanks so much.
> 73
> Ray KC8OJU
>

I couldn't read the number on mine at first, either. The IC body
was grey, and the lettering was only somewhat darker grey. There
was also some wax or something on the IC. My first thought was that
there was no part number on the IC.

But since I knew there was no ceramic filter in there, I also knew
that it had to use some odd scheme. It was only after I found a likely
IC that I could see that the IC number actually matched it.

Michael VE2BVW

884. IC-2340H

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 14:22:39 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <mrGcnY5HEYZ6ILKiRTvUqw@cnmnetwork.com>
Source record: 33601

I would like a copy of the service manual or, at the very least,
instructions on how to reduce the volume of the beep. It's so loud I'm
afraid to switch on the radio.

73, Bob

885. Re: Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 16:53:59 UTC
From: jcplpsm@aol.communicate
Message-ID: <20030805125359.29613.00000030@mb-m17.aol.com>
Source record: 33602

>hello,
>I need a varaible 490-510 uH coil. any sugestions on making it at
>home, or beter step by step directions.
>

Need some additional info first. What kind of coil and what are you using it
for?

886. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 16:59:01 UTC
From: jcplpsm@aol.communicate
Message-ID: <20030805125901.29613.00000036@mb-m17.aol.com>
Source record: 33603

>Does anyone know a source for a suitable connector set?
>

Check with Allied Electronics. They carry a large stock of Amphenol connectors like those used in military applications. You might also consider just installing a terminal strip inside the switch housing and running the cable directly into it rather than using an expensive connector. You can easily waterproof the entry point with a rubber feed thru bushing or silicone sealant.

887. Re: scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 17:13:36 UTC
From: symon_brewer@hotmail.com
Message-ID: <a28bc07f.0308050913.155ed46c@posting.google.com>
Source record: 33604

Steve,
I don't like to disagree with the other folks on here, but IMO you can
make a bloody good probe yourself. You'll also learn a lot more than
just going out and buying one. Try this link for starters.
http://www.emcesd.com/1ghzprob.htm
HTH, Symsx.

swells8044@aol.com (Swells8044) wrote in message
news:<20030803135242.00688.00001248@mb-m25.aol.com>...
> I was given a BK1570a scope but I need probes can these be homebrewed?Im a
> newby to scopes so this is a learn as you go project.Any help is appreciated.
> Steve

888. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 17:21:49 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vivptqluarl51f@corp.supernews.com>
Source record: 33605
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

I'm pretty disappointed at the amount of flame this posting generated.

Allen asked about interfacing, I assume the question was about interfacing. OK, he said newbie, unfortunately, he didn't say newbie to amateur radio, PICs, or putting them together.

As someone pointed out, the 100 - 300 mile range is a bit of a push. On VHF, that's going to take an unrealistically high antenna, no getting around that unless you have a repeater or satellite. 100-300 isn't a bad 80 meter range, but 80 means huge antennas, probably not reasonable for the sort of robot I would picture, but he didn't give us a lot of insight into his application. Also, in the summer during the day, it's going to take a buch of power. Tough to see a robot carrying that much battery.

Just a note to other new posters ... a lot of times folks give a narrow question in the hope that the conversation won't go too far afield and they'll get an answer to their question. The problem is that us old farts know that there are a million ways to do anything. If you have some insight into the application, it gives us a shot at narrowing down the alternatives.

OK, now, about interfacing to the rig. As always, it depends.

There are 3 things you want to do with a rig - send, receive, and switch between the two.

Switching between the 2 is often the messiest. Different rigs have different ways of doing this, but in most cases, a relay is the most direct. A PIC will drive one of those little DIP relays directly. If you don't want the mechanical bit, a transistor or two, or perhaps an open collector buffer like a 7407 will protect the PIC from the voltage on the TR line, which in most modern rigs is in the 8-10 volt range. Tube rigs are obviously different, but I can't picture a robot running around with a Henry 2K on it's back!

Receiving is simple, wire the headphone jack directly to the PIC, maybe a little resistor in there. The PIC is plenty fast enough to decode the audio. If you're a bit of a wuss about the software, maybe you bring the audio into a 567 or NJM2211 and go into the PIC with a decoded digital signal.

Transmitting is a bit messier. Some rigs like the Icom 706 have an FSK input that allows you to shift the modulation frequency with a simple digital signal. Most rigs, however, you will probably go into with audio. There are 2 issues here. First, the level has to be carefully set for the rig. This isn't so hard, it's just a couple of resistors, but it takes some fiddling to get it right.

Secondly the shape of the waveform is an issue. It's real easy to generate square waves from the PIC, but in most cases, these will generate lots of spurious output. Depending on the application and the sort of encoding you will use, you will need to come up with nice sine waves. There really are 3 ways to do this ... in many applications you can simply get away with a good low pass filter between the PIC and the radio. This will take a bunch of tweaking, though, and you will need a good scope, and preferably a spectrum analyzer to get it right. You can also generate the sine wave by having the PIC output the sine wave using pulse width modulation and a little filtering. In my experience, you can get extremely good sine waves this way, BUT the PIC is 100% dedicated to the task, which means your data rates will need to be low. The third approach is to build an oscillator that you can control with the PIC. Given that you will probably need only two frequencies, this may not be such a bad approach.

Actually getting into the rig is generally pretty simple. Most Icom rigs have the audio on the mic jack, which is typically a RJ-45, so it's pretty simple to do the whole thing through the RJ-45. For some, though, you will need to put the audio into the mic, and get it from the headphone jack. Of course, some radios have an accessory jack on the back with everything you may need. Generally, these are some sort of unusual jack. Icom likes 13 pin DINs, which are available, but you won't find fistfuls of them at your local Best Buy. If your radio uses one of those 4, 6 or 8 pin round connectors with the screw on ring around them, you can ofetn get them at a CB shop.

Hope this helps ..

..

"Allan York" <snef73@hotmail.com> wrote in message
news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
> Hi, I am looking for advice on how to integrate a PIC microchip with a
> ham radio transciever. I will use this in a robot. I am looking for
> 100 - 300 mile range. I have a ham radio license.
>
> Thanks for the help

889. Who Sells Mini-Circuits DBMs?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 18:20:56 UTC
From: donrm@soco.agilent.com
Message-ID: <1060107656.153969@cswreg.cos.agilent.com>
Source record: 33606

I have a need for one each Mini-Circuits SRA-6 DBM.
Who sells in this quantity?

Don K6LTS
donrm@soco.agilent.com

890. Re: Who Sells Mini-Circuits DBMs?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 18:40:03 UTC
From: Harry Brown <harryhbrown@earthlink.net>
Message-ID: <7SSXa.34605$Mc.2749688@newsread1.prod.itd.earthlink.net>
Source record: 33607

Don,

Minicircuits has a reputation for selling small quantities directly to hams.
I've bougtht their kits directly and single quantities from one of their
distributors.

If you don't need the low frequency response of the SRA-6, you can get some
of their mixers from Down East Microwave.

Their web page is at: http://www.downeastmicrowave.com/

73, Harry, W3IIT

<donrm@soco.agilent.com> wrote in message
news:1060107656.153969@cswreg.cos.agilent.com...
> I have a need for one each Mini-Circuits SRA-6 DBM.
> Who sells in this quantity?
>
> Don K6LTS
> donrm@soco.agilent.com
>

891. Re: Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 18:47:08 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308051047.1ca71bbf@posting.google.com>
Source record: 33608

qas@operamail.com (Qas) wrote in message
news:<64fa1080.0308050123.763aa9d0@posting.google.com>...
> hello,
> I need a varaible 490-510 uH coil. any sugestions on making it at
> home, or beter step by step directions.

I'll assume this is a serious question...

That's such a small range, only 20uH out of 500 or about 4%, that it should be easy to get the desired variability. In fact, the most difficult part may be trimming the coil to the correct value in the environment where it will be used. You didn't mention what Q you need, or what frequency range it will be used for, or how much power it should handle, or whether you want to vary it often or just set-and-forget. Those factors make some difference with respect to the "best" solution to your question.

If you don't mind it being fairly large, you can wind about 100 turns of 32AWG wire on a 2" diameter form, taking up about an inch of length, and make it variable by putting a couple of powdered-iron toroids on a Nylon screw in the middle of the coil, with the screw arranged so you can move the toroids in and out. That will probably give you a bit more inductance than you want, and you can remove turns until the value is as you need. You can vary the number and size of toroids you use to change the tuning rate. Other diameters, lengths, etc., are possible, too, of course: just use one of the standard inductance formulas to get close and trim as needed. (Homebrewing is often about using materials already on hand.)

Another possibility is to use a tuneable potcore...but you may have difficulty finding the core. You may be able to simply wind the wire on a powdered iron or ferrite toroid and adjust by taking off turns and/or squeezing/stretching the turns, if it's set-and-forget. Another idea is to simply buy a coil whose adjustment range includes the values you need--see DigiKey or Mouser. There are several other solutions. You very likely do NOT want a roller inductor!

Cheers,
Tom

892. HP 6129C 6130C Digital Voltage Source Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 18:49:25 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <bq-cnXo_qox0ZrKiXTWJjA@comcast.com>
Source record: 33609

I have a couple of these power supplies -- nice old HP vintage -- couldn't figure out why, with the same binary code, one would give a negative voltage, others it would be positive -- the secret is in the jumper W on Board A2 -- this sets the "sign" signal for the DAC circuitry.

By using two supplies, one with A2 W Jumper at "A", the other with A2 jumper at "B" you need only one programmer to yield positive output from one supply and an equal negative voltage on the other -- nice for testing amplifiers.

For $19 the HP6129C (+/- 50VDC, 5 amps) is a real bargain.

893. Re: Just when you thought you had all this figured out

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 18:54:14 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <P9mdnUCAqfmpYLKiU-KYgw@comcast.com>
Source record: 33610

We used to go to a Lebonese (Cedars of Lebanon on 30th Street in NYC if you must know!) restaurant where they served baked Kibee.

"Dr. Anton Squeegee" <SpammersAreVermin@dev.null> wrote in message news:MPG.1996dc8521c758e198999e@192.168.42.131...
> In article <3F2CDA18.82B7F53A@ob-wan.com>, Rob Judd says...
>
> > John F. Grimes wrote:
> > >
> > > http://physics.nist.gov/cuu/Units/binary.html
> >
> > Gibibytes? Naah, it'll never do.
>
> 'Kibibytes' sounds like something you might feed your dog...
>
> Who dreams this stuff up, anyway?
>
> --
> Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
> (Known to some as Bruce Lane, KC7GR)
> kyrrin a/t bluefeathertech d-o=t c&o&m
> "Quando Omni Flunkus Moritati" (Red Green)

894. Re: scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 18:58:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vivvi6c7dqc477@corp.supernews.com>
Source record: 33611

From a brief look at the referenced web site, it looks like the author did a decent job of making a low impedance probe. It should work quite well if carefully constructed.

But it's actually a lot easier to make a good 50 - 1000 ohm probe (which the web site describes) than a 10 meg probe. A 10 meg, 10X probe is a lot more useful for most everyday measurements, which is why it's universally used on scopes up to several hundred MHz. At least as important as the high resistance is the relatively low capacitance it presents to the measured circuit. (A good low Z probe has considerably less capacitance yet, so it's a better choice at really high frequencies. It's also fine for probing in 50 ohm environments.)

Making a good 10 meg probe is quite an art as well as a science. If you ever disassemble an old Tek probe, one of the first things you'll notice is the coax. It's specially made with a resistive center conductor to damp reflections, and lossy dielectric to reduce piezoelectric and triboelectric effects. (If you don't know what these are, connect a piece of regular RG-58 to your scope input, turn the sensitivity up, and flex it or rap it with a mallet.) Another tough problem is "hook", a nonlinear property of many capacitors, dielectrics like PC board material, and even resistors. This creates funny, hook-shaped step responses (which is how it got its name), that are difficult or impossible to compensate. You probably won't see hook at 50 ohm levels, but it's pervasive in high impedance environments. The little circuit board in the scope compensation box is likely a specially-made low-hook expoxy glass formulation, or an inherently low-hook dielectric like polysulfone. And both the capacitors and resistors were carefully chosen and specified for low hook and other nonlinear properties.

A cheap or homebrew 10 meg probe is fine if you don't really care if what you see on the scope looks like the real signal. Or if the amplitude of a sine wave is really what the scope says it is. But if you do, you need a decent probe.

Roy Lewallen, W7EL

Symon wrote:
> Steve,
> I don't like to disagree with the other folks on here, but IMO you can
> make a bloody good probe yourself. You'll also learn a lot more than
> just going out and buying one. Try this link for starters.
> http://www.emcesd.com/1ghzprob.htm
> HTH, Symsx.
>
> swells8044@aol.com (Swells8044) wrote in message

news:<20030803135242.00688.00001248@mb-m25.aol.com>...
>
>>I was given a BK1570a scope but I need probes can these be homebrewed?Im a
>>newby to scopes so this is a learn as you go project.Any help is appreciated.
>>Steve

895. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 21:19:31 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <1s60jv8orhj8kljrvdtg97bkp4f88n7m5p@4ax.com>
Source record: 33614
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Tue, 05 Aug 2003 08:03:45 +0100, Tony Williams
<tonyw@ledelec.demon.co.uk> wrote:

> Paul, it sounds like you need to get yourself a CPC catalogue,
> pdq. It is similar to RS/Farnell, but the product range is more
> aligned to your specific needs.

Curious. I've never heard of 'em!

> eg, In the Aerial section there are standard flexible and
> super-flexible whip aerials, for cars. Wideband AM-FM reception,
> complete with adjustable mounting block and output cable+plug.
> About 340mm long on avg. Prices range from ï¿½2:92, to a horrific
> ï¿¼4:86.
>
> Note also that CPC does a range of build-it-yourself kits. eg,
> Part number HK00224 is a wideband antenna amplifier kit. Metal
> cased (24x36x86mm), with 22dB of gain over the range 10-150MHz.
> Price is a bank-breaking ï¿½7:49.
>
> See <http://www.cpc.co.uk> or 08701 202530 for a printed
> catalogue or CDROM. Farnell own CPC, so if you have a
> Farnell account you also automatically have a CPC account.

Well I do already have a Farnell a/c so I'll give em a try! Thanks for
the suggestion.

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

896. Re: Kenwood TM-V7A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 21:56:13 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <1KVXa.17207$Vx2.8803979@newssvr28.news.prodigy.com>
Source record: 33612

"Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
news:3TKXa.21944$Id1.2235306@newsfep2-win.server.ntli.net...
> > Does anyone know how to turn up the mic gain on a V7? 2m and 70cm both?
> ======
> It probably being a FM dual band (handheld) transceiver , by increasing
the
> mic gain ,you'll also will increase the deviation .
> Is that really what you want to do ?
>
> Frank GM0CSZ / KN6WH
>
>
>
>

The TV-V7A is a 50 watt mobile rig. However the same comment on mic gain would probably apply. Perhaps talking a little closer to the mic might help. Or perhaps there's a problem with the radio that needs to be taken care of by a repair person.

Dee D. Flint, N8UZE

897. Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 22:12:22 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0308051412.54d4c913@posting.google.com>
Source record: 33613
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

THE BIG QUESTION: How do you measure the audio noise level in a receiver? Does anyone here know of any circuits that show the overall audio noise level?

Let me tell you what this is all about.

SIDE NOTE: Thanks again to those of you who helped me with the SWR/wattmeter project I worked on last semester. This project taught me more about ferrite cores, op amps, and diodes than ANY class possibly could. I learned about stray capacitance and what rails mean. I also learned that not all 1N34A diodes are alike.

In this coming semester, I will be working on an even more ambitious project - an automatic noise canceller for 160m to 10m. It will definitely be a control system, and it may even use DSP. The device will also require a motor for automatically adjusting the controls. The idea is to design and build an automatic version of the Timewave ANC-4 or the MFJ-1025/1026 RF noise cancellers.

The ANC-4 and MFJ-1025/1026 are manual devices. There are automatic noise cancellation devices, but their adjustments are at the audio level rather than the RF level.

The back panel of my device will contain:
1. Connector for the signal antenna
2. Connector for the transceiver
3. Connector for the noise antenna
4. DC power connector

The front panel of my device will contain:
1. Power switch and the obligatory idiot light to show that the power is on
2. 2 audio connectors: one connects to the transceiver, and the other connects to an external speaker
3. Frequency range control for choosing the inductance values, as the proper inductance values in the RF noise cancelling circuit varies with frequency
4. Phase range knob so that the phase shifter can cover all 360 degrees
5. Manual noise phase knob
6. Manual noise gain knob
7. LED display to show the noise level
8. Noise phase adjustment push-button: Pressing this button activates the control system to adjust the phase shift of the noise.
9. Noise gain adjustment button: Pressing this button activates the

control system to adjust the gain of the noise.

Other features:
1. I need to design my automatic noise canceller so that parts won't blow up if I transmit 100W through it. This probably requires some type of automatic bypass circuitry.
2. Transmitted power must not reach the noise antenna (at least not without a great deal of attenuation)
3. It also needs a low insertion loss.
4. A preamplifier would be desirable.

How it would work:
1. You manually turn the phase and gain controls to the minimum settings. (Or I could put in a reset button to do that. No, that would add too much complexity to the circuit.)
2. You select the band using the band inductance switch.
3. You move the phase polarity switch to the negative setting. If the noise cancellation procedure does not work, it probably means the opposite setting is required.
4. Press the noise gain adjustment button. The device adjusts the noise gain until a change in the signal level (or the S meter) is just noted. (Some type of derivative function would come into play.)
5. Press the noise phase adjustment button. The device adjusts the noise phase shift so as to produce a null in the signal level (or the S meter).
6. Steps 4 and 5 could be repeated to make further adjustments. There might be away to activate the control system with just one button.

Does anyone know of circuits that measure audio noise? Making the RF noise canceller automatic requires an audio circuit to monitor the noise level. This noise level needs to be converted into a large DC voltage, which feeds the motors that turn the variable capacitor and potentiometer.

Jason Hsu, AG4DG
usenet@@@@jasonhsu.com

898. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 22:39:28 UTC
From: Peter Gottlieb <178048316@icq.net>
Message-ID: <AmWXa.101832$Wd5.22783938@news4.srv.hcvlny.cv.net>
Source record: 33615
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Me neither.

"Keith Poindexter" <ko4sx@alltel.net> wrote in message
news:xYCXa.1632$jq.1551@fe01.atl2.webusenet.com...
> No..
> "John R. Strohm" <strohm@airmail.net> wrote in message
> news:bgh8oj$ucb@library2.airnews.net...
> > "Allan York" <snef73@hotmail.com> wrote in message
> > news:50bd7fef.0308011558.2af6cdc7@posting.google.com...
> > > Hi, I am looking for advice on how to integrate a PIC microchip with a
> > > ham radio transciever. I will use this in a robot. I am looking for
> > > 100 - 300 mile range. I have a ham radio license.
> > >
> > > Thanks for the help
> >
> > Y'know, this is the first ham radio operator I've ever encountered who
> > DIDN'T sign a radio-related post with his callsign.
> >
> > Makes ya wonder, doesn't it???
> >
> >
>
>
>

899. Re: scope probes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-05 23:10:15 UTC
From: symon_brewer@hotmail.com
Message-ID: <a28bc07f.0308051510.52cad388@posting.google.com>
Source record: 33616

Hi Roy,
Some excellent points there! A high impedance probe is, of course, a useful part of the test and measurement arsenal. However, it's worth remembering that at frequencies above about 16MHz, a 10Meg probe, which typically has about 10pF input capacitance, will present a lower impedance to the device under test than the 1000 ohm design described on the website. (The 1000 ohm passive probe has, as you point out, much less capacitance.) If, like me, you look at a lot of high speed digital signals, the passive probe is very useful and your choice of probe may depend on what your definition of an 'everyday measurement' is. So, I may have to politely disagree on the 'universally used on scopes up to several hundred MHz' bit of your post! I think the passive probe provides better signal integrity, even out-performing active probes at very high frequencies. Whatever else, Roy, we're both agreed that a bad 10 Meg probe can be worse than useless! You end up chasing stuff which is an artifact of the probe.
best regards, Syms.

p.s. For those interested, try http://www.sigcon.com/ , click on archive, read the article 'Probing High-Speed Digital Designs' near the bottom of the page. Although it says digital in the title, the article is appropriate to this thread IMO. Also, http://www.emcesd.com/pdf/cd94scr.pdf is worth a read.

Roy Lewallen <w7el@eznec.com> wrote in message news:<vivvi6c7dqc477@corp.supernews.com>...
> From a brief look at the referenced web site, it looks like the author
> did a decent job of making a low impedance probe. It should work quite
> well if carefully constructed.
>
> But it's actually a lot easier to make a good 50 - 1000 ohm probe (which
> the web site describes) than a 10 meg probe. A 10 meg, 10X probe is a
> lot more useful for most everyday measurements, which is why it's
> universally used on scopes up to several hundred MHz. At least as
> important as the high resistance is the relatively low capacitance it
> presents to the measured circuit. (A good low Z probe has considerably
> less capacitance yet, so it's a better choice at really high
> frequencies. It's also fine for probing in 50 ohm environments.)
>
> Making a good 10 meg probe is quite an art as well as a science. If you
> ever disassemble an old Tek probe, one of the first things you'll notice
> is the coax. It's specially made with a resistive center conductor to
> damp reflections, and lossy dielectric to reduce piezoelectric and
> triboelectric effects. (If you don't know what these are, connect a
> piece of regular RG-58 to your scope input, turn the sensitivity up, and

> flex it or rap it with a mallet.) Another tough problem is "hook", a
> nonlinear property of many capacitors, dielectrics like PC board
> material, and even resistors. This creates funny, hook-shaped step
> responses (which is how it got its name), that are difficult or
> impossible to compensate. You probably won't see hook at 50 ohm levels,
> but it's pervasive in high impedance environments. The little circuit
> board in the scope compensation box is likely a specially-made low-hook
> expoxy glass formulation, or an inherently low-hook dielectric like
> polysulfone. And both the capacitors and resistors were carefully chosen
> and specified for low hook and other nonlinear properties.
>
> A cheap or homebrew 10 meg probe is fine if you don't really care if
> what you see on the scope looks like the real signal. Or if the
> amplitude of a sine wave is really what the scope says it is. But if you
> do, you need a decent probe.
>
> Roy Lewallen, W7EL

900. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 00:01:25 UTC
From: Sylvan Butler <Znospam+noZs_0308@hpb13799Z.Zboi.hpZ.com.invalid>
Message-ID: <slrnbj0hal.bi6.Znospam+noZs_0308@hpb13799Z.Zboi.hpZ.com.invalid>
Source record: 33617

On Mon, 4 Aug 2003 20:48:55 +0100, Ian White, G3SEK <G3SEK@ifwtech.co.uk> wrote:
> Roy Lewallen wrote:
>>control cable. I want a weatherproof bulkhead connector with at least 8
>>or 9 conductors, and I'd like the cable part to be weatherproof also. I
>>don't want to use an in-line connector because of the problems of
>>weatherproofing and strain relieving wires going through the box wall.
>>
> A standard electrical cable gland will weatherproof the cable going
> through the box wall (or whatever you call that thing with a
> compressible rubber washer that squeezes down onto the cable). That

That's what I call them, but I have no idea if that is standard
terminology here in the States.

> would leaves an in-line connector pair which is a good shape to wrap
> with tape, so it needn't be inherently waterproof.

Yup. That's what I'd do.

sdb
--
| Sylvan Butler | Not speaking for Hewlett-Packard | sbutler-boi.hp.com |
| Watch out for my e-mail address. Thank UCE. >>>> change ^ to @ <<<< |
It may be better to live under robber barons than under omnipotent moral
busybodies. The robber baron's cruelty may sometimes sleep, his
cupidity may at some point be satiated; but those who torment us for our
own good will torment us without end, for they do so with the approval
of their consciences. -- C. S. Lewis

901. Re: IC-2340H

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 00:27:17 UTC
From: "Gary P. Fiber" <g.fiber@verizon.net>
Message-ID: <7li0jvsd7sp08k5vu06eicdtfbetn3v3sk@4ax.com>
Source record: 33618

On Tue, 5 Aug 2003 07:22:39 -0700, "Bob" <balbert@cnmnetwork.com>
wrote:

>I would like a copy of the service manual or, at the very least,
>instructions on how to reduce the volume of the beep. It's so loud I'm
>afraid to switch on the radio.
>
>73, Bob
>
Last I looked at that issue the tone (beep) was generated by the CPU
and feed into the audio circuit via a fixed value resistor. No
adjustment except for changing out the resistor to some other value
was possible. You might call Icom America to see if they ever had
investigated it further. While I was there were no service issues
concerning the beep other than it being loud for some users.

Gary K8IZ
Gary K8IZ
Washington State Resident
Registered Linux User # 312991

902. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 00:30:51 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <%_XXa.17390$Vx2.8844566@newssvr28.news.prodigy.com>
Source record: 33619
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

I've done a fair amount of playing around with PIC16F876's. They
have two built in PWM generators. You set the overall carrier
frequency by writing to a register and then control duty cycle as
you need it. Turns out to be very low overhead.

Hope this helps.
Bruce/ND8I

"xpyttl" <xpyttl_nospam@earthling.net> wrote in message
news:vivptqluarl51f@corp.supernews.com...
> I'm pretty disappointed at the amount of flame this posting generated.
>
<snip>

> Secondly the shape of the waveform is an issue. It's real easy to
generate
> square waves from the PIC, but in most cases, these will generate lots of
> spurious output. Depending on the application and the sort of encoding
you
> will use, you will need to come up with nice sine waves. There really are
3
> ways to do this ... in many applications you can simply get away with a
good
> low pass filter between the PIC and the radio. This will take a bunch of
> tweaking, though, and you will need a good scope, and preferably a
spectrum
> analyzer to get it right. You can also generate the sine wave by having
the
> PIC output the sine wave using pulse width modulation and a little
> filtering. In my experience, you can get extremely good sine waves this
> way, BUT the PIC is 100% dedicated to the task, which means your data
rates
> will need to be low. The third approach is to build an oscillator that
you
> can control with the PIC. Given that you will probably need only two
> frequencies, this may not be such a bad approach.

<snip>

903. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 00:41:41 UTC
From: TweetIdee <dgmason99@att99.net>
Message-ID: <99YXa.86458$3o3.5970036@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33620
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

"Jason Hsu" <jason_hsu@my-deja.com> wrote in message
news:f7d9a152.0308051412.54d4c913@posting.google.com...
> THE BIG QUESTION: How do you measure the audio noise level in a
> receiver? Does anyone here know of any circuits that show the overall
> audio noise level?
>
> Let me tell you what this is all about.
>
> SIDE NOTE: Thanks again to those of you who helped me with the
> SWR/wattmeter project I worked on last semester. This project taught
> me more about ferrite cores, op amps, and diodes than ANY class
> possibly could. I learned about stray capacitance and what rails
> mean. I also learned that not all 1N34A diodes are alike.
>
> In this coming semester, I will be working on an even more ambitious
> project - an automatic noise canceller for 160m to 10m. It will
> definitely be a control system, and it may even use DSP. The device
> will also require a motor for automatically adjusting the controls.
> The idea is to design and build an automatic version of the Timewave
> ANC-4 or the MFJ-1025/1026 RF noise cancellers.
>
> The ANC-4 and MFJ-1025/1026 are manual devices. There are automatic
> noise cancellation devices, but their adjustments are at the audio
> level rather than the RF level.
>
> The back panel of my device will contain:
> 1. Connector for the signal antenna
> 2. Connector for the transceiver
> 3. Connector for the noise antenna
> 4. DC power connector
>
> The front panel of my device will contain:
> 1. Power switch and the obligatory idiot light to show that the power
> is on
> 2. 2 audio connectors: one connects to the transceiver, and the other
> connects to an external speaker
> 3. Frequency range control for choosing the inductance values, as the
> proper inductance values in the RF noise cancelling circuit varies
> with frequency
> 4. Phase range knob so that the phase shifter can cover all 360
> degrees
> 5. Manual noise phase knob
> 6. Manual noise gain knob

> 7. LED display to show the noise level
> 8. Noise phase adjustment push-button: Pressing this button activates
> the control system to adjust the phase shift of the noise.
> 9. Noise gain adjustment button: Pressing this button activates the
> control system to adjust the gain of the noise.
>
> Other features:
> 1. I need to design my automatic noise canceller so that parts won't
> blow up if I transmit 100W through it. This probably requires some
> type of automatic bypass circuitry.
> 2. Transmitted power must not reach the noise antenna (at least not
> without a great deal of attenuation)
> 3. It also needs a low insertion loss.
> 4. A preamplifier would be desirable.
>
> How it would work:
> 1. You manually turn the phase and gain controls to the minimum
> settings. (Or I could put in a reset button to do that. No, that
> would add too much complexity to the circuit.)
> 2. You select the band using the band inductance switch.
> 3. You move the phase polarity switch to the negative setting. If
> the noise cancellation procedure does not work, it probably means the
> opposite setting is required.
> 4. Press the noise gain adjustment button. The device adjusts the
> noise gain until a change in the signal level (or the S meter) is just
> noted. (Some type of derivative function would come into play.)
> 5. Press the noise phase adjustment button. The device adjusts the
> noise phase shift so as to produce a null in the signal level (or the
> S meter).
> 6. Steps 4 and 5 could be repeated to make further adjustments.
> There might be away to activate the control system with just one
> button.
>
> Does anyone know of circuits that measure audio noise? Making the RF
> noise canceller automatic requires an audio circuit to monitor the
> noise level. This noise level needs to be converted into a large DC
> voltage, which feeds the motors that turn the variable capacitor and
> potentiometer.
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

Allow me to infuse a different idea. Think about noise as a fairly broadband phenomenon. The same atmospheric noise that you hear on 21.500 Mhz will also be heard on 21.510 Mhz. Consider the possibility of biulding two identical receivers, the main receiver tuned to the desired reception frequency, the other tuned just a few Khz away, but out of the received signal's bandwidth. Then, you detect the noise on the second receiver, invert it, and sum it into the first receiver's signal chain. This concept is used in ultra-low noise, high sensitivity deep space receivers to almost

totally eliminate noise in the received signal.

Now, as to your concern to keep 100W of RF from blowing up your noise canceller. That's what antenna changeover relays are for. They normally connect the antenna to the receiver, but when the transmitter is keyed up, the relay connects the antenna to the transmitter output, and disconnects it from the receiver. Simple, but effective, and has been used for many many years in amateur as well as commercial radio equipment.
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Time is what keeps everything from happening all at once.

904. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 01:29:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vj0mg0fdh8147c@corp.supernews.com>
Source record: 33621

I wasn't able to find such a thing in the (quite elaborate) electrical department of a large DIY store. Is this something used in electrical mains wiring (which is what the DIY store carries), or for some other purpose?

In this country, it's long been standard practice to bring mains power into a house via a "weather head", which is a pipe bent into a U shape, so the wires enter it upward. There's a rubber grommet for the three large diameter mains wires built in. This is very effective for its intended use, but not useful for my purpose. I've never seen modern electrical wiring run directly through an outside wall, if that's the function of the "gland".

I'll try looking at a large electronics store next time I'm there.

Roy Lewallen, W7EL

Sylvan Butler wrote:
> On Mon, 4 Aug 2003 20:48:55 +0100, Ian White, G3SEK <G3SEK@ifwtech.co.uk> wrote:
>
>>Roy Lewallen wrote:
>>
>>>control cable. I want a weatherproof bulkhead connector with at least 8
>>>or 9 conductors, and I'd like the cable part to be weatherproof also. I
>>>don't want to use an in-line connector because of the problems of
>>>weatherproofing and strain relieving wires going through the box wall.
>>>
>>
>>A standard electrical cable gland will weatherproof the cable going
>>through the box wall (or whatever you call that thing with a
>>compressible rubber washer that squeezes down onto the cable). That
>
>
> That's what I call them, but I have no idea if that is standard
> terminology here in the States.
>
>
>>would leaves an in-line connector pair which is a good shape to wrap
>>with tape, so it needn't be inherently waterproof.
>
>
> Yup. That's what I'd do.
>
> sdb

905. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 01:37:39 UTC
From: Dave Shrader <david.shrader@comcast.net>
Message-ID: <DZYXa.74365$o%2.35596@sccrnsc02>
Source record: 33622
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

There are numerous sources of noise at the input to a receiver:

1) Background HF noise that exhibits a 1/f rolloff characteristic. This has seasonal and diurnal variations.

2) Atmospheric noise caused by local or near local weather. Remember there are 10,000 thunderstorms in the world at any time.

3) Solar flare noise. During an solar X-ray event the HF noise, #1, can increase by over 60 dB for short periods of time.

4) Local line interference noise.

5) In the future, BPL noise.

6) I'm sure there are other noise sources such as defective insulators on power lines. ;-)

The ANC-4 and MFJ 1025/1026 ONLY operate on #4.

So, your first task is to become familiar with the spectral characteristics of each so you can design a basic filtering circuit for the undesired noise source. My ANC-4 does not respond to the 1/f HF solar noise sources, atmospheric induced noise or solar flare noise.

Weather induced noise contains frequency components that are in the audio passband, you can hear lightning induced static crashes in your SSB/AM radio. How will you discriminate between desired audio and static audio?

Solar flare noise sounds like a slowly rising rushing hiss in the receiver. It has a slow rise time generally in the range of tens of seconds to minutes. It is broadbanded and will easily over ride any low level desired signal. The noise to signal, NOT signal to noise, ratio can easily exceed 40 dB making detection almost impossible. These characteristics are proportional to the intensity of the solar flux and also the wavelength of the solar flux. Detecting desired signals in this environment is extraordinarily difficult.

Manmade noise, these are processed by the ANC-4 and MFJ units, contains basically repetitive waveforms from TVs, VCRs, Remotes, Routers, Computers, etc.

A design approach would be to use digital filtering and a series of Kalman filters [digital filter algorithms], assuming they are available to the general public. The Kalman filters would be tailored to the spectral content of the noise source you are attempting to cancel. A

second design approach would be a fast Fourier transform that discriminates N/S from S/N. You want to keep the noise OUT of the FIRST RF STAGE to avoid pumping the AGC and getting false signals. For HF digital filtering this will require a very fast processor [possibly GHz range]

How to measure the AF noise from a receiver? I'd start by looking into a Bolometer circuit with AC coupling. This would give a pseudo RMS reading that could be used as a reference for a series of servo based op-amps to control your gain and phase circuits.

Depending on how far you want to pursue the science it could be a very interesting project.

With a statement of principles it is YOUR Project, NOT the project for the members of this list. So, go and have fun!

Deacon Dave, W1MCE

Among the many components of my background was 7 years as Project Engineer designing special test equipment on contract for the USAF.

906. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 01:39:16 UTC
From: Crazy George <munschNO@attglobal.net.SPAM>
Message-ID: <3f305d26_2@news1.prserv.net>
Source record: 33623
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Jason:

Very similar to what you are describing is popularly known as a "Noise Blanker" Motorola introduced their design for mobile radios in 1959 as an "Extender" In the same time frame, Collins offered a model for the S-Line and KWM-2. I designed a tube model for GE's Progress Line radios, and I forget who designed the solid state version. The concept has been described in numerous places, so do a bibliographic search of Engineering Index, or Scientific Abstracts, or whatever that school has access to. You also need to familiarize yourself with the concepts involved in noise balanced squelch, which was patented by Motorola back in the late 30s or early 40s. It will tell you how to do the audio noise level measurement meaningfully and apply it usefully.

--
Crazy George
Remove NO and SPAM from return address
"Jason Hsu" <jason_hsu@my-deja.com> wrote in message
news:f7d9a152.0308051412.54d4c913@posting.google.com...
> THE BIG QUESTION: How do you measure the audio noise level in a
> receiver? Does anyone here know of any circuits that show the overall
> audio noise level?
>
> Let me tell you what this is all about.
>
> SIDE NOTE: Thanks again to those of you who helped me with the
> SWR/wattmeter project I worked on last semester. This project taught
> me more about ferrite cores, op amps, and diodes than ANY class
> possibly could. I learned about stray capacitance and what rails
> mean. I also learned that not all 1N34A diodes are alike.
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> In this coming semester, I will be working on an even more ambitious
> project - an automatic noise canceller for 160m to 10m. It will
> definitely be a control system, and it may even use DSP. The device
> will also require a motor for automatically adjusting the controls.
> The idea is to design and build an automatic version of the Timewave
> ANC-4 or the MFJ-1025/1026 RF noise cancellers.
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> The ANC-4 and MFJ-1025/1026 are manual devices. There are automatic
> noise cancellation devices, but their adjustments are at the audio
> level rather than the RF level.
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> connects to an external speaker
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> proper inductance values in the RF noise cancelling circuit varies
> with frequency
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> degrees
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> 8. Noise phase adjustment push-button: Pressing this button activates
> the control system to adjust the phase shift of the noise.
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> blow up if I transmit 100W through it. This probably requires some
> type of automatic bypass circuitry.
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> settings. (Or I could put in a reset button to do that. No, that
> would add too much complexity to the circuit.)
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> the noise cancellation procedure does not work, it probably means the
> opposite setting is required.
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> Does anyone know of circuits that measure audio noise? Making the RF

> noise canceller automatic requires an audio circuit to monitor the
> noise level. This noise level needs to be converted into a large DC
> voltage, which feeds the motors that turn the variable capacitor and
> potentiometer.
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

907. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 01:42:06 UTC
From: Dave Shrader <david.shrader@comcast.net>
Message-ID: <O1ZXa.73780$Ho3.10567@sccrnsc03>
Source record: 33624
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

Whit all that said, I can design a Mouse that looks like an Elephant <grin>

Deacon Dave, W1MCE

Dave Shrader wrote:

> There are numerous sources of noise at the input to a receiver:
>
> 1) Background HF noise that exhibits a 1/f rolloff characteristic. This
> has seasonal and diurnal variations.
>
> 2) Atmospheric noise caused by local or near local weather. Remember
> there are 10,000 thunderstorms in the world at any time.
>
> 3) Solar flare noise. During an solar X-ray event the HF noise, #1, can
> increase by over 60 dB for short periods of time.
>
> 4) Local line interference noise.
>
> 5) In the future, BPL noise.
>
> 6) I'm sure there are other noise sources such as defective insulators
> on power lines. ;-)
>
> The ANC-4 and MFJ 1025/1026 ONLY operate on #4.
>
> So, your first task is to become familiar with the spectral
> characteristics of each so you can design a basic filtering circuit for
> the undesired noise source. My ANC-4 does not respond to the 1/f HF
> solar noise sources, atmospheric induced noise or solar flare noise.
>
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> audio passband, you can hear lightning induced static crashes in your
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> can easily exceed 40 dB making detection almost impossible. These
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> environment is extraordinarily difficult.

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> Computers, etc.
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> A design approach would be to use digital filtering and a series of
> Kalman filters [digital filter algorithms], assuming they are available
> to the general public. The Kalman filters would be tailored to the
> spectral content of the noise source you are attempting to cancel. A
> second design approach would be a fast Fourier transform that
> discriminates N/S from S/N. You want to keep the noise OUT of the FIRST
> RF STAGE to avoid pumping the AGC and getting false signals. For HF
> digital filtering this will require a very fast processor [possibly GHz
> range]
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> How to measure the AF noise from a receiver? I'd start by looking into a
> Bolometer circuit with AC coupling. This would give a pseudo RMS reading
> that could be used as a reference for a series of servo based op-amps to
> control your gain and phase circuits.
>
> Depending on how far you want to pursue the science it could be a very
> interesting project.
>
> With a statement of principles it is YOUR Project, NOT the project for
> the members of this list. So, go and have fun!
>
> Deacon Dave, W1MCE
>
> Among the many components of my background was 7 years as Project
> Engineer designing special test equipment on contract for the USAF.
>

908. Re: Reccomend an FM receiver chip for 33cm or for 70 cm Rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 04:12:40 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0308052012.2d566373@posting.google.com>
Source record: 33625

It seems the data sheet is in error concerning the IF. they spec it at
70khz. But if you reverse engineer the front end and VCO LC network
the VCO is 10.7Mhz lower than the rf input. I figure taking out the
varactor diode and dropping in a 120pf mica I can get it down to
30mhz, then for AFC use a 4pf varactor diode to compensate for temp
drifting. I snapped up a few of these and they're pretty much the
same, too cheap for a ceramic filter other than disc caps. And with
the 10Ghz contest coming up I might just make a few contacts.
73
Ray KC8OJU

et472@FreeNet.Carleton.CA (Michael Black) wrote in message
news:<bgoe5a$f94$1@freenet9.carleton.ca>...
> ray (ray_psi@yahoo.com) writes:
> > You are right on the money. I got out my telescope eyepiece and saw
> > 088c6 on the IC then looking at the pinout from the link supplied
> > confirmed it.Thanks so much.
> > 73
> > Ray KC8OJU
> >
>
> I couldn't read the number on mine at first, either. The IC body
> was grey, and the lettering was only somewhat darker grey. There
> was also some wax or something on the IC. My first thought was that
> there was no part number on the IC.
>
> But since I knew there was no ceramic filter in there, I also knew
> that it had to use some odd scheme. It was only after I found a likely
> IC that I could see that the IC number actually matched it.
>
> Michael VE2BVW

909. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 04:43:37 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0308052043.5cf049ae@posting.google.com>
Source record: 33626

You can figure if 3 volts is 30% then 10 volts will be 100%. But make sure you keep an 8 ohm load on the audio amp. The amp would be operating way out in the nonlinear portion without 8 ohm load, the result would be distortion. Figure your'e going to need 1.2 watts and up to 12 watts of audio. Depending on how loud you want it on the Rx end.

later,
ray KC8OJU

"bobinphx" <rbelisle1@cox.net> wrote in message news:<t_SWa.34180$Ne.22532@fed1read03>...
> Hi folks,
> I've been lurking here for awhile and this is my first post.
>
> I own a whole bunch of older tube radios. The majority of them are AM BC/SW.
> I found a great site on the internet that broadcasts old radio programs
> (http://www.yesterdayusa.com/) via the internet. Its great to listen to
> while I answer emails etc, but when I am away from the PC, I cant listen to
> it......So,,, I hooked up an older tube Eico 324 am signal generator to the
> headphone jack of the PC and attached my SWL indoor random wire antenna (it
> runs around the ceiling of the home office I have (about 12 feet on each of
> the 4 sides, plus 6 feet of lead in)... Well,,, low and behold, I now have a
> great little transmitter that transmits on BC and SW. It works great in all
> rooms (the old radios are spread around the house).
>
> Now to the question. What or how can I match the audio input to the input of
> the signal generator?
> The manual for the signal generator suggests a 70k ohm AF (audio freq)
> input.
> I am guessing that the PC headphone jack is 8 ohms, big mismatch.
> What issues will this cause??????
> The manual also has modulation notes that state "External AF voltage
> required for 30% modulation at 1mc rf setting (1000 cps signal) aprox 3.0
> volts" What the heck does that mean????
>
>
> I am also unsure of how to match the antenna to the signal generator. The
> manual does not state what the output could or should be.
>
> Note that the generator does not run hot and has been recapped and
> calibrated, to the best of my abilities!!!
>
>
> I am a novice in terms of RF, but have been around TTL logic and have a good
> general (read self taught) understanding of electronics. I am concerned

> that long term mismatches may cause problems with the signal generator (I
> know enough to be concerned, but not how to insure my fears are groundless,
> for the issue is fixed.)
>
> If anyone has any ideas they would be appreciated.
>
> Thanks in advance
> Bob in phx

910. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 06:47:54 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <5gP0HYCaSKM$EAxv@ifwtech.co.uk>
Source record: 33628

Roy Lewallen wrote:
>I wasn't able to find such a thing in the (quite elaborate) electrical
>department of a large DIY store. Is this something used in electrical
>mains wiring (which is what the DIY store carries), or for some other
>purpose?
>
>In this country, it's long been standard practice to bring mains power
>into a house via a "weather head", which is a pipe bent into a U shape,
>so the wires enter it upward. There's a rubber grommet for the three
>large diameter mains wires built in. This is very effective for its
>intended use, but not useful for my purpose. I've never seen modern
>electrical wiring run directly through an outside wall, if that's the
>function of the "gland".
>
>I'll try looking at a large electronics store next time I'm there.
>

These things have GOT to exist in the USA, but clearly the name is
different.

They are used with metal conduit-and-box wiring systems, wherever you
want to bring a flexible cable out through the wall of a conduit box
with better waterproofing than a plain grommet.

Go to www.farnell.com/uk and search for part # 3034367 - click for
details and this should give a reasonable picture.

The outside of the fixed part looks rather like a through-bulkhead
double female N connector. It goes through the box wall, with some kind
of O-ring seal, and is fixed with a single large nut. The cable threads
through the inside, and is sealed by a rubber ring and a screw-down cap.
Result - a completely waterproof lead-through.

All together now: "Oh, ya mean a [Fill In The Blank] - why didn't ya
say so?"

Anyway, the whole point was that these [FITB] things are available in
cheap plastic, and are ideal for getting cables through the walls of
plastic or metal boxes in a totally waterproof way. You can install
in-line connectors on the 'tails' of cable if necessary, and they make a
very easy shape to wrap with waterproofing tape.

This is vastly better than installing chassis-mount connectors on the
box wall, and then trying to wrap tape onto a very difficult shape.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)

Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

911. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 06:52:44 UTC
From: Brooke Clarke <brooke@pacific.net>
Message-ID: <3F30A5BC.6050205@pacific.net>
Source record: 33627
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

Hi Jason:

I think the "signal antenna" and "noise antenna" are both just antennas. I can't see how you can make an antenna that only hears noise and another that hears the same noise and signal. If that's the case then by adjusting the relative phase and amplitude of the two "antennas" what you are doing is changing the antenna pattern. This will improve the overall s/n if there is a source of noise that's coming form some direction more than from everywhere.

In "Beam and null switch step steerable antenna system" U.S. patent <http://www.delphion.com/> 4,063,250 <http://www.delphion.com/details?&pn=US04063250__> Fenwick has an antenna system where the main lobe is steered using time delay beam steering (this is a frequency independent version of a phased array) and in addition can steer a null independent of the main lobe. He used mechanical relays and coax line, but a more modern version could use PIN diodes and a computer to try all the possible main and null lobe possibilities and use the best ones.

To measure the sensivity of an AM receiver you measure the RMS audio output voltage with a signal present and without a signal present. For a more detailed look at the noise you need a spectrum analyzer, like the HP-Agilent 4395A that can make true RMS noise measurements, see: http://www.pacificsites.com/~brooke/4395A.shtml

Have Fun,

Brooke Clarke, N6GCE
http://www.pacificsites.com/~brooke/electron.shtml#Antenna
Jason Hsu wrote:

>THE BIG QUESTION: How do you measure the audio noise level in a
>receiver? Does anyone here know of any circuits that show the overall
>audio noise level?
>
>Let me tell you what this is all about.
>
>SIDE NOTE: Thanks again to those of you who helped me with the
>SWR/wattmeter project I worked on last semester. This project taught
>me more about ferrite cores, op amps, and diodes than ANY class
>possibly could. I learned about stray capacitance and what rails
>mean. I also learned that not all 1N34A diodes are alike.
>
>In this coming semester, I will be working on an even more ambitious

>project - an automatic noise canceller for 160m to 10m. It will
>definitely be a control system, and it may even use DSP. The device
>will also require a motor for automatically adjusting the controls.
>The idea is to design and build an automatic version of the Timewave
>ANC-4 or the MFJ-1025/1026 RF noise cancellers.
>
>The ANC-4 and MFJ-1025/1026 are manual devices. There are automatic
>noise cancellation devices, but their adjustments are at the audio
>level rather than the RF level.
>
>The back panel of my device will contain:
>1. Connector for the signal antenna
>2. Connector for the transceiver
>3. Connector for the noise antenna
>4. DC power connector
>
>The front panel of my device will contain:
>1. Power switch and the obligatory idiot light to show that the power
>is on
>2. 2 audio connectors: one connects to the transceiver, and the other
>connects to an external speaker
>3. Frequency range control for choosing the inductance values, as the
>proper inductance values in the RF noise cancelling circuit varies
>with frequency
>4. Phase range knob so that the phase shifter can cover all 360
>degrees
>5. Manual noise phase knob
>6. Manual noise gain knob
>7. LED display to show the noise level
>8. Noise phase adjustment push-button: Pressing this button activates
>the control system to adjust the phase shift of the noise.
>9. Noise gain adjustment button: Pressing this button activates the
>control system to adjust the gain of the noise.
>
>Other features:
>1. I need to design my automatic noise canceller so that parts won't
>blow up if I transmit 100W through it. This probably requires some
>type of automatic bypass circuitry.
>2. Transmitted power must not reach the noise antenna (at least not
>without a great deal of attenuation)
>3. It also needs a low insertion loss.
>4. A preamplifier would be desirable.
>
>How it would work:
>1. You manually turn the phase and gain controls to the minimum
>settings. (Or I could put in a reset button to do that. No, that
>would add too much complexity to the circuit.)
>2. You select the band using the band inductance switch.
>3. You move the phase polarity switch to the negative setting. If
>the noise cancellation procedure does not work, it probably means the

>opposite setting is required.
>4. Press the noise gain adjustment button. The device adjusts the
>noise gain until a change in the signal level (or the S meter) is just
>noted. (Some type of derivative function would come into play.)
>5. Press the noise phase adjustment button. The device adjusts the
>noise phase shift so as to produce a null in the signal level (or the
>S meter).
>6. Steps 4 and 5 could be repeated to make further adjustments.
>There might be away to activate the control system with just one
>button.
>
>Does anyone know of circuits that measure audio noise? Making the RF
>noise canceller automatic requires an audio circuit to monitor the
>noise level. This noise level needs to be converted into a large DC
>voltage, which feeds the motors that turn the variable capacitor and
>potentiometer.
>
>Jason Hsu, AG4DG
>usenet@@@@jasonhsu.com
>
>

912. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 09:59:23 UTC
From: bigcat@meeow.co.uk
Message-ID: <a7076635.0308060159.d856956@posting.google.com>
Source record: 33629
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

Hi Jason

Theres a whole lot of unworkable ideas on this thread. I shouldnt rush in without reading up well first.

I'll just address a couple of Dave's ideas.

Dave Shrader <david.shrader@comcast.net> wrote

> Weather induced noise contains frequency components that are in the
> audio passband, you can hear lightning induced static crashes in your
> SSB/AM radio. How will you discriminate between desired audio and static
> audio?

Lot of work was done on this in the 30s, the cnoclusion was they couldnt. However you can if you use the standard 405-line TV noise reduction method. Basically detect brief signals that are greater in amplitude than your wanted a.f., and zero or reduce the af output during that time.

> A design approach would be to use digital filtering and a series of
> Kalman filters [digital filter algorithms], assuming they are available
> to the general public. The Kalman filters would be tailored to the
> spectral content of the noise source you are attempting to cancel. A
> second design approach would be a fast Fourier transform that
> discriminates N/S from S/N. You want to keep the noise OUT of the FIRST
> RF STAGE to avoid pumping the AGC and getting false signals.

I dont see how you can manipulate signals that havent even reached the first rf amp. You cant even read them as theyre microvolts. Putting them thru any kind of digital filter - you work it out.

Jason your idea of mixing different noise sources is also a non runner. Sorry, but youve got to consider _exactly_ what is in those noise sources and how they differ. It will soon become apparent that by the time you add them youve got 2 different things. The noise f distribution might be the same, but the noise signal will be quite different.

Regards, NT

913. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 10:07:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vj1ks52iki897b@corp.supernews.com>
Source record: 33630

Thanks for the reference. The closest thing I found to that was something roughly similar for what we call Romex wire -- flattish, vinyl insulated three-conductor (called two conductor with ground) wire used for house wiring. I'm not sure it was weatherproof, though. It would be harder to seal something of that shape than it would to seal something round.

I suspect that the part you referenced is uncommon here because of the larger gauge of our house wiring due to the lower distribution voltage. Wire smaller than AWG14 (SWG15) isn't used except for lamp and appliance cords and the like, never for fixed wiring. The AWG14 or 12 wire used for house wiring is virtually always in flat Romex cable. (Four conductor 220 volt wire is round but large diameter.) Interior wiring is secured to boxes with clamps which are definitely not weatherproof. Exterior wiring is virtually always in conduit between boxes. I found a number of weatherproof clamp-type fittings for conduit, with similar construction to the Farnell part, but the inner diameter is much too large for the small cable I'll be using. It's been a long time since I looked carefully at the code, but I'd be very surprised if exterior wiring is permitted outside of conduit under any circumstances.

Maybe I should just send my 42p to Farnell. . . Hm, better yet, there's a cottage in Wales we've been told needs beta testing, so maybe we can kill two birds with one stone. . .

I'll check the electronics store. Maybe someone imports them and sells them for other applications.

Roy Lewallen, W7EL

Ian White, G3SEK wrote:
>
> These things have GOT to exist in the USA, but clearly the name is
> different.
>
> They are used with metal conduit-and-box wiring systems, wherever you
> want to bring a flexible cable out through the wall of a conduit box
> with better waterproofing than a plain grommet.
>
> Go to www.farnell.com/uk and search for part # 3034367 - click for
> details and this should give a reasonable picture.
>
> The outside of the fixed part looks rather like a through-bulkhead
> double female N connector. It goes through the box wall, with some kind
> of O-ring seal, and is fixed with a single large nut. The cable threads
> through the inside, and is sealed by a rubber ring and a screw-down cap.

> Result - a completely waterproof lead-through.
>
> All together now: "Oh, ya mean a [Fill In The Blank] - why didn't ya
> *say* so?"
>
> Anyway, the whole point was that these [FITB] things are available in
> cheap plastic, and are ideal for getting cables through the walls of
> plastic or metal boxes in a totally waterproof way. You can install
> in-line connectors on the 'tails' of cable if necessary, and they make a
> very easy shape to wrap with waterproofing tape.
>
> This is vastly better than installing chassis-mount connectors on the
> box wall, and then trying to wrap tape onto a very difficult shape.
>
>

914. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 10:22:20 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <871xvzulur.fld@barrow.com>
Source record: 33631

ray_psi@yahoo.com (ray) wrote:
>You can figure if 3 volts is 30% then 10 volts will be 100%. But make

That is accurate.

>sure you keep an 8 ohm load on the audio amp. The amp would be
>operating way out in the nonlinear portion without 8 ohm load, the
>result would be distortion. Figure your'e going to need 1.2 watts and
>up to 12 watts of audio. Depending on how loud you want it on the Rx
>end.

In practice, with a solid state amp it is simply a case of
however much voltage it *can* produce, it *will*. The power it
delivers then depends on the load, and the lower the impedance
of the load, the more current will flow at any given voltage and
therefore the more power will be delivered. The distortion at 3
volts is not going to be significantly different whether that
power is 1/10 watt or 100 watts, assuming the amplifier was
designed to deliver 100 watts.

Which means that with an input impedance of 70k Ohms, the
only question is whether a given amplifier can deliver 10 volts
of audio, even with a high impedance load. Clearly if the audio
amp was designed to drive an 8 Ohm load, then it would
necessarily have to be able to deliver 12.5 watts in order to
generate 10 volts. Hence any amp which can deliver 12.5 or more
watts into an 8 Ohm load should be able to drive the input.
However, if the input to the sig gen is 70K, only a mere
fraction of anything like 12.2 watts is going to be actually
used.

On the other hand, if an amplifier rated to deliver only 2 watts
into 20 Ohms is used... that too will deliver 10 volts, also at
a miniscule power level into a 70K Ohm load, and work just fine.

Note that the actual output impedance of the amplifier in any
case is very likely to be much less than 1/10th of an Ohm.

Also note that the actual power necessary is .00014 watts, and
if the output impedance of the amp or it's rated load impedance,
is actually 70,000 Ohms, that would be the power requirement of
the amplifier too. That also says that an impedance matching
transformer could be used to increase the voltage available.
Hence an amplifier that can deliver 1 milliwatt into 600 ohms
could have a 1000 to 1 turns ratio transformer to boost the
output voltage, and when the output is cranked down about 20 dB,

the output would be just about right.

That happens to be interesting in this case, because many small amplifiers are rated at something just over 0 dBm output into 600 ohms, and that is a fairly loud tone if supplied to a 600 ohm headset (or telephone set, for example). To match such an amplifier to the sig gen input, any transformer from about 100:1 to 1000:1 turns ratio would do the trick, with the former requiring a bit more than 0 dBm output from the amp, and the 1000:1 requiring the ability to crank it back by at least 20 dB.

The typical "line output" of most stereo system pre-amps, tuners, and whatever, is 0 dBm into 600 Ohms. And a 500:1 turns ratio transformer would be just about right to give the volume control a comfortable range. (That is a 22:1 impedance range, so it would be a 600 Ohm to 13K Ohm transformer. Common bridging transformers can be found that match 600 Ohms to 10-20K, and any of them should do fine.)

As to the RF output of the sig generator, it makes little to no difference. You could no doubt short the output and go on a two week vacation without concern that the short is going to cause a problem. The same is true with leaving it with no termination. The sig gen may in fact melt down in that two weeks, but it has nothing to do with the output being terminated or not.

In fact the impedance probably varies all over the universe. You can just attach a short wire to it and see if that provides the range you need. If it doesn't, add a little more wire, or run it more in the direction of the area where it is weak. What you don't want to do is have too much antenna, because if it can be heard in the neighbor's house, they might or might not appreciate it. Keep it down to the minimum that will accomplish what you need.

>"bobinphx" <rbelisle1@cox.net> wrote in message news:<t_SWa.34180$Ne.22532@fed1read03>...
>> Hi folks,
>> I've been lurking here for awhile and this is my first post.
>>
>> I own a whole bunch of older tube radios. The majority of them are AM BC/SW.
>> I found a great site on the internet that broadcasts old radio programs
>> (http://www.yesterdayusa.com/) via the internet. Its great to listen to
>> while I answer emails etc, but when I am away from the PC, I cant listen to
>> it......So,,, I hooked up an older tube Eico 324 am signal generator to the
>> headphone jack of the PC and attached my SWL indoor random wire antenna (it
>> runs around the ceiling of the home office I have (about 12 feet on each of
>> the 4 sides, plus 6 feet of lead in)... Well,,, low and behold, I now have a
>> great little transmitter that transmits on BC and SW. It works great in all
>> rooms (the old radios are spread around the house).
>>
>> Now to the question. What or how can I match the audio input to the input of
>> the signal generator?

>> The manual for the signal generator suggests a 70k ohm AF (audio freq)
>> input.
>> I am guessing that the PC headphone jack is 8 ohms, big mismatch.
>> What issues will this cause??????
>> The manual also has modulation notes that state "External AF voltage
>> required for 30% modulation at 1mc rf setting (1000 cps signal) aprox 3.0
>> volts" What the heck does that mean????
>>
>>
>> I am also unsure of how to match the antenna to the signal generator. The
>> manual does not state what the output could or should be.
>>
>> Note that the generator does not run hot and has been recapped and
>> calibrated, to the best of my abilities!!!
>>
>>
>> I am a novice in terms of RF, but have been around TTL logic and have a good
>> general (read self taught) understanding of electronics. I am concerned
>> that long term mismatches may cause problems with the signal generator (I
>> know enough to be concerned, but not how to insure my fears are groundless,
>> for the issue is fixed.)
>>
>> If anyone has any ideas they would be appreciated.
>>
>> Thanks in advance
>> Bob in phx

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

915. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 10:35:54 UTC
From: Tony Williams <tonyw@ledelec.demon.co.uk>
Message-ID: <4c1dae953atonyw@ledelec.demon.co.uk>
Source record: 33632
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <gkouiv828kkn4v05niosvs1l3nee9fmble@4ax.com>,
Barry Lennox <pbarryplennoxp@operamail.com> wrote:

> I presume you are operating at 35 MHz or so? So your losses in a
> 30" whip are already rather high, especially into a typical RC Rx
> front-end, so the material will not count for much either way.

In the CPC catalogue there is a loaded whip antenna (AR71694),
intended for mobile use, where the whip is made from what they
describe as 17/7ph milspec stainless steel. It comes complete
with all fittings, and cable with 50 ohm connectors both ends.
They give the following spec;

Bandwidth: 26-28MHz (which is the UK's CB band).
Antenna Type: 5/8 Wave.
Impedance: 50 ohm.
SWR: Less than 1:1.5.
Whip Length: 1.35m.

Is it practical to think of cutting the whip shorter for
operation at 40MHz, and (even better) is it possible to
predict exactly how much has to be cut off the whip?

--
Tony Williams.

916. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 11:19:42 UTC
From: "Gary P. Fiber" <g.fiber@verizon.net>
Message-ID: <7to1jv41klfr7aie95gj875f8j402srbu3@4ax.com>
Source record: 33633

On Wed, 06 Aug 2003 03:07:58 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Thanks for the reference. The closest thing I found to that was
>something roughly similar for what we call Romex wire -- flattish, vinyl
>insulated three-conductor (called two conductor with ground) wire used
>for house wiring. I'm not sure it was weatherproof, though. It would be
>harder to seal something of that shape than it would to seal something
>round.
>
>I suspect that the part you referenced is uncommon here because of the
>larger gauge of our house wiring due to the lower distribution voltage.
>Wire smaller than AWG14 (SWG15) isn't used except for lamp and appliance
>cords and the like, never for fixed wiring. The AWG14 or 12 wire used
>for house wiring is virtually always in flat Romex cable. (Four
>conductor 220 volt wire is round but large diameter.) Interior wiring is
>secured to boxes with clamps which are definitely not weatherproof.
>Exterior wiring is virtually always in conduit between boxes. I found a
>number of weatherproof clamp-type fittings for conduit, with similar
>construction to the Farnell part, but the inner diameter is much too
>large for the small cable I'll be using. It's been a long time since I
>looked carefully at the code, but I'd be very surprised if exterior
>wiring is permitted outside of conduit under any circumstances.
>
>Maybe I should just send my 42p to Farnell. . . Hm, better yet, there's
>a cottage in Wales we've been told needs beta testing, so maybe we can
>kill two birds with one stone. . .
>
>I'll check the electronics store. Maybe someone imports them and sells
>them for other applications.
>
>Roy Lewallen, W7EL
>
>Ian White, G3SEK wrote:
>>
>> These things have GOT to exist in the USA, but clearly the name is
>> different.
>>
>> They are used with metal conduit-and-box wiring systems, wherever you
>> want to bring a flexible cable out through the wall of a conduit box
>> with better waterproofing than a plain grommet.
>>
>> Go to www.farnell.com/uk and search for part # 3034367 - click for
>> details and this should give a reasonable picture.

>>
>> The outside of the fixed part looks rather like a through-bulkhead
>> double female N connector. It goes through the box wall, with some kind
>> of O-ring seal, and is fixed with a single large nut. The cable threads
>> through the inside, and is sealed by a rubber ring and a screw-down cap.
>> Result - a completely waterproof lead-through.
>>
>> All together now: "Oh, ya mean a [Fill In The Blank] - why didn't ya
>> *say* so?"
>>
>> Anyway, the whole point was that these [FITB] things are available in
>> cheap plastic, and are ideal for getting cables through the walls of
>> plastic or metal boxes in a totally waterproof way. You can install
>> in-line connectors on the 'tails' of cable if necessary, and they make a
>> very easy shape to wrap with waterproofing tape.
>>
>> This is vastly better than installing chassis-mount connectors on the
>> box wall, and then trying to wrap tape onto a very difficult shape.
>>
>>
How about cannon connectors? or if you are looking just to have the
cable entrance water tight and not removable then look at thomas &
bettes they make all sorts of sizes of water proof box entry fittings.
If not too many pins Hubble makes marine grade plugs and receptacles.

Gary K8IZ
Washington State Resident
Registered Linux User # 312991

917. Re: Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 12:07:27 UTC
From: qas@operamail.com
Message-ID: <64fa1080.0308060407.2dec7833@posting.google.com>
Source record: 33634

> Need some additional info first. What kind of coil and what are you using it
> for?

I am building one transistor colpitts oscilator, it will act as BFO
for my AM radio so I could receive SSB.

918. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 12:13:16 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0308060413.79f178@posting.google.com>
Source record: 33635

Roy Lewallen <w7el@eznec.com> wrote in message news:<vise6d4i2r9p2c@corp.supernews.com>...
> For years I've had a relay box in the back yard to remotely switch among
> antennas. The plastic freezer boxes I used deteriorate in the sun and
> have to be replaced from time to time. Last time I was at the surplus
> store I picked up an ammo box which will be the new home for the relays.
> I plan on using N connectors for the RF due to their weatherproof
> construction. The problem is a connector for the relay control cable. I
> want a weatherproof bulkhead connector with at least 8 or 9 conductors,
> and I'd like the cable part to be weatherproof also. I don't want to use
> an in-line connector because of the problems of weatherproofing and
> strain relieving wires going through the box wall.
>
> There are a bunch of old military connectors that would be fine, but I
> need a set of complete ones, with back shell for the cable end, etc.
> I've been keeping an eye on eBay, but so far haven't spotted anything
> quite right.
>
> Does anyone know a source for a suitable connector set?
>
> Roy Lewallen, W7EL

Remember the cardinal rules of waterproofing switch/relay boxes, vis
use good quality connectors
carefully waterproof all connector in/outs
seal box with appropriate rated sealant

and, lastly, drill a small hole in the bottom of the box for water to drain out....

de VK3BFA Andrew

919. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 12:49:44 UTC
From: Dave Shrader <david.shrader@comcast.net>
Message-ID: <IP6Ya.79342$uu5.7823@sccrnsc04>
Source record: 33636
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Wasn't this the basis of the TNS?

If so, it worked on impulse noise above the slow AGC level.

The ANC-4 doesn't even let the noise into the first RF stage!!

DD, W1MCE

Crazy George wrote:

> Jason:
>
> Very similar to what you are describing is popularly known as a "Noise
> Blanker" Motorola introduced their design for mobile radios in 1959 as an
> "Extender" In the same time frame, Collins offered a model for the S-Line
> and KWM-2. I designed a tube model for GE's Progress Line radios, and I
> forget who designed the solid state version. The concept has been described
> in numerous places, so do a bibliographic search of Engineering Index, or
> Scientific Abstracts, or whatever that school has access to. You also need
> to familiarize yourself with the concepts involved in noise balanced
> squelch, which was patented by Motorola back in the late 30s or early 40s.
> It will tell you how to do the audio noise level measurement meaningfully
> and apply it usefully.
>
> --
> Crazy George
> Remove NO and SPAM from return address
> "Jason Hsu" <jason_hsu@my-deja.com> wrote in message
> news:f7d9a152.0308051412.54d4c913@posting.google.com...
>
>>THE BIG QUESTION: How do you measure the audio noise level in a
>>receiver? Does anyone here know of any circuits that show the overall
>>audio noise level?
>>
>>Let me tell you what this is all about.
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>>SIDE NOTE: Thanks again to those of you who helped me with the
>>SWR/wattmeter project I worked on last semester. This project taught
>>me more about ferrite cores, op amps, and diodes than ANY class
>>possibly could. I learned about stray capacitance and what rails
>>mean. I also learned that not all 1N34A diodes are alike.
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>>In this coming semester, I will be working on an even more ambitious
>>project - an automatic noise canceller for 160m to 10m. It will
>>definitely be a control system, and it may even use DSP. The device

>>will also require a motor for automatically adjusting the controls.
>>The idea is to design and build an automatic version of the Timewave
>>ANC-4 or the MFJ-1025/1026 RF noise cancellers.
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>>The ANC-4 and MFJ-1025/1026 are manual devices. There are automatic
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>>level rather than the RF level.
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>>4. DC power connector
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>>connects to an external speaker
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>>proper inductance values in the RF noise cancelling circuit varies
>>with frequency
>>4. Phase range knob so that the phase shifter can cover all 360
>>degrees
>>5. Manual noise phase knob
>>6. Manual noise gain knob
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>>8. Noise phase adjustment push-button: Pressing this button activates
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>>Other features:
>>1. I need to design my automatic noise canceller so that parts won't
>>blow up if I transmit 100W through it. This probably requires some
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>>2. Transmitted power must not reach the noise antenna (at least not
>>without a great deal of attenuation)
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>>settings. (Or I could put in a reset button to do that. No, that
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>>the noise cancellation procedure does not work, it probably means the
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>>noise gain until a change in the signal level (or the S meter) is just
>>noted. (Some type of derivative function would come into play.)
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>>S meter).
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>>button.
>>
>>Does anyone know of circuits that measure audio noise? Making the RF
>>noise canceller automatic requires an audio circuit to monitor the
>>noise level. This noise level needs to be converted into a large DC
>>voltage, which feeds the motors that turn the variable capacitor and
>>potentiometer.
>>
>>Jason Hsu, AG4DG
>>usenet@@@@jasonhsu.com
>
>
>
>
>

920. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 14:12:23 UTC
From: Jack Smith <jsmith@mnsinc.com>
Message-ID: <rt22jv4akt946akjc992l85bjku275jfom@4ax.com>
Source record: 33637

>> These things have GOT to exist in the USA, but clearly the name is
>> different.
>>
>> They are used with metal conduit-and-box wiring systems, wherever you
>> want to bring a flexible cable out through the wall of a conduit box
>> with better waterproofing than a plain grommet.
>>
Not quite the same, but perhaps usable are the split gromets. See
MSC's on line catalog http://www.mscdirect.com at page 3643, or search
for "split cable entry system" using their site search engine.

Or, you could use a standard cable entry boot from Andrew
http://216.91.65.4/pdfs/andrew/221213.pdf

Jack K8ZOA

921. Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 14:40:40 UTC
From: Swan Radioman <Swanradio@lycos.com>
Message-ID: <3f310d52.180084587@140.99.99.130>
Source record: 33638

Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp transformer?

922. Re: Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 19:59:17 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308061159.6495ad7c@posting.google.com>
Source record: 33639

qas@operamail.com (Qas) wrote in message
news:<64fa1080.0308060407.2dec7833@posting.google.com>...
> > Need some additional info first. What kind of coil and what are you using it
> > for?
>
> I am building one transistor colpitts oscilator, it will act as BFO
> for my AM radio so I could receive SSB.

Why not just wind a fixed coil (on a toroid, for example) and tune it
with a variable capacitor (mechanical or varicap)? That's probably a
lot easier than making an appropriate variable inductor. You only
need about 10pF of variability to get the same tuning range (assuming
it's for 455kHz). You should be able to find powdered iron (or
ferrite) toroid info on the web.

Cheers,
Tom

923. Re: Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 20:38:31 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <6HdYa.81693$Ho3.10686@sccrnsc03>
Source record: 33640

> > I am building one transistor colpitts oscilator, it will act as BFO
> > for my AM radio so I could receive SSB.

Just use the primary of a IF can. Most already have the resonating cap built in to the bottom of the can. If it's for 455 KHz, and you don't have any, send me a snail mail address and I'll send you a couple.

W4ZCB

924. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 21:43:27 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <3EeYa.87686$3o3.6059629@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33641

"Swan Radioman" <Swanradio@lycos.com> wrote in message
news:3f310d52.180084587@140.99.99.130...
> Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp
> transformer?

www.oldradioparts.com Got to the transformers page, there look for
Stk# 1013-041 125V/ 25MA, 6.3V FIL .6A, USED.....$5.00

Give the owner a call, or send an email.
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Time is what keeps everything from happening all at once.

925. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-06 22:35:20 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <u0OdnZkW8ZwsH6yiXTWJiw@comcast.com>
Source record: 33642
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

Ideally you point the noise antenna at the noise, and the signal antenna at the signal. In the real world the noise antenna is usually fixed, but might be pointed at something like a power line. In any case, the noise antenna is usually quite low, and you hope it won't pick up much of the desired signal.

BTW, way back when, either Radio Shack or Lafayette sold a CB radio that used a separate noise channel that was tuned to just outside the CB band. No idea how well it worked.

Tam/WB2TT
"Brooke Clarke" <brooke@pacific.net> wrote in message
news:3F30A5BC.6050205@pacific.net...
Hi Jason:

I think the "signal antenna" and "noise antenna" are both just antennas. I can't see how you can make an antenna that only hears noise and another that hears the same noise and signal.

926. Re: Super-whippy whip antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 00:29:51 UTC
From: YD <yd.tech@techie.com>
Message-ID: <ran1jvsj8180jj0v2ocrubrt0rs2bvpjvh@4ax.com>
Source record: 33643
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 02 Aug 2003 21:55:22 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Sat, 2 Aug 2003 16:40:43 +0100, "cpemma" <cpm@mexbroREMOVE.co.uk>
>wrote:
>
>>The alloy is Type 301 (17% chromium, 7% nickel stainless steel) hard drawn
>>wire, or even better is a 17/7PH (precipitation hardening) grade that our
>>firm once produced for tank aerials, that also may take a few knocks. ;)
>>
>>Both (especially the PH grade) need a final heat-treatment (420C for a few
>>minutes IIRC) for ultimate spring properties, but to get such a tight bend
>>you'd need quite a thin wire. It's a matter of the proof strain or limit of
>>proportionality, how much the outer skin can stretch without taking a
>>permanent set, compared to the neutral central axis, on the bend.
>
>There speaks a man who obviously knows what he's talking about. Yes, I
>believe we can order 301 from our guy in N. London who's very
>accommodating on such matters. Thanks for a valuable steer!
>Just one point, though: is stainless steel a reasonable radiator of RF
>energy?

Unless your tx is in the kW range the slightly higher resistivity is
unlikely to make a difference.

- YD.

927. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 01:16:23 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F31A84E.CCD7F044@earthlink.net>
Source record: 33644

"Ian White, G3SEK" wrote:
>
> >I'll try looking at a large electronics store next time I'm there.
> >
>
> These things have GOT to exist in the USA, but clearly the name is
> different.
>
> They are used with metal conduit-and-box wiring systems, wherever you
> want to bring a flexible cable out through the wall of a conduit box
> with better waterproofing than a plain grommet.
>
> Go to www.farnell.com/uk and search for part # 3034367 - click for
> details and this should give a reasonable picture.
>
> The outside of the fixed part looks rather like a through-bulkhead
> double female N connector. It goes through the box wall, with some kind
> of O-ring seal, and is fixed with a single large nut. The cable threads
> through the inside, and is sealed by a rubber ring and a screw-down cap.
> Result - a completely waterproof lead-through.
>
> All together now: "Oh, ya mean a [Fill In The Blank] - why didn't ya
> *say* so?"
>
> Anyway, the whole point was that these [FITB] things are available in
> cheap plastic, and are ideal for getting cables through the walls of
> plastic or metal boxes in a totally waterproof way. You can install
> in-line connectors on the 'tails' of cable if necessary, and they make a
> very easy shape to wrap with waterproofing tape.
>
> This is vastly better than installing chassis-mount connectors on the
> box wall, and then trying to wrap tape onto a very difficult shape.
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

That looks like a common "liquid tight" bushing used to run a
flexible cable from an outdoor electrical box to a piece of machinery,
or an outdoor light using SJ or SJ-T type rubber jacketed cable. They
are available in plastic or machined aluminum from most electrical
distributors.
--

Its August 5, 2003, so I'm 51 today!
Michael A. Terrell
Central Florida

928. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 01:59:00 UTC
From: Jerry Avins <jya@ieee.org>
Message-ID: <3F31B264.CAA78C3E@ieee.org>
Source record: 33645
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

Tweetldee wrote:
>
...
>
> Now, as to your concern to keep 100W of RF from blowing up your noise
> canceller. That's what antenna changeover relays are for. They normally
> connect the antenna to the receiver, but when the transmitter is keyed up,
> the relay connects the antenna to the transmitter output, and disconnects it
> from the receiver. Simple, but effective, and has been used for many many
> years in amateur as well as commercial radio equipment.

The line from the change-over relay to the receiver should be shorted
when the receiver is disconnected and either short or a half wave, or
else open when the receiver is disconnected and a quarter wave long.

Jerry
--
Engineering is the art of making what you want from things you can get.
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929. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 02:12:51 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0308061812.4a145624@posting.google.com>
Source record: 33646

Well considering that P=E*E/R then 10*10/20 equals 5 watts in my book. Audio amps generally have 10% THD as a rule of thumb, at 8 ohms. And an amp that is rated for 5 watts at 8 ohms won't deliver 5 watts into 20 ohms. And that's because the Vcc doesn't go up when you put 20 ohms on. The Vcc stays the same.So if you put 20 ohms on a 12.5 watt amp rated for 8 ohms, it will draw only 5 watts of power at full blast.

Believe me I've subbed out 16 ohm speakers for 8 ohm, not only does the power drop but the distortion goes way up to the point that it would give you a headache.

930. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 02:15:50 UTC
From: hexter@blazenet.net
Message-ID: <vj3dimmfkdj6a@corp.supernews.com>
Source record: 33547

In article <3f310d52.180084587@140.99.99.130>, Swanradio@lycos.com says...
>
> Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp
>transformer?
I used to have about a dozen of them around, pulled from old tube type
phono preamps, and old uhf to vhf external convertors for television
receivers. Got any hamfests near you coming up?

931. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 04:20:41 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bgsk2p$4n7$4@208.207.71.135>
Source record: 33548

Buy 2- 6 .3 volt ~1 amp filament transformers. Use one to supply the 6.3 V filament voltage then hook the 6.3 volt winding of the other to the 6.3 volt filament line and get your 125 volts on the former primary of the other. Works like a champ.

Dick

Swan Radioman wrote:

> Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp
> transformer?

932. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 04:33:31 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bgskqr$6q0$0@208.207.71.135>
Source record: 33549
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

Tweetldee wrote:

>
> Allow me to infuse a different idea. Think about noise as a fairly
> broadband phenomenon. The same atmospheric noise that you hear on 21.500
> Mhz will also be heard on 21.510 Mhz. Consider the possibility of biulding
> two identical receivers, the main receiver tuned to the desired reception
> frequency, the other tuned just a few Khz away, but out of the received
> signal's bandwidth. Then, you detect the noise on the second receiver,
> invert it, and sum it into the first receiver's signal chain. This concept
> is used in ultra-low noise, high sensitivity deep space receivers to almost
> totally eliminate noise in the received signal.

It's also the same scheme widely used for years in VHF FM mobile receivers.
There is a completly separate receiver that receives the noise which is inverted and
applied out of phase to the signal channel to cancel the noise pulses received through the
receiver. The scheme obviously works much better with pulse type noise.

Dick

933. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 05:25:21 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <87ispa11ku.fld@barrow.com>
Source record: 33550

ray_psi@yahoo.com (ray) wrote:
>Well considering that P=E*E/R then 10*10/20 equals 5 watts in my book.

Did anyone have a different book? You didn't even discuss that
in your previous article, and that was well established in my
response.

>Audio amps generally have 10% THD as a rule of thumb, at 8 ohms.

And interesting statement, but not at all true. Still, it hasn't
got anything at all to do with this discussion.

> And
>an amp that is rated for 5 watts at 8 ohms won't deliver 5 watts into
>20 ohms.

That is true, as I carefully explained in the article you have replied
to, though you did not quote the text which explained why that is true.

What you said previously was:

"sure you keep an 8 ohm load on the audio amp. The amp would
be operating way out in the nonlinear portion without 8 ohm
load, the result would be distortion. Figure your'e going to
need 1.2 watts and up to 12 watts of audio. Depending on how
loud you want it on the Rx end."

And I noted that is not true.

Solid state audio amplifiers do not need a specific load for
linearity. The common limitation is that if the load impedance
is too low, at the maximum output voltage there will be
excessive current flow which can damage the amplifier. On the
other hand, if there is a higher load impedance, the *same*
maximum voltage is reached, but less current flows and therefore
less power is delivered and there is *no* significant change in
the operating characteristics of the amplifier. It just delivers
less power.

> And that's because the Vcc doesn't go up when you put 20 ohms
>on. The Vcc stays the same.

Which is why I pointed that out in the article you are
responding to, but have not quoted. The *voltage* still has the
same range, but since the load impedance is 2.5 time higher, the
current will be necessarily 2.5 times lower, and thus the power
delivered is lower too.

>So if you put 20 ohms on a 12.5 watt amp
>rated for 8 ohms, it will draw only 5 watts of power at full blast.

That is exactly the case. However, you've missed the point.
Nobody is concerned about *power* in this discussion, as the
requirement was for *voltage*. 10 volts, to be exact. The
question there for is can any given amplifier deliver 10 volts.
And what was shown is that if the amplifier is rated to provide
12.5 watts into 8 ohms that does tell us that it *must* be
providing, at peak output,

P = E*E/R

as you said, which is

12.5 = E*E/8

which can be solve for E to be

```
-----------
E = _ / 100
\/
```

Or precisely 10 volts. You can draw the conclusion that such an
amplifier will be able to deliver 10 volts. You can also
conclude that if an amplifier is rated to provide less than 12.5
watts to an 8 ohm load, it will *not* be able to generate the
requisite 10 volts.

>Believe me I've subbed out 16 ohm speakers for 8 ohm, not only does
>the power drop but the distortion goes way up to the point that it
>would give you a headache.

Not true.

The power drops, but if the distortion goes way up it is *only*
because you have increased the volume in an attempt to get more
power than it can provide. If instead you had left the gain
control in exactly the same spot, and allowed it to deliver
exactly the same voltage (and a lower power), there would *not*
be any difference in distortion (that you could detect without
using some better than average test equipment).

Regardless, the trouble is that the output of the amp we are
actually dealing with is not going to be provided with a 8 Ohm
load. Or even a 20 Ohm load. It will have a 70,000 Ohm load.

And YIKES, it seems you missed the error I made in the previous
article, where I put the decimal in the wrong place and said
that would be 0.00014 watts.

Hmmmm...

```
E * E
P = -------
R
```

100
P = --------
70,000

or
1
P = -----
700

Or 0.0014 (not 0.00014 that I stated in the previous article, sorry!)

So... 10 volts across 70,000 Ohms will result in 0.0014 watts being delivered to the load. That is just more than a milliwatt, or 0 dBm, of power actually needed to accomplish the task.

Hence you do *not* need a 12.5 watt minimum output amplifier at all. What is needed is only something slightly more than 0 dBm, and that also means it must rated at that power into 70,000 ohms, or else the rate impedance must be transformed in some way to match the amplifier to the load. That is easy, and brings up the point that 8 ohm amplifiers probably are not the best possible solution, since a more obvious one is easily available.

Typically "amplifiers" with 600 ohm "line" outputs have a maximum output rating of 3 to 6 dB over the nominal 0 dBm output intended to be considered "normal". That means those amplifiers (virtually all stereo preamps, tuners, etc) are quite adequate for the use at hand, which needs 1.4 milliwatts.

The only trick necessary is choosing an appropriate matching transformer to boost the impedance from 600 to 70,000 so that the 1.4 milliwatt will be at 10 volts across the 70,000 Ohm load. The impedance ratio is 600/70,000, so a transformer giving approximately a 1:100 impedance ratio should be just fine, and most likely anything with a slightly lower ratio to a considerably higher ratio will also work very well.

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

934. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 05:48:23 UTC
From: rgawtry@timewave.com
Message-ID: <vj3q1bhol1tm9d@corp.supernews.com>
Source record: 33551
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

In article <3F31B264.CAA78C3E@ieee.org>, Jerry Avins <jya@ieee.org> wrote:
>Tweetldee wrote:
>>
> ...
>>
>> Now, as to your concern to keep 100W of RF from blowing up your noise
>> canceller. That's what antenna changeover relays are for. They normally
>> connect the antenna to the receiver, but when the transmitter is keyed up,
>> the relay connects the antenna to the transmitter output, and disconnects it
>> from the receiver. Simple, but effective, and has been used for many many
>> years in amateur as well as commercial radio equipment.
>
>The line from the change-over relay to the receiver should be shorted
>when the receiver is disconnected and either short or a half wave, or
>else open when the receiver is disconnected and a quarter wave long.
>
>Jerry

It's important to protect the both the noise antenna input and the main antenna inputs on the noise canceller from RF - but trying to figure out if you should short or open the receiver input based on the wavelength is a little difficult when the frequency range covers a continuum of multiple octaves. Not to mention the problem with putting a quarter or half wave chunk of feedline between the changeover relay and the receiver input when the wavelength is 160 meters. That technique works well for any single frequency (or very narrow frequency band as a percentage of the center frequency) and is commonly used at VHF frequencies and above with diode and relay switching circuits for the additional isolation it affords.

An important consideration is the voltage on the changeover relay and the components connected to it. The obvious part is the 100 W and 50 Ohm situation, but consider what happens to the voltage when you have a high (SWR for the hams / VSWR for the engineers). Jason, since this is your project, I'll leave you with the research to figure out the potential range of reactive loads with various antennas as well as the calculation of the resultant voltages. Remember a good simulation models the real world, not just a convenient part of it. I will tell you the result if you don' t give this part of your design its due. Think about PCB traces vaporized, capacitors shorted, transistor "fuses", relay housings melted and what we used to call "essence of Allen Bradley" from the burned resistors. It's about the same as a lightning hit or running 1000 watts through a 100 watt unit! This can be a safety issue as well as causing unncessary delay and cost.

One of the other people noted that it was important to do a lot of reading, research and analysis of your own - I'll second that!

If you haven't run across it yet, start with the term "Null Steering".

'nuff said for now,

Randy Gawtry
Timewave Technology Inc.

935. N2UHC/B on the air

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 06:09:06 UTC
From: Tom Sevart <n2uhcNOSPAM@yahoo.com>
Message-ID: <bgsqb0$rsoql$1@ID-52518.news.uni-berlin.de>
Source record: 33552

Hi all,

My 10 meter CW beacon is finally on the air. It's still cobbled together
and not finished, but I at least have a signal on the air now. Frequency is
28.232 MHZ, power output is 2 watts, operation is continuous. Give a listen
& see if you can hear it.

More info at: http://www.geocities.com/n2uhc_2/beacon.html

Tom Sevart N2UHC
Frontenac, KS

http://www.geocities.com/n2uhc

936. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 06:36:01 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <sFdhuwCRNfM$EABW@ifwtech.co.uk>
Source record: 33577

Michael A. Terrell wrote:
>
> That looks like a common "liquid tight" bushing used to run a
>flexible cable from an outdoor electrical box to a piece of machinery,
>or an outdoor light using SJ or SJ-T type rubber jacketed cable. They
>are available in plastic or machined aluminum from most electrical
>distributors.

I knew they had to exist in the USA, because the same thing needs to be done wherever in the world you go.

So UK "cable gland" = US "liquid tight cable bushing"?

As a final check, do the people behind the counter in the electrical distributors speak the same language?

Please don't ask why they're called "glands" over here. I believe it's an old steam-age term for a part that looks rather similar... but it still doesn't say much for those old-time engineers' knowledge of anatomy.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

937. Re: Kenwood TM-V7A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 09:09:51 UTC
From: todd & dawn <n8lrp@cinci.rr.com>
Message-ID: <3F32178A.F7B53C3C@cinci.rr.com>
Source record: 33553

Yes, I want to increase the deviation

"Dee D. Flint" wrote:

> "Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
> news:3TKXa.21944$Id1.2235306@newsfep2-win.server.ntli.net...
> > > Does anyone know how to turn up the mic gain on a V7? 2m and 70cm both?
> > ======
> > It probably being a FM dual band (handheld) transceiver , by increasing
> the
> > mic gain ,you'll also will increase the deviation .
> > Is that really what you want to do ?
> >
> > Frank GM0CSZ / KN6WH
> >
> >
> >
> >
>
> The TV-V7A is a 50 watt mobile rig. However the same comment on mic gain
> would probably apply. Perhaps talking a little closer to the mic might
> help. Or perhaps there's a problem with the radio that needs to be taken
> care of by a repair person.
>
> Dee D. Flint, N8UZE

938. Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 10:29:46 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>
Source record: 33554
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

The question seems daft, but bear with me, gentlemen. Has anyone ever
had an electric shock that they feel lucky to have survived?

p.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

939. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 11:49:08 UTC
From: Winfield Hill <whill@picovolt.com>
Message-ID: <bgtebk01kfa@drn.newsguy.com>
Source record: 33555
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote...
>
> The question seems daft, but bear with me, gentlemen. Has anyone
> ever had an electric shock that they feel lucky to have survived?

I've had a few fatal shocks.

Thanks,
- Win

940. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 12:23:44 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.199be4ac1a3d85a69899b0@192.168.42.131>
Source record: 33556
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>, Paul Burridge says...

> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?

800+ VDC off the plate supply of an old Gonset GSB-100 transmitter once. Fortunately, it was all along one arm. It knocked me across the room, and left a nice first-degree burn at the contact point.

Doubt I'd be around to type this if I'd been working with both hands at the time.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

941. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 12:24:02 UTC
From: Gary Cavie <m0jjh@despammed.com>
Message-ID: <MPG.199c55417df5676989686@news.freeserve.com>
Source record: 33557
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>,
redscar@waitrose.notformail.com says...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>

A couple, obviously not fatal, but enough to make me think twice about going for it again.

The first was as a young child, when I pushed a plug with no back on it into a socket using the palm of my hand, and the latest when I pulled a bare earth wire across a consumer unit prior to sleeving and terminating it, and it stroked the busbar. I took it as a wake-up call, and make sure that I have my rubber gloves on these days when doing this sort of work - or isolating the supply when practical.

I still get the occasional tingle (hazards of the job), but nothing lately like those other two, which _really_ hurt!

942. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 12:33:24 UTC
From: Harris <leckfamXXnospamXX@attglobal.net>
Message-ID: <oGrYa.19242$bo1.16996@news-server.bigpond.net.au>
Source record: 33558
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Several people have and of course they are all dead.

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

943. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:08:54 UTC
From: "George R. Gonzalez" <grg2@comcast.net>
Message-ID: <GbsYa.58326$Vt6.20071@rwcrnsc52.ops.asp.att.net>
Source record: 33559
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

IIRC a "fatal" shock is mroe likely to be a mddling-current one. The stronger ones tend to self-defibbrilate you.

That's why lightning strike victims often survive.

A BAD shock I got once was when I had a pair of 400uf, 450V capacitors forming up on the cap tester.
It was up to 450 volts, but still pulling a few milliamps. I went to set it aside and wrapped one hand around one big aluminum can, other hand around the other can. I thought both cans were grounded, but somehow got a heck of a shock! Later on I realized I was chanrging the capacitors in series for some reason.

Take care,

George

944. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:24:41 UTC
From: Roy McCammon <rbmccammon@mmm.com>
Message-ID: <3F325319.5030609@mmm.com>
Source record: 33560
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

They were around when I was at university,
but I just said "No!"

--
local optimization seldom leads to global optimization

my e-mail address is: rb <my last name> AT ieee DOT org

945. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:36:12 UTC
From: Swan Radioman <Swanradio@lycos.com>
Message-ID: <3f335595.264119363@140.99.99.130>
Source record: 33562

On Wed, 06 Aug 2003 21:43:27 GMT, "Tweetldee" <dgmason99@att99.net>
wrote:

>
>"Swan Radioman" <Swanradio@lycos.com> wrote in message
>news:3f310d52.180084587@140.99.99.130...
>> Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp
>> transformer?
>
>www.oldradioparts.com Got to the transformers page, there look for
>Stk# 1013-041 125V/ 25MA, 6.3V FIL .6A, USED.....$5.00
>
>Give the owner a call, or send an email.

Thanks, lots of interesting parts on that page.

946. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:36:18 UTC
From: Swan Radioman <Swanradio@lycos.com>
Message-ID: <3f325558.264058055@140.99.99.130>
Source record: 33561

On 7 Aug 2003 04:20:41 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:

>Buy 2- 6 .3 volt ~1 amp filament transformers. Use one to supply the 6.3 V filament
>voltage then hook the 6.3 volt winding of the other to the 6.3 volt filament line and get
>your 125 volts on the former primary of the other. Works like a champ.
>
>Dick

Thanks Dick, never thought of that, I just happen to have two 6.3 volt
transformers.

>
>Swan Radioman wrote:
>
>> Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp
>> transformer?
>

947. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:38:29 UTC
From: Swan Radioman <Swanradio@lycos.com>
Message-ID: <3f3455ce.264175794@140.99.99.130>
Source record: 33563

On Thu, 07 Aug 2003 02:15:50 -0000, hexter@blazenet.net (gudmundur)
wrote:

>In article <3f310d52.180084587@140.99.99.130>, Swanradio@lycos.com says...
>>
>> Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp
>>transformer?
> I used to have about a dozen of them around, pulled from old tube type
>phono preamps, and old uhf to vhf external convertors for television
>receivers. Got any hamfests near you coming up?

Not it the near future, I missed the last one..

948. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:41:54 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ggl4jv8c6ve1d3plrteqa4hu5nb3hv577n@4ax.com>
Source record: 33568
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
<leckfamXXnospamXX@attglobal.net> wrote:

>Several people have and of course they are all dead.

Well I don't believe the answer's that simple. I'll explain in due
course, but would like to give a few others a chance to guess what I'm
driving at (this isn't some sort of joke BTW).
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

949. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:41:55 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <fkl4jvk4bk75dqv0n9r69vjsmjukj00vmk@4ax.com>
Source record: 33569
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 7 Aug 2003 14:11:10 +0000 (UTC), "Leon Heller"
<leon_heller@hotmail.com> wrote:

>I've seen someone get hold of 440 V 3 phase bus bars, one in each hand. He
>was across the supply for about 5 minutes as the emergency stop button in
>the lab didn't work and he couldn't let go. He was lucky - just badly burnt
>hands. He was back at work a couple of days later, heavily bandaged.

Thanks, Leon. This is the kind of 'unsurvivable shock' I had in mind.
I'm sure we'll have several more hair-raising examples to come yet,
though.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

950. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 13:57:46 UTC
From: Ian Stirling <root@mauve.demon.co.uk>
Message-ID: <bgtlsqdvd1$8300dec7@news.demon.co.uk>
Source record: 33564
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In sci.electronics.design Harris <leckfamXXnospamXX@attglobal.net> wrote:
> Several people have and of course they are all dead.

Well, you can have shocks that would cause death if left untreated.
As some people get treated, they get to experience it all, apart from
actually getting planted.

--
http://inquisitor.i.am/ | mailto:inquisitor@i.am | Ian Stirling.
---------------------------+-------------------------+--------------------------
Money is a powerful aphrodisiac, but flowers work almost as well.
-- Robert A Heinlein.

951. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 14:08:22 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bgtmgm$d9s$1@freenet9.carleton.ca>
Source record: 33565
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Winfield Hill (whill@picovolt.com) writes:
> Paul Burridge wrote...
>>
>> The question seems daft, but bear with me, gentlemen. Has anyone
>> ever had an electric shock that they feel lucky to have survived?
>
> I've had a few fatal shocks.
>
> Thanks,
> - Win
>

You sound in especially good shape for someone who's suffered multiple
fatal shocks.

Michael VE2BVW

952. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 14:11:10 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bgtmlu$643$1@hercules.btinternet.com>
Source record: 33566
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>

I've seen someone get hold of 440 V 3 phase bus bars, one in each hand. He
was across the supply for about 5 minutes as the emergency stop button in
the lab didn't work and he couldn't let go. He was lucky - just badly burnt
hands. He was back at work a couple of days later, heavily bandaged.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

953. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 14:34:03 UTC
From: Mike <mike@nospam.com>
Message-ID: <1lk122d9mtx80.lm8mr8qw5avh.dlg@40tude.net>
Source record: 33567
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 07 Aug 2003 13:08:54 GMT, George R. Gonzalez wrote:

> IIRC a "fatal" shock is mroe likely to be a mddling-current one. The
> stronger ones tend to self-defibbrilate you.
>
> That's why lightning strike victims often survive.

Is is really? I talked to some guys who made defibrillators once; there was a defibrillator (a working one) in their lab, for use in case of shock while working on a defibrillator.

-- Mike --

954. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 15:01:50 UTC
From: RP Henry <richard.p.henry@saic>
Message-ID: <3f32076e$1@cpns1.saic.com>
Source record: 33570
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>

I got 600V/400MHz right through my little finger once. Reached in where I
shouldn't have. If the current had taken the long way to ground through my
feet or other arm, instead of the short way out the fingernail, I would have
at least been smoking from end to end.

955. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 15:05:50 UTC
From: RP Henry <richard.p.henry@saic>
Message-ID: <3f32085e$1@cpns1.saic.com>
Source record: 33571
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:bgtmgm$d9s$1@freenet9.carleton.ca...
> Winfield Hill (whill@picovolt.com) writes:
> > Paul Burridge wrote...
> >>
> >> The question seems daft, but bear with me, gentlemen. Has anyone
> >> ever had an electric shock that they feel lucky to have survived?
> >
> > I've had a few fatal shocks.
> >
> > Thanks,
> > - Win
> >
>
> You sound in especially good shape for someone who's suffered multiple
> fatal shocks.

That explains the hair.

956. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 15:17:36 UTC
From: mullens <mullens@ntlworld.com>
Message-ID: <3F326D90.C21EBB0C@ntlworld.com>
Source record: 33575
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
My father had a 30kV (I think) shock (from a radar test set).
He went unconscious and many years later one could still see the scar
from the burn.

957. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 15:34:18 UTC
From: Titus Pomponius Atticus <eet@hufflepuffREMOVE.sytes.net>
Message-ID: <3nr4jvo1edsuol547f37mdr4vbmuh2qqf2@4ax.com>
Source record: 33572

Once... 990 vac at 30 amps for a split second from right hand to left hand.
Stopped breathing, no heart beat but still aware for a few seconds.

How quiet everything got! Oh, I could still hear my coworkers laughing as I slid to the floor, but the normal, unnoticed noises of respiration and circulation were gone. About the time my vision started to go (seeing green, purple, black splotches, all else fading), my heart gave a great single beat then took off into tachycardia, then settled after a few seconds into a normal but fast rhythm. I could breath and see again, but was too weak to get up for several minutes. By this time the coworkers had figured out things were a bit more serious and I was helped to my feet. That's when I noticed the burn on one hand, where my thumb knuckle had brushed the case of the defective amplifier. It never really hurt, the burn spot, but my chest muscles were sore for a week, also took about that long for my strength return to normal.

I've been shocked many times before and since, but that was the closest I got to buying the tiny farm.

On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>The question seems daft, but bear with me, gentlemen. Has anyone ever
>had an electric shock that they feel lucky to have survived?
>
>p.

958. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 16:10:41 UTC
From: warren weber <hiview@worldnet.att.net>
Message-ID: <5SuYa.88837$3o3.6138979@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33573
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?

In 1948 I was working for Westinghouse motor and transformer repair. We had a LARGE transformer from a sub station to rewind. Always pot checked when repaired for insulation break down with 4000 volts. The hot lead had a pin hole in the insulation and the superintendent would not replace it. Had the worker wrap it with electrical tape. STUPID. The worker went ahead and used it. To reach the insulator tip the worker stood on a metal barrel covered with 2 by 4 wood. As the power was applied the 4K volts went through the hand, came out the foot and blew him off the barrel. He survived but had bad burns on hand and foot. No OSHA in those days. A week later I resigned from that job. Warren

959. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 16:14:40 UTC
From: EEng <unmaileeng@budget.net>
Message-ID: <ifu4jvghlrg4m5hh9ldujfal0lp62uihss@4ax.com>
Source record: 33574
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>The question seems daft, but bear with me, gentlemen. Has anyone ever
>had an electric shock that they feel lucky to have survived?
>
>p.

1982 at Beal AFB while installing a 2.4MegKVA UPS system I received an
arc'd shock from a 992V DC Link that should have left nothing but a
pile of dust where I had been. For reasons unknown, it instead
through me 18ft against the opposite wall leaving nothing more than a
2 inch burn mark on my elbow, although it did take almost 4 hours for
my breathing to return to normal and I suffered extreme headaches for
3 days. It was also necessary to change both my underwear and pants.
To this day my left elbow is extremely and painfully sensitive.

960. Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 16:29:15 UTC
From: John Kinnunen <johnkin@goldengate.net>
Message-ID: <Xns93D074E53704johnkingoldengatenet@209.240.77.22>
Source record: 33576

I would like to build a coil on a 3/8th inch diameter tube about 1.5" to 2" long with an adjustable slug inside one with a rod of some type atached so I can turn it to adjust it.
They use to have such coils years ago made out of paper, however, now they are very hard to come by. I am wondering if such a form exists now or has something replace it. I am making a tank circuit for a small VFO and have all the parts except this one.
I am open to suggestions on how to build such a thing or where to buy one.
I asume plastic has replaced the paper tube.
Thanks so much in advance

961. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 16:47:14 UTC
From: A E <aeisenhut@videotron.ca>
Message-ID: <3F328292.E6A6A404@videotron.ca>
Source record: 33578
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:

> On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
> <leckfamXXnospamXX@attglobal.net> wrote:
>
> >Several people have and of course they are all dead.
>
> Well I don't believe the answer's that simple. I'll explain in due

Yes it is. 'Fatal' doesn't have any slack in its definition. You could modify it by adding 'near' as a prefix.

> course, but would like to give a few others a chance to guess what I'm
> driving at (this isn't some sort of joke BTW).
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

962. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 17:07:31 UTC
From: "Mike M"
Message-ID: <a115jv861js1umas9im8nhokeid6f80mef@4ax.com>
Source record: 33579

On Sat, 2 Aug 2003 10:43:43 -0700, "bobinphx" <rbelisle1@cox.net>
wrotF:

>Hi folks,
> I've been lurking here for awhile and this is my first post.
>
>I own a whole bunch of older tube radios. The majority of them are AM BC/SW.
>I found a great site on the internet that broadcasts old radio programs
>(http://www.yesterdayusa.com/) via the internet. Its great to listen to
>while I answer emails etc, but when I am away from the PC, I cant listen to
>it......So,,, I hooked up an older tube Eico 324 am signal generator to the
>headphone jack of the PC and attached my SWL indoor random wire antenna (it
>runs around the ceiling of the home office I have (about 12 feet on each of
>the 4 sides, plus 6 feet of lead in)... Well,,, low and behold, I now have a
>great little transmitter that transmits on BC and SW. It works great in all
>rooms (the old radios are spread around the house).
>
>Now to the question. What or how can I match the audio input to the input of
>the signal generator?
>The manual for the signal generator suggests a 70k ohm AF (audio freq)
>input.
> I am guessing that the PC headphone jack is 8 ohms, big mismatch.
> What issues will this cause??????
> The manual also has modulation notes that state "External AF voltage
>required for 30% modulation at 1mc rf setting (1000 cps signal) aprox 3.0
>volts" What the heck does that mean????
>
>
>I am also unsure of how to match the antenna to the signal generator. The
>manual does not state what the output could or should be.
>
>Note that the generator does not run hot and has been recapped and
>calibrated, to the best of my abilities!!!
>
>
>I am a novice in terms of RF, but have been around TTL logic and have a good
>general (read self taught) understanding of electronics. I am concerned
>that long term mismatches may cause problems with the signal generator (I
>know enough to be concerned, but not how to insure my fears are groundless,
>for the issue is fixed.)
>
>If anyone has any ideas they would be appreciated.
>
>Thanks in advance

>Bob in phx
>

If the input impedance to the AF input on the signal generator is 70k Ohms then almost any little transistor voltage amp will drive it. I would expect maybe 1 to 2 volts RMS out if the sound card so it will be too low. Another simple alternative is to use an audio output transformer such as the Radio Shack 273-1380 and connect the 8 Ohm side to the left or right sound card output and the high impedance side to your signal generator AF input.

Use this information at your own risk, I'm not there to see just what you are working with. If you smoke your computer don't blame me.

963. fs: Kenwood kpt50 repeater radio programmer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 17:16:28 UTC
From: Skipp has Kenwood stuff <skippNOSPAMPLEASE@pilot.ucdavis.edu>
Message-ID: <bgu1hclpp1@woodrow.ucdavis.edu>
Source record: 33581
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.homebrew

Re: Kenwood kpt-50 repeater and radio programming unit

Hello there,

I've got one Kenwood kpt50 repeater / radio programmer unit for sale. The kpt50 works as a stand alone unit (has a keypad and a display) or with your pc and associated software via a standard rs-232 serial comm port.

This unit programs the Kenwood TK and TKR-720 / TKR-820 series repeater, base and mobile radios. It will also do (some of the) other similar Kenwood models.

This unit is probably my last one for sale. I sold them on Ebay earlier this year for various amounts up to $239 each. This is an original kenwood unit and yes I'm an Authorized Kenwood Two-Way Radio Dealer - Service Center and would be happy to supply any two-way radio - parts needs you might have. Drop me a note if you have any Kenwood Two-Way question.

This is a previously used unit, started life as my personal kpt50, lent it to "a friend" who had it over a year to program one "quick repeater job". Got it back just a short time ago. I will put a full new equipment warranty on it and provide copies of all the proper programming information. I had to use my last inventory unit in place of this unit while it went on vacation with my friend. Now it's back and I have one unit extra.

I used to program the tkr-820 (and 720) repeaters by hand using this type unit, but forget that... this unit has the normal rs-232 pc port access which allows you to do everything on your related laptop and save the data in regular archive files. Much nicer... I'll include a regular copy of the pc software with the unit, not bad.

Now the price, set below actual Dealer cost at $165 plus actual shipping, figure maybe $5 for USPS Priority Mail.

OK, that's about it. Drop me an Email if your are interested. If no one responds within a week or two, I'll toss it up on Ebay. Don't be confused by the "clone units" often listed on Ebay. Some of the associated programming units don't work on all the models. I know because I bought one myself before I became a Kenwood Dealer some years ago.

This is an original Kenwood made KPT-50 programmer.

That's about it, remove the NOSPAMPLEASE from my email address if you want to drop me a related message. My ebay ID is over 700 actual... all

positive feedback so I hopefully must be doing something right.

Thank you for reading this post.

cheers
skipp

skippNOSPAMPLEASE@pilot.ucdavis.edu

Remove the NOSPAMPLEASE else I'll never receive your message.

964. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 17:18:59 UTC
From: "Mike M"
Message-ID: <j025jvs8o7u8ag7on4ttncmksshe050ctu@4ax.com>
Source record: 33580

On Tue, 5 Aug 2003 18:01:25 -0600, Sylvan Butler
<Znospam+noZs_0308@hpb13799Z.Zboi.hpZ.com.invalid> wrotF:

>On Mon, 4 Aug 2003 20:48:55 +0100, Ian White, G3SEK <G3SEK@ifwtech.co.uk> wrote:
>> Roy Lewallen wrote:
>>>control cable. I want a weatherproof bulkhead connector with at least 8
>>>or 9 conductors, and I'd like the cable part to be weatherproof also. I
>>>don't want to use an in-line connector because of the problems of
>>>weatherproofing and strain relieving wires going through the box wall.
>>>
>> A standard electrical cable gland will weatherproof the cable going
>> through the box wall (or whatever you call that thing with a
>> compressible rubber washer that squeezes down onto the cable). That
>
>That's what I call them, but I have no idea if that is standard
>terminology here in the States.
>
>> would leaves an in-line connector pair which is a good shape to wrap
>> with tape, so it needn't be inherently waterproof.
>
>Yup. That's what I'd do.
>
>sdb

We call them cord grips at work. Pipe thread on one side, and a
compression gasket arrangement on the other. Available in metal or
plastic. Thomas&Betts and Hubbell are a couple of the brands we use.
They provide strain relief and a water tight seal to cords coming in
and out of electrical panels.

965. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 17:34:11 UTC
From: "Paul Hovnanian P.E." <Paul@Hovnanian.com>
Message-ID: <3F328D93.C1A5DF38@Hovnanian.com>
Source record: 33583
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Harris wrote:
>
> Several people have and of course they are all dead.
>

That explains all the top posters. ;-)

--
Paul Hovnanian mailto:Paul@Hovnanian.com
note to spammers: a Washington State resident
---
exec /bin/laden

966. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 17:47:26 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <PqKcnd9A-LwlDa-iXTWJhg@comcast.com>
Source record: 33582
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Randy,

Speaking of the horse's mouth! I am concerned that Jason might have too high an expectation of what the noise canceler can do. See if the below is right.

1. It can cancel out the noise from a single stationary noise source that is received via groundwave, and will in general do nothing for atmospheric noise as you would have on 75m.

2. For an automated adjustment method to work, and keep it within his means and time frame, he will have to tune to a frequency where there is no signal present. He should then be able to retune to a differenr frequency within a few KHz, and still have the nulling.

3. Consistent with 2, the receiver's AGC voltage is as good an indication of noise amplitude as any. In fact, it can't be measured AFTER the AGC, as for instance the audio output.

Tam/WB2TT
****
"Randall R. Gawtry" <rgawtry@timewave.com> wrote in message
news:vj3q1bhol1tm9d@corp.supernews.com...
> One of the other people noted that it was important to do a lot of
reading,
> research and analysis of your own - I'll second that!
>
> If you haven't run across it yet, start with the term "Null Steering".
>
> 'nuff said for now,
>
> Randy Gawtry
> Timewave Technology Inc.

967. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 18:17:57 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bgu54o$sici3$1@ID-134747.news.uni-berlin.de>
Source record: 33584
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

10KV to fire magnetron in counter battery radar. Took six marines to stop
me from burying my screw driver in the chest of the asshole that thought it
would be cute to push the radiate button.

--
73 es cul

wb3fup
a Salty Bear

"Dr. Anton Squeegee" <SpammersAreVermin@dev.null> wrote in message
news:MPG.199be4ac1a3d85a69899b0@192.168.42.131...
> In article <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>, Paul Burridge
> says...
>
> > The question seems daft, but bear with me, gentlemen. Has anyone ever
> > had an electric shock that they feel lucky to have survived?
>
> 800+ VDC off the plate supply of an old Gonset GSB-100 transmitter
> once. Fortunately, it was all along one arm. It knocked me across the
> room, and left a nice first-degree burn at the contact point.
>
> Doubt I'd be around to type this if I'd been working with both
> hands at the time.
>
>
> --
> Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
> (Known to some as Bruce Lane, KC7GR)
> kyrrin a/t bluefeathertech d-o=t c&o&m
> "Quando Omni Flunkus Moritati" (Red Green)

968. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 18:47:09 UTC
From: Tom Sevart <n2uhcNOSPAM@yahoo.com>
Message-ID: <bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de>
Source record: 33585
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
> 10KV to fire magnetron in counter battery radar. Took six marines to stop
> me from burying my screw driver in the chest of the asshole that thought
it
> would be cute to push the radiate button.

I remember hearing the story of an Air Force tech working on a 30' radar
dish. For some dumb reason, someone energized it and promptly microwaved
him to death.

Some of these stories are hair rasing... and I'm too much of a weenie to
stick my tongue on a 9V battery...

--
Tom Sevart N2UHC
Frontenac, KS

http://www.geocities.com/n2uhc

969. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 19:09:07 UTC
From: dplatt@radagast.org
Message-ID: <vj58ujge8b9kd0@corp.supernews.com>
Source record: 33586
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de>,
Tom Sevart <n2uhcNOSPAM@yahoo.com> wrote:
>
>"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
>news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
>> 10KV to fire magnetron in counter battery radar. Took six marines to stop
>> me from burying my screw driver in the chest of the asshole that thought it
>> would be cute to push the radiate button.
>
>I remember hearing the story of an Air Force tech working on a 30' radar
>dish. For some dumb reason, someone energized it and promptly microwaved
>him to death.
>
>Some of these stories are hair rasing... and I'm too much of a weenie to
>stick my tongue on a 9V battery...

http://www.labsafety.com/search/results.asp?prodKeyword=lockout&x=0&y=0

Seems to go along well with "keep one hand in your back pocket" and
"don't work on this stuff while standing in a puddle of water".

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

970. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 19:37:16 UTC
From: la8ak.xnd@online.no
Message-ID: <3f32aa3d.2532723@news.online.no>
Source record: 33587
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>The question seems daft, but bear with me, gentlemen. Has anyone ever
>had an electric shock that they feel lucky to have survived?
>
>p.
>--
>
>"I believe history will be kind to me, since I intend
>to write it." - Winston Churchill

yes, and it explains a lot of why we became what we are...

jm
http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

971. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 19:51:20 UTC
From: Pat Ford <pat.ford@nrc.ca>
Message-ID: <bguajl$7rk$1@nrc-news.nrc.ca>
Source record: 33588
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

```
"A E" <aeisenhut@videotron.ca> wrote in message
news:3F328292.E6A6A404@videotron.ca...
> Paul Burridge wrote:
>
> > On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
> > <leckfamXXnospamXX@attglobal.net> wrote:
> >
> > >Several people have and of course they are all dead.
> >
> > Well I don't believe the answer's that simple. I'll explain in due
>
> Yes it is. 'Fatal' doesn't have any slack in its definition. You could
modify it
> by adding 'near' as a prefix.
>
> > course, but would like to give a few others a chance to guess what I'm
> > driving at (this isn't some sort of joke BTW).
> > --
> >
> > "I believe history will be kind to me, since I intend
> > to write it." - Winston Churchill
>

but you can be clinicaly death and restarted can't you? so does fatal imply
permenent death or can it be temporary?
Pat
```

972. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 19:57:43 UTC
From: RP Henry <richard.p.henry@saic>
Message-ID: <3f324cc8$1@cpns1.saic.com>
Source record: 33589
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message
news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
>
> "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
> news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
> > 10KV to fire magnetron in counter battery radar. Took six marines to
stop
> > me from burying my screw driver in the chest of the asshole that thought
> it
> > would be cute to push the radiate button.
>
> I remember hearing the story of an Air Force tech working on a 30' radar
> dish. For some dumb reason, someone energized it and promptly microwaved
> him to death.
>
> Some of these stories are hair rasing... and I'm too much of a weenie to
> stick my tongue on a 9V battery...

A Raytheon corporate legend is that one of the engineers discovered the
microwave oven principle when a radar melted a chocolate bar in his shirt
pocket.

973. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 20:26:28 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F32B5F4.8050902@hotmail.com>
Source record: 33593
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Me, personally? No. A friend once told me about how her son had tried to pry a fuse out of a fuse box with a knife and it threw him across the room and he couldn't move his legs for 20 minutes.

Paul Burridge wrote:
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

974. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 20:29:09 UTC
From: Boris Mohar <borism@sympatico.ca>
Message-ID: <4kd5jv8vag4flckvt8gdrt7sgra2a89sm4@4ax.com>
Source record: 33591
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 7 Aug 2003 08:05:50 -0700, "RP Henry" <richard.p.henry@saic dot
com> wrote:

>
>"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
>news:bgtmgm$d9s$1@freenet9.carleton.ca...
>> Winfield Hill (whill@picovolt.com) writes:
>> > Paul Burridge wrote...
>> >>
>> >> The question seems daft, but bear with me, gentlemen. Has anyone
>> >> ever had an electric shock that they feel lucky to have survived?
>> >
>> > I've had a few fatal shocks.
>> >
>> > Thanks,
>> > - Win
>> >
>>
>> You sound in especially good shape for someone who's suffered multiple
>> fatal shocks.
>
>That explains the hair.
>

He is a cat.

--

Regards,

Boris Mohar

Got Knock? - see:
Viatrack Printed Circuit Designs http://www3.sympatico.ca/borism/
Aurora, Ontario

975. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 20:37:23 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f32b84d.906684312@news.freeserve.net>
Source record: 33590
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Ouch, that bit...
--
On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>The question seems daft, but bear with me, gentlemen. Has anyone ever
>had an electric shock that they feel lucky to have survived?
>
>p.
>--
>
>"I believe history will be kind to me, since I intend
>to write it." - Winston Churchill

976. Bode plots in the real world

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 20:42:13 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <78udnf-L5YjFJK-iXTWJlg@comcast.com>
Source record: 33592

I can use the Bode Plotter in multisim, nice imaginary tool ! Now, the question is -- how do I replicate a bode plotter for phase measurement in a regulated power supply -- I have read the Tektronix MBD, and do have access to a pulse generator and scope with FFT.

977. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 20:58:09 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <ide5jvgq9qsuh9vn5d2117c0p4jvdpgb5k@4ax.com>
Source record: 33594

On Thu, 7 Aug 2003 07:36:01 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>Michael A. Terrell wrote:
>>
>> That looks like a common "liquid tight" bushing used to run a
>>flexible cable from an outdoor electrical box to a piece of machinery,
>>or an outdoor light using SJ or SJ-T type rubber jacketed cable. They
>>are available in plastic or machined aluminum from most electrical
>>distributors.
>
>I knew they had to exist in the USA, because the same thing needs to be
>done wherever in the world you go.
>
>So UK "cable gland" = US "liquid tight cable bushing"?
>
>As a final check, do the people behind the counter in the electrical
>distributors speak the same language?
>
>Please don't ask why they're called "glands" over here. I believe it's
>an old steam-age term for a part that looks rather similar... but it
>still doesn't say much for those old-time engineers' knowledge of
>anatomy.

A gland is a term for a liquid-tight seal on a moving/rotating shaft
in some industries here. Probably does go back to steam engines.

Some similar things might be called "explosion proof". This doesn't
mean it will be untouched in an explosion, but that flammable gases
won't get into the earea where sparks could happen in a switch or
other electrical device inside the enclosure.

Look to an industrial electrical supplier, not a residential-oriented
one.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

978. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 21:02:15 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <ugf5jvsc62bk5luatn7jphk9dr4h0o87vv@4ax.com>
Source record: 33595
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 7 Aug 2003 13:47:09 -0500, "Tom Sevart"
<n2uhcNOSPAM@yahoo.com> wrote:

>
>"WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
>news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
>> 10KV to fire magnetron in counter battery radar. Took six marines to stop
>> me from burying my screw driver in the chest of the asshole that thought
>it
>> would be cute to push the radiate button.
>
>I remember hearing the story of an Air Force tech working on a 30' radar
>dish. For some dumb reason, someone energized it and promptly microwaved
>him to death.
>
>Some of these stories are hair rasing... and I'm too much of a weenie to
>stick my tongue on a 9V battery...

Go with that instinct.

Always better to be the one telling the story, than the one IN the
story.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

979. has anyone built an amp based on uPC1651G as shown on pg 137 of w1fb's qrp notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 21:24:11 UTC
From: 10-4GoodBuddy <10-4GoodBuddy@nowhere.net>
Message-ID: <20030807172410.074$CM@news.newsreader.com>
Source record: 33596

If so can you point me to either a datasheet for the part, or some other referance about the part, or the amp.

thanks

980. HELP: Daiwa CN-410M

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 21:26:14 UTC
From: Zeca <peixoto@ispwest.com>
Message-ID: <3F32C3F6.46539509@ispwest.com>
Source record: 33499

Hi all,

Picked up a 2nd hand Daiwa CN-410m crossed needle SWR meter the other day.
I want to re-calabrate it and check it out.
Can anyone help with a circuit diagram or know where I can get one from?

Tnx and 73
CMP

981. Help wanted: airband Rx construction article.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 21:27:33 UTC
From: "William G. Sneddon" <widges@theta60.freeserve.co.uk>
Message-ID: <g1h5jvg6ojtsmaj7qb2mphn8b1u8icnrpm@4ax.com>
Source record: 33497

I am looking for an article entitled " A 720 channel Airband Receiver"
which I believe was published in the UK magazine Radio & Electronics
World about 20 years ago.

Can anyone help?

Thanks.

widges@theta60.freeserve.co.uk

982. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 21:45:29 UTC
From: "Alexander S. Wood" <alec_wood@dont.spam.me.ntlworld.com>
Message-ID: <6MzYa.7475$yl6.6984@newsfep4-winn.server.ntli.net>
Source record: 33498
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Recently made the mistake of having two computer monitors on the bench at
the same time, unplugged one and stripped the other down. First (and last)
step was removing the 24kV anode connector.....................

--
Alec Wood M1BNK
Teesside UK

Interested in Ham Radio....have a look at www.ukradioamateur.org

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

983. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 21:53:14 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <EGbbOBCKpsM$EA03@ifwtech.co.uk>
Source record: 33527
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

>A friend once told me about how her son had tried to pry a fuse out of
>a fuse box with a knife and it threw him across the room

It's a myth that the electricity "throws us". Actually we throw
ourselves, because the electric current makes our muscles convulse. When
the big leg muscles really snap tight, they can easily throw you across
the room in a standing jump.

>and he couldn't move his legs for 20 minutes.

That's to be expected, considering what they just did! In heavier, less
fit people, it's not uncommon to rip muscles and tendons when a major
shock makes them try to do the impossible.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

984. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 21:57:10 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <mmh5jvcvav902qickqbd6c4h4h1ohvne92@4ax.com>
Source record: 33504
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 7 Aug 2003 15:51:20 -0400, "Pat Ford" <pat.ford@nrc.ca> wrote:

>
>"A E" <aeisenhut@videotron.ca> wrote in message
>news:3F328292.E6A6A404@videotron.ca...
>> Paul Burridge wrote:
>>
>> > On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
>> > <leckfamXXnospamXX@attglobal.net> wrote:
>> >
>> > >Several people have and of course they are all dead.
>> >
>> > Well I don't believe the answer's that simple. I'll explain in due
>>
>> Yes it is. 'Fatal' doesn't have any slack in its definition. You could
>modify it
>> by adding 'near' as a prefix.
>>
>> > course, but would like to give a few others a chance to guess what I'm
>> > driving at (this isn't some sort of joke BTW).
>> > --
>> >
>> > "I believe history will be kind to me, since I intend
>> > to write it." - Winston Churchill
>>
>
> but you can be clinicaly death and restarted can't you? so does fatal imply
>permenent death or can it be temporary?

You guys are thinking in two dimensions; you need to think in three.
You're seeing things in black and white and you need to look for
colour. Raise your game!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

985. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 22:03:12 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <j5qcnT8vdZQFUa-iXTWJkw@comcast.com>
Source record: 33500
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

A former member of the Air Force told me about a safety training video narrated by a transmitter tech who did not observe *all* the procedures. He survived to make the video, but as a double amputee.

I was told that this training video was part of the curriculum for so many years that the principal character became somewhat of a celebrity. Perhaps someone with more direct knowledge can add or correct the details.

Tom, N3IJ

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

986. Re: Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 22:09:57 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <ZpacnS1kzMywU6-iXTWJiQ@comcast.com>
Source record: 33501

www.oselectronics.com page 88 in the 2003 catalog. They have other
interesting things as well.

Tom, N3IJ

"John Kinnunen" <johnkin@goldengate.net> wrote in message
news:Xns93D074E53704johnkingoldengatenet@209.240.77.22...
> I would like to build a coil on a 3/8th inch diameter tube about 1.5" to
> 2" long with an adjustable slug inside one with a rod of some type atached
> so I can turn it to adjust it.
> They use to have such coils years ago made out of paper, however, now they
> are very hard to come by. I am wondering if such a form exists now or has
> something replace it. I am making a tank circuit for a small VFO and have
> all the parts except this one.
> I am open to suggestions on how to build such a thing or where to buy one.
> I asume plastic has replaced the paper tube.
> Thanks so much in advance
>

987. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 22:28:58 UTC
From: Precious Pup <barking@wrongtree.org>
Message-ID: <3F32D2AA.9DB5E4AA@wrongtree.org>
Source record: 33502
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

"Dick Carroll;" wrote:
>
> Tweetldee wrote:
>
> >
> > Allow me to infuse a different idea. Think about noise as a fairly
> > broadband phenomenon. The same atmospheric noise that you hear on 21.500
> > Mhz will also be heard on 21.510 Mhz. Consider the possibility of biulding
> > two identical receivers, the main receiver tuned to the desired reception
> > frequency, the other tuned just a few Khz away, but out of the received
> > signal's bandwidth. Then, you detect the noise on the second receiver,
> > invert it, and sum it into the first receiver's signal chain. This concept
> > is used in ultra-low noise, high sensitivity deep space receivers to almost
> > totally eliminate noise in the received signal.
>
> It's also the same scheme widely used for years in VHF FM mobile receivers.
> There is a completly separate receiver that receives the noise which is inverted and
> applied out of phase to the signal channel to cancel the noise pulses received through
the
> receiver. The scheme obviously works much better with pulse type noise.

It even works for _on-channel_ jamming TX'ers off in another direction from the desired
signal (cable co's use
the technique). Separate directional antennas are used for the desired and the undesired
signals. The
undesired signal (jammer) is gain adjusted and phase shifted and then summed into the
"main" receiver signal
path at 180 degrees (and equal amplitude) from the same jammer entering into the main
antenna/rx'er path. The
obvious null for the undesired signal occurs. Nulling of the desired signal is highly
improbable given the
directional aspects of the antennas. The sum can occur in the rx'er front end. Yes, this is
signal
processing down at the microvolt level. One problem is tuning drift.

988. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 22:42:03 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <YFadnSRrUJ8uSK-iU-KYgg@comcast.com>
Source record: 33503

How much voltage is the 110V primary winding insulated for, typically? Is there a non-destructive way to find out? I've been thinking about achieving a 4x stepup by feeding 24V into a 6V winding and getting 440V. Even more, p-p.

Tom, N3IJ

"Swan Radioman" <Swanradio@lycos.com> wrote in message news:3f325558.264058055@140.99.99.130...
> On 7 Aug 2003 04:20:41 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:
>
> >Buy 2- 6 .3 volt ~1 amp filament transformers. Use one to supply the 6.3 V filament
> >voltage then hook the 6.3 volt winding of the other to the 6.3 volt filament line and get
> >your 125 volts on the former primary of the other. Works like a champ.
> >
> >Dick
>
> Thanks Dick, never thought of that, I just happen to have two 6.3 volt
> transformers.
>
> >
> >Swan Radioman wrote:
> >
> >> Any ideas where I could find a 125v @ 15ma, 6.3 v @ 0.6 Amp
> >> transformer?
> >
>

989. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 22:56:37 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vj5m9u2fs62h95@corp.supernews.com>
Source record: 33505
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

> I've seen someone get hold of 440 V 3 phase bus bars, one in each hand.

Does that imply that he had three hands or did he just get hold of two phases of a 3-phase system? :-)

990. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 23:06:46 UTC
From: Tony Roe <a_roe@bigpond.net.au>
Message-ID: <tgm5jv8qktflvpk8mmtcubv13kptlpcich@4ax.com>
Source record: 33506
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Not as spectacular as the other stories here, my experience was with a Tascam data recorder - working on the front panel, (and, in retrospect, without due care and attention) I discovered that just because the circuitry is miniaturized and all the interconnects are ribbon cables does NOT guarantee some daft designer at Tascam hasn't decided to sneak AC mains in amongst the signal wiring.

On 7 Aug 2003 14:08:22 GMT, et472@FreeNet.Carleton.CA (Michael Black) wrote:
>Winfield Hill (whill@picovolt.com) writes:
>> Paul Burridge wrote...
>>>
>>> The question seems daft, but bear with me, gentlemen. Has anyone
>>> ever had an electric shock that they feel lucky to have survived?

Regards,
Tony (remove "_" from email address to reply)

991. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 23:24:02 UTC
From: Dave Shrader <david.shrader@comcast.net>
Message-ID: <mcBYa.91575$o%2.41328@sccrnsc02>
Source record: 33507
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Tarmo Tammaru wrote:

> Randy,
>
> Speaking of the horse's mouth! I am concerned that Jason might have too high
> an expectation of what the noise canceler can do. See if the below is right.
>
> 1. It can cancel out the noise from a single stationary noise source that is
> received via groundwave, and will in general do nothing for atmospheric
> noise as you would have on 75m.

Correct!

>
> 2. For an automated adjustment method to work, and keep it within his means
> and time frame, he will have to tune to a frequency where there is no signal
> present. He should then be able to retune to a differenr frequency within a
> few KHz, and still have the nulling.

Correct!

>
> 3. Consistent with 2, the receiver's AGC voltage is as good an indication of
> noise amplitude as any. In fact, it can't be measured AFTER the AGC, as for
> instance the audio output.

Correct!

>
> Tam/WB2TT
> **********
> "Randall R. Gawtry" <rgawtry@timewave.com> wrote in message
> news:vj3q1bhol1tm9d@corp.supernews.com...
>
>>One of the other people noted that it was important to do a lot of
>
> reading,
>
>>research and analysis of your own - I'll second that!
>>
>> If you haven't run across it yet, start with the term "Null Steering".
>>
>>'nuff said for now,
>>
>>Randy Gawtry

>>Timewave Technology Inc.
>
>
>

992. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 23:36:43 UTC
From: Robert Baer <robertbaer@earthlink.net>
Message-ID: <3F32E354.C97EF839@earthlink.net>
Source record: 33508
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

I died from one 20 years ago.

993. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-07 23:51:54 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0308071551.ecc6d1c@posting.google.com>
Source record: 33509

Pray tell us how you arrived at this statement whioh I remind you is a matter of public record. Are you saying 2=10*10/20? 'cause that sure the heck looks like what you said in the following:

> On the other hand, if an amplifier rated to deliver only 2 watts
> into 20 Ohms is used... that too will deliver 10 volts, also at
> a miniscule power level into a 70K Ohm load, and work just fine.

But hey I haven't paid my, syntaz lately. You missed the error in your first post then you failed to correct it in your response. But yet you agreed that it takes 5 watts into a 20 ohm load to provide 10 volts. How touching.

994. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 00:21:39 UTC
From: Eric in the Evening <GEFERG@prodigy.net>
Message-ID: <n2CYa.1330$Vw2.976@newssvr16.news.prodigy.com>
Source record: 33510
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Haven't read all the posts yet, but...Way back in high school ('bout 65-66), I was working on a TV set in electronics shop. I was in the back room, by myself, and had just turned it off. I was following all safety procedures, one hand to my side, other hand on the insulated screwdriver, prying off the 25Kv lead to the picture tube. Well we didn't know that the "decorative" metal railing of the work bench was grounded. My hand slipped off of the insulation onto the metal shaft off the screwdriver and I was leaning against the workbench. Next thing I remember was that I was flat on my back, with my head in the doorway, six feet from workbench. All the class were gathered around the teacher who said "My God! He's alive!" Turns out, they had heard the discharge (through me), and I had been out for at least 3-5 minutes. So I guess you could say I survived a "fatal" shock.

Years later, in the phone company, while reaching through some equipment to get a wire being passed to me, my forehead touch the +400V and my wrist touched a -400V of a telegraph (yes, telegraph) circuit. Didn't knock me out but it sure stung.....

Eric KA6USJ

995. matching transistors HOW????

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 00:26:56 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <05CYa.40443$Ne.25582@fed1read03>
Source record: 33511

To all,
I am working with a DC motor that goes forward and reverse. The motor is controlled by a heat-sinked and fan cooled bank of 5 mj15003 transistors(5 each forward and reverse). On occasion the motors build up a high amount of copper on the armatures, from the brushes and this causes one of the 5 transistors to heat up and fail. The manual and the manufacture suggest matched transistors. What is a matched transistor????? I am guessing that they are tested and all have similar characteristics. But what characteristics am I looking for?? especially in a DC motor control.

Anyone have an answer for a semi technically literate person???? (i.e., I know the hot end of the soldering iron, from the cold end and have the scare to prove it!!!)

Thanks in advance....

Bob in PHX

996. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 00:56:11 UTC
From: wieland@copland.udel.edu
Message-ID: <bgusfbnps1@copland.udel.edu>
Source record: 33513

In article <e8d7125c.0308040623.44ebac07@posting.google.com>,
Nothing40 <nothing40@yahoo.com> wrote:
>Hey Gang..
>
> I have recently become interested in the 1750 meter band (160-180
>khz).I have been searching the net for
>information,circuits,reports,anything I can find!
>I plan on homebrewing a TX/RX pair,once I do a little more research. I
>have found a few Schematics,and plans for a couple different
>transmitters,and antenna's,but no plans for recievers. Can anyone help
>me out? I'd prefer to go the homebrew route,mostly for experience,and
>for a learning experience. [snip]

A transceiver for this "band" was in the SEP 94 issue of 73.

I'd always wanted to put together a regen for this band. Regenerative
detectors are at their best when they are rather tightly coupled to
antennas that are electrically short. One reality of 1750 meters is
that any antenna one man can lift is bound to be "electrically short".
--

R F Wieland Newark, DE 19711-5323 USA 39.68N 75.74W
Icom R75 Heathkit GR-81 Inverted-L in the attic
Reply to wieland at me dot udel dot edu

997. Re: has anyone built an amp based on uPC1651G as shown on pg 137 of w1fb's qrp notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 01:04:26 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <uGCYa.41$dj3.6550@nnrp1.ptd.net>
Source record: 33512

"10-4GoodBuddy" <10-4GoodBuddy@nowhere.net> wrote in message
news:20030807172410.074$CM@news.newsreader.com...
> If so can you point me to either a datasheet for the part, or some other
> referance about the part, or the amp.
>
>
> thanks
>
>

http://www.cel.com/pdf/appnotes/ansi1005.pdf

The above URL points to an app note ... however, I
didn't find a data sheet and it does not appear to be
in the selection guide or in an outdated parts section ...

It would appear that it may be a relatively new part
as opposed to an old one, though, because the app
note above is (c) 2003.

Carl - wk3c

998. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 01:06:11 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308071706.1b0db9b3@posting.google.com>
Source record: 33514
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Gary Cavie <m0jjh@despammed.com> wrote in message
news:<MPG.199c55417df5676989686@news.freeserve.com>...
...
> A couple, obviously not fatal, but enough to make me think twice about
> going for it again.
>
> The first was as a young child, when I pushed a plug with no back on it
> into a socket using the palm of my hand,

Reminds me back 20 years ago, I asked my young daughter to unplug an ice cream maker. I was watching her as she got a slightly surprised expression on her face and the GFCI did its job. Sure confirmed my belief in GFCIs!

Two shocks I can easily remember: 250VDC from the back of an NC-57 receiver, over 40 years ago, and I can still see the scar on my right index finger, and the CRT 2nd anode voltage from a color TV that made me sit down on the floor pretty hard. I suppose neither was very close to being fatal, just memorable. Interestingly, there's a nearly symmetrically-matching scar on the left index finger from different youthful folly.

Cheers,
Tom

999. Re: matching transistors HOW????

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 01:25:06 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <SZCYa.92137$o%2.41299@sccrnsc02>
Source record: 33515

http://www.rfparts.com/tranmatch.html

When an amplifier stage has two or more transistors, it is best to have all devices of the same gain and output to better equalize power sharing and d.c. current in each device. Other companies only offer matching of "Beta Codes" " hardly what matching is really about.

RF Parts Company has developed a testing program to provide the service technician with Premium Matched RF Power Transistors, having the best quality and performance. First, we select transistors with the same "Lot Number" and "d.c. Beta". (This is where others stop and call the transistors matched.) Next, we test each transistor's B-E, B-C, and C-E junctions with a curve tracer to separate out those with "undesirable" junction characteristics. Only transistors with low Collector-Base leakage (Icbo) are accepted for further testing. Finally, these "Premium" selected parts are placed in our RF Test Fixture, one at a time. The test measurement is noted on each part. Our transistor Power Gain test is measured at about 50-60% of maximum peak power rating. (Note: different drive power levels are used for the various transistors, and test numbers only apply for the particular part number under test.)

We select the best parts for matched sets of 2, 4, 8, 16, etc. The number on the outside of the envelope is the Power Measurement of each transistor as discussed above. Use of our selected parts will help assure top performance and reliability in multi-transistor power amplifiers.

GB
--
DO NOT use Reply.
Only reply through ARRL forwarding service to W9GB

"bobinphx" <rbelisle1@cox.net> wrote in message
news:05CYa.40443$Ne.25582@fed1read03...
> To all,
> I am working with a DC motor that goes forward and reverse. The motor is
> controlled by a heat-sinked and fan cooled bank of 5 mj15003
transistors(5
> each forward and reverse). On occasion the motors build up a high amount
of
> copper on the armatures, from the brushes and this causes one of the 5
> transistors to heat up and fail. The manual and the manufacture suggest
> matched transistors. What is a matched transistor????? I am guessing that
> they are tested and all have similar characteristics. But what
> characteristics am I looking for?? especially in a DC motor control.
>

> Anyone have an answer for a semi technically literate person???? (i.e., I
> know the hot end of the soldering iron, from the cold end and have the
scare
> to prove it!!!)
>
> Thanks in advance....
>
> Bob in PHX
>
>
>

1000. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 01:28:51 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <Oe-dnc9K84gVYa-iXTWJhw@comcast.com>
Source record: 33516
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I got knocked on my derriere by one of the doorknob capacitors in a TV I was scrapping to make a transmitter -- it was 1965 !

"Tom Bruhns" <k7itm@aol.com> wrote in message news:3200347.0308071706.1b0db9b3@posting.google.com...
> Gary Cavie <m0jjh@despammed.com> wrote in message news:<MPG.199c55417df5676989686@news.freeserve.com>...
> ...
> > A couple, obviously not fatal, but enough to make me think twice about
> > going for it again.
> >
> > The first was as a young child, when I pushed a plug with no back on it
> > into a socket using the palm of my hand,
>
> Reminds me back 20 years ago, I asked my young daughter to unplug an
> ice cream maker. I was watching her as she got a slightly surprised
> expression on her face and the GFCI did its job. Sure confirmed my
> belief in GFCIs!
>
> Two shocks I can easily remember: 250VDC from the back of an NC-57
> receiver, over 40 years ago, and I can still see the scar on my right
> index finger, and the CRT 2nd anode voltage from a color TV that made
> me sit down on the floor pretty hard. I suppose neither was very
> close to being fatal, just memorable. Interestingly, there's a nearly
> symmetrically-matching scar on the left index finger from different
> youthful folly.
>
> Cheers,
> Tom

1001. Re: Bode plots in the real world

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 01:29:07 UTC
From: Jack Smith <jsmith@mnsinc.com>
Message-ID: <01v5jv00cettr6053n5r6dcnuo80dj3oku@4ax.com>
Source record: 33517

On Thu, 7 Aug 2003 16:42:13 -0400, "John Walton"
<jdwalton@comcast.net> wrote:

>I can use the Bode Plotter in multisim, nice imaginary tool ! Now, the
>question is -- how do I replicate a bode plotter for phase measurement in a
>regulated power supply -- I have read the Tektronix MBD, and do have access
>to a pulse generator and scope with FFT.
>

Middlebrook's classic paper Measurement of Loop Gain in Feedback
Systems, International J. of Electronics, vol. 38, no. 1, pp. 485-512,
April 1975. IJE addresses this exactly.

If you do a Google search using Middlebrook Loop Gain you will find a
lot of discussion on how to do it in practice. One I found quickly
was http://www.venable.biz/tp-18.pdf which discusses measuring loop
gain/phase in a power supply via injecting a low level AC signal into
the feedback loop.

Jack

1002. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 02:03:10 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <874r0sx5wh.fld@barrow.com>
Source record: 33518

ray_psi@yahoo.com (ray) wrote:
>Pray tell us how you arrived at this statement whioh I remind you is a
>matter of public record. Are you saying 2=10*10/20? 'cause that sure
>the heck looks like what you said in the following:
>>
>> On the other hand, if an amplifier rated to deliver only 2 watts
>> into 20 Ohms is used... that too will deliver 10 volts, also at
>> a miniscule power level into a 70K Ohm load, and work just fine.

The statement is correct. When you read what I posted and
understand it, the statement then makes sense.

>But hey I haven't paid my, syntaz lately. You missed the error in your
>first post then you failed to correct it in your response. But yet you

It isn't an error. It is correct. As it says, an amplifier
rated to deliver only 2 watts into a 20 Ohm load can deliver 10
volts, at a miniscule power level, into a 70K Ohm load.

>agreed that it takes 5 watts into a 20 ohm load to provide 10 volts.
>How touching.

However, the above does *not* say that it will deliver 10 volts
with a 20 Ohm load. It says that it can deliver 10 volts with a
70K Ohm load.

In fact any amp that can deliver 0.0014 watts or more can
deliver 10 volts to a 70K Ohm load.

If you want me to explain it again, using different words, I
can. You probably will need an slight attitude adjustment to
really learn it though... ;-)

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

1003. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 02:57:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vj64cj5g66a122@corp.supernews.com>
Source record: 33519

Thanks, all.

I'll check with an electrical supplier.

Roy Lewallen, W7EL

1004. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 03:29:47 UTC
From: Eric Immel <EI@no.spam.for.me>
Message-ID: <LOEYa.62612$Vt6.21364@rwcrnsc52.ops.asp.att.net>
Source record: 33520
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> Has anyone ever
> had an electric shock that they feel lucky to have survived?
> [.sig_snip]

My first clear memory of my life is the few minutes immediately after of my dad's warning me not to poke a finger in a light socket while he fetched a new bulb. Dad left the room and 2-3 year old Eric headed straight for the (now empty) lamp socket. Amazing how clear a memory can be after decades.

The closest death by electrocution I've suffered was in the mid 1980's. Our disposal protocol required us to let air into CRTs. For some reason, I powered up the monitor before I disposed of it. I unplugged it, took the back off, donned my leather gloves, grabbed my uninsulated pliers and, with one hand on the steel case, snipped the nipple off of the 25" CRT. I remember the world getting almost completely covered by a big dark. I didn't get thrown or loose consciousness. My arm ached for a little while, that big dark is still with me from time to time.

Paul, are you asking if anyone has been killed, then revived? If anyone has made that journey, I'd be curious to know if your experience was similar to people who have survived a "fatal" drowning (great peace, white light, etc.).

EI

1005. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 03:46:51 UTC
From: Dan Tayloe <dtayloe@cox.net>
Message-ID: <3F331D2B.A34B767E@cox.net>
Source record: 33521
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

My ham buddy and I built a 2 KW amp and 300w power supply. I think it was four 813s, and was used for the lower HF bands, 160 through 20m I think.

I used RG8 for the high voltage connection between the supply and the amplifier, and had purchased a proper high voltage socket and connector pair to interconnect it to the back of the amp.

One day when it was powered up, I reached behind to change the antenna, and it "bit" me good. The insulation on the RG8 had pulled back a bit, exposing the center high voltage conductor, and I brushed it with the back of my fingers. Not fatal, but it sure left an impression!

I still have the three small scars that are testament to my high power homebrew days.

An event like that can sure inspire one to run QRP!

- Dan, N7VE

Paul Burridge wrote:
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

1006. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 03:50:19 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F331DE0.50D1AEF9@earthlink.net>
Source record: 33522
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

RP Henry wrote:
>
> "Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message
> news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
> >
> > "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
> > news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
> > > 10KV to fire magnetron in counter battery radar. Took six marines to
> stop
> > > me from burying my screw driver in the chest of the asshole that thought
> > it
> > > would be cute to push the radiate button.
> >
> > I remember hearing the story of an Air Force tech working on a 30' radar
> > dish. For some dumb reason, someone energized it and promptly microwaved
> > him to death.
> >
> > Some of these stories are hair rasing... and I'm too much of a weenie to
> > stick my tongue on a 9V battery...
>
> A Raytheon corporate legend is that one of the engineers discovered the
> microwave oven principle when a radar melted a chocolate bar in his shirt
> pocket.

I find that very interesting, since every chocolate bar I have ever
had was wrapped in aluminum foil.
--

Its August 5, 2003, so I'm 51 today!
Michael A. Terrell
Central Florida

1007. Re: Help wanted: airband Rx construction article.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 03:58:26 UTC
From: crabtreejr@aol.com
Message-ID: <20030807235826.28463.00000215@mb-m10.aol.com>
Source record: 33523

William G. Sneddon, widges@theta60.freeserve.co.uk, on 8/7/03 wrote:

>Message-id: <g1h5jvg6ojtsmaj7qb2mphn8b1u8icnrpm@4ax.com>
>
>I am looking for an article entitled " A 720 channel Airband Receiver"
>which I believe was published in the UK magazine Radio & Electronics
>World about 20 years ago.
>Can anyone help?
>Thanks.

Looking at the September 1983 issue of R&EW which contained the index for the first 24 issues:
Part 1 was in the Sept 1982 issue, pp 44-
Part 2 was in the Oct 1982 issue, pp 67-
An update appeared in March 1983
A further update was indicated for the October 1983 issue.

It would be as well to check later indexes to see if there were further updates.

There are people in the UK with sets of this magazine (Oct 1981 to ca. April 1989). Hopefully one of them can help.

HTH and 73

John Crabtree KC0GGH
Minneapolis, MN, USA

1008. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 04:05:32 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <YhFYa.40467$Ne.38608@fed1read03>
Source record: 33524

Ray and Floyd,
Wow what an education. You both have given me the much sought after first steps to research. Thank you both very much for your explanations. The next step will be more research, by me, on both of your views.

Bob "who loves the input of others, but forms his own opinions!!!)

P.s. library here I come!!!!!!

p.s.s The little signal generator that could is humming along right now... audio out of the PC sound card, into a set of very old Sony powered computer speakers (which have a headphone output), thru a stereo plug, via cheap speaker cable, to the AF in of the EICO 324. AF modulation on the EICO is set for 100% (reading the manual, tells me that this is really only 50% rf modulation) RF antuation is set for none (rf coarse, set to hi) and rf fine is set to 100. The output from the pc speakers is set about 75% up... Sounds sweet coming from that big old 10" airline speaker in the next room. SO good in fact that my 9 y/o son, turned off the n64 just to sit in the dimly lit room and listen to the intersanctum!!!!!!...
Also note that I have trimmed back the antenna to a little under 9 meters, wound on a broomstick type antenna, and the band is set for the normal AM broadcast band. I also went around the yard and lost signal at the edges of the yard, except near the garbage cans,,, strange huh!!!...

1009. Re: Who Sells Mini-Circuits DBMs?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 05:50:21 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <xSGYa.92297$0v4.6264426@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33525

You can call Mini-Circuits at 800 654-7949. They do sell in small
quantities. I've been meaning to order some of the
ADE-5s for awhile.

Pete

Harry Brown <harryhbrown@earthlink.net> wrote in message
news:7SSXa.34605$Mc.2749688@newsread1.prod.itd.earthlink.net...
> Don,
>
> Minicircuits has a reputation for selling small quantities directly to
hams.
> I've bougtht their kits directly and single quantities from one of their
> distributors.
>
> If you don't need the low frequency response of the SRA-6, you can get
some
> of their mixers from Down East Microwave.
>
> Their web page is at: http://www.downeastmicrowave.com/
>
> 73, Harry, W3IIT
>
> <donrm@soco.agilent.com> wrote in message
> news:1060107656.153969@cswreg.cos.agilent.com...
> > I have a need for one each Mini-Circuits SRA-6 DBM.
> > Who sells in this quantity?
> >
> > Don K6LTS
> > donrm@soco.agilent.com
> >
>
>

1010. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 05:52:26 UTC
From: wadeh@neti.saber.net
Message-ID: <d44d2251.0308072152.7e60ef90@posting.google.com>
Source record: 33526
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>...
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.

480 volt compost turner was activated while I had my hands inside.
Threw me into a pile of (mostly) chicken manure.
Wade H

1011. Re: Neighbor Tanning Nude -- VIRUS ALERT!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 06:10:38 UTC
From: Shane Deering <mycall@qsl.net>
Message-ID: <49p501-m7p.ln1@vk3bvp-3.ampr.org>
Source record: 33528
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Don Souter wrote:

>
> Do not download or open this message. It contains the
> W32/spybot.worm.gen virus. If you have d/l'd it, delete it
> immediately. The troll from Altopia has now become a federal
> law breaker.

I opened it and had a look. Not very interesting.

--
Shane Deering Sent using Knode v0.7.1
vk3bvp@qsl.net on Mandrake Linux, the Desktop OS
vk3bvp@vk3bvp.#sev.vic.aus.oc MDK9.0 Up 51 minutes
http://www.qsl.net/vk3bvp/ RH7.2 Up 1 day, 44 minutes

1012. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 06:25:54 UTC
From: HoldenCaulfield@att.net
Message-ID: <401eed4d.0308072225.20397121@posting.google.com>
Source record: 33529
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in message
news:<bgu54o$sici3$1@ID-134747.news.uni-berlin.de>...

> 10KV to fire magnetron in counter battery radar. Took six marines to stop
> me from burying my screw driver in the chest of the asshole that thought it
> would be cute to push the radiate button.
>
> --
> 73 es cul
>
> wb3fup
> a Salty Bear
>

I got one of those from a marine corps radar system (TPS-22).
We were supposed to use a metal grounding rod with wooden handle
and chain to discharge the high voltage caps. I held onto the
metal rod instead of the wooden handle. The thing was off at
the time, but the caps were probably at 10KV and it knocked
me across the room.

-Bill

1013. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 06:58:51 UTC
From: rgawtry@timewave.com
Message-ID: <vj6ihgflnd3m09@corp.supernews.com>
Source record: 33530
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Tam,

Dave Schrader gave you the right short answers to your questions in a parallel post to this one; however, question number 2 is a bit constraining. Consider the fact that there are some substantial variations of the ANC-4 and MFJ noise cancellers that others have built as well as few that are floating around in my head and, I am certain, a lot of other peoples' heads. Nobody has mentioned these on this thread yet. Also think about the fact that armed with the same information and skill sets, engineers tend to simultaneously invent the same thing about the same time. Jason seems to have a pretty good tool box and a good understanding of how to add tools to it - witness this thead and his last project. So he may figure out a way to completely avoid a situation like the one you describe, maybe even costing less and being quicker to develop! If he cannot for some reason, then the challenge is to figure out a quick and easy way to do something like what you describe. The only problem is finding a different frequency a few kHz away with no signal present - especially on the ham bands! So maybe a little more reaching question is how does he find a better way to null a noise canceller? Of course, having said all that, sometimes the best engineering approach is brute force - do the obvious the way you already understand and get it shipped (or turned in to the instructor)!

Randy Gawtry, K0CBH
Timewave Technolgy Inc.

In article <PqKcnd9A-LwlDa-iXTWJhg@comcast.com>, "Tarmo Tammaru"
<t-tammaru@home.com> wrote:
>Randy,
>
>Speaking of the horse's mouth! I am concerned that Jason might have too high
>an expectation of what the noise canceler can do. See if the below is right.
>
>1. It can cancel out the noise from a single stationary noise source that is
>received via groundwave, and will in general do nothing for atmospheric
>noise as you would have on 75m.
>
>2. For an automated adjustment method to work, and keep it within his means
>and time frame, he will have to tune to a frequency where there is no signal
>present. He should then be able to retune to a differenr frequency within a
>few KHz, and still have the nulling.
>
>3. Consistent with 2, the receiver's AGC voltage is as good an indication of
>noise amplitude as any. In fact, it can't be measured AFTER the AGC, as for
>instance the audio output.

>
>Tam/WB2TT
>**********
>"Randall R. Gawtry" <rgawtry@timewave.com> wrote in message
>news:vj3q1bhol1tm9d@corp.supernews.com...
>> One of the other people noted that it was important to do a lot of
>reading,
>> research and analysis of your own - I'll second that!
>>
>> If you haven't run across it yet, start with the term "Null Steering".
>>
>> 'nuff said for now,
>>
>> Randy Gawtry
>> Timewave Technology Inc.
>
>

1014. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 07:29:01 UTC
From: Tom <somebody@nOpam.com>
Message-ID: <3F33513D.7FF1BAC5@nOpam.com>
Source record: 33531
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design,sci.electronics

Tweetldee wrote:

> "Jason Hsu" <jason_hsu@my-deja.com> wrote in message
> news:f7d9a152.0308051412.54d4c913@posting.google.com...
> > THE BIG QUESTION: How do you measure the audio noise level in a
> > receiver? Does anyone here know of any circuits that show the overall
> > audio noise level?
> >
> > Let me tell you what this is all about.
> >
> > SIDE NOTE: Thanks again to those of you who helped me with the
> > SWR/wattmeter project I worked on last semester. This project taught
> > me more about ferrite cores, op amps, and diodes than ANY class
> > possibly could. I learned about stray capacitance and what rails
> > mean. I also learned that not all 1N34A diodes are alike.
> >
> > In this coming semester, I will be working on an even more ambitious
> > project - an automatic noise canceller for 160m to 10m. It will
> > definitely be a control system, and it may even use DSP. The device
> > will also require a motor for automatically adjusting the controls.
> > The idea is to design and build an automatic version of the Timewave
> > ANC-4 or the MFJ-1025/1026 RF noise cancellers.
> >
> > The ANC-4 and MFJ-1025/1026 are manual devices. There are automatic
> > noise cancellation devices, but their adjustments are at the audio
> > level rather than the RF level.
> >
> > The back panel of my device will contain:
> > 1. Connector for the signal antenna
> > 2. Connector for the transceiver
> > 3. Connector for the noise antenna
> > 4. DC power connector
> >
> > The front panel of my device will contain:
> > 1. Power switch and the obligatory idiot light to show that the power
> > is on
> > 2. 2 audio connectors: one connects to the transceiver, and the other
> > connects to an external speaker
> > 3. Frequency range control for choosing the inductance values, as the
> > proper inductance values in the RF noise cancelling circuit varies
> > with frequency
> > 4. Phase range knob so that the phase shifter can cover all 360
> > degrees

> > 5. Manual noise phase knob
> > 6. Manual noise gain knob
> > 7. LED display to show the noise level
> > 8. Noise phase adjustment push-button: Pressing this button activates
> > the control system to adjust the phase shift of the noise.
> > 9. Noise gain adjustment button: Pressing this button activates the
> > control system to adjust the gain of the noise.
> >
> > Other features:
> > 1. I need to design my automatic noise canceller so that parts won't
> > blow up if I transmit 100W through it. This probably requires some
> > type of automatic bypass circuitry.
> > 2. Transmitted power must not reach the noise antenna (at least not
> > without a great deal of attenuation)
> > 3. It also needs a low insertion loss.
> > 4. A preamplifier would be desirable.
> >
> > How it would work:
> > 1. You manually turn the phase and gain controls to the minimum
> > settings. (Or I could put in a reset button to do that. No, that
> > would add too much complexity to the circuit.)
> > 2. You select the band using the band inductance switch.
> > 3. You move the phase polarity switch to the negative setting. If
> > the noise cancellation procedure does not work, it probably means the
> > opposite setting is required.
> > 4. Press the noise gain adjustment button. The device adjusts the
> > noise gain until a change in the signal level (or the S meter) is just
> > noted. (Some type of derivative function would come into play.)
> > 5. Press the noise phase adjustment button. The device adjusts the
> > noise phase shift so as to produce a null in the signal level (or the
> > S meter).
> > 6. Steps 4 and 5 could be repeated to make further adjustments.
> > There might be away to activate the control system with just one
> > button.
> >
> > Does anyone know of circuits that measure audio noise? Making the RF
> > noise canceller automatic requires an audio circuit to monitor the
> > noise level. This noise level needs to be converted into a large DC
> > voltage, which feeds the motors that turn the variable capacitor and
> > potentiometer.
> >
> > Jason Hsu, AG4DG
> > usenet@@@@jasonhsu.com
>
> Allow me to infuse a different idea. Think about noise as a fairly
> broadband phenomenon. The same atmospheric noise that you hear on 21.500
> Mhz will also be heard on 21.510 Mhz. Consider the possibility of biulding
> two identical receivers, the main receiver tuned to the desired reception
> frequency, the other tuned just a few Khz away, but out of the received
> signal's bandwidth. Then, you detect the noise on the second receiver,

> invert it, and sum it into the first receiver's signal chain.

Hmmm.... surely the noise will be phase shifted and altered in amplitude by a time-varying transfer function?You will need to estimate this first.

Tom

1015. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 08:05:38 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <873cgctvzh.fld@barrow.com>
Source record: 33532

"bobinphx" <rbelisle1@cox.net> wrote:
>Ray and Floyd,
> Wow what an education. You both have given me the much sought after first
>steps to research. Thank you both very much for your explanations. The next
>step will be more research, by me, on both of your views.
>
>Bob "who loves the input of others, but forms his own opinions!!!)
>
>P.s. library here I come!!!!!!
>
>p.s.s The little signal generator that could is humming along right now...
>audio out of the PC sound card, into a set of very old Sony powered computer
>speakers (which have a headphone output), thru a stereo plug, via cheap
>speaker cable, to the AF in of the EICO 324. AF modulation on the EICO is
>set for 100% (reading the manual, tells me that this is really only 50% rf
>modulation) RF antuation is set for none (rf coarse, set to hi) and rf fine
>is set to 100. The output from the pc speakers is set about 75% up... Sounds
>sweet coming from that big old 10" airline speaker in the next room. SO good
>in fact that my 9 y/o son, turned off the n64 just to sit in the dimly lit
>room and listen to the intersanctum!!!!!!...
>Also note that I have trimmed back the antenna to a little under 9 meters,
>wound on a broomstick type antenna, and the band is set for the normal AM
>broadcast band. I also went around the yard and lost signal at the edges of
>the yard, except near the garbage cans,,, strange huh!!!...

Sounds good to me!

All you need to boost the modulation percentage is the right
transformer. If your PC's sound card has a "line" output, that
will be 600 Ohms, and the discussion I gave about matching a 600
output would apply. Of course, the exact same effect can be had
from the speaker output, by using a transformer intended for
some low impedance to some very high impedance. The speaker
output probably can deliver more power, so the range of
transformers that will work is great, but the problem with it is
that there aren't many transformers around that will do 8 Ohms
to anything close to 70K Ohms.

Just try whatever you can find, because trying a wrong one won't
hurt a thing, and any step up in the voltage will increase the
modulation for you. (There's not much effect above about 70-80
percent though.) And, well... at 50% maybe you don't really
need to do *anything* more!

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

1016. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 08:32:14 UTC
From: Ian Buckner <Ian_Buckner@agilent.com>
Message-ID: <1060331536.213495@cswreg.cos.agilent.com>
Source record: 33533
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

```
"Boris Mohar" <borism@sympatico.ca> wrote in message
news:4kd5jv8vag4flckvt8gdrt7sgra2a89sm4@4ax.com...
> On Thu, 7 Aug 2003 08:05:50 -0700, "RP Henry" <richard.p.henry@saic
dot
> com> wrote:
>
> >
> >"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
> >news:bgtmgm$d9s$1@freenet9.carleton.ca...
> >> Winfield Hill (whill@picovolt.com) writes:
> >> > Paul Burridge wrote...
> >> >>
> >> >> The question seems daft, but bear with me, gentlemen. Has
anyone
> >> >> ever had an electric shock that they feel lucky to have
survived?
> >> >
> >> > I've had a few fatal shocks.
> >> >
> >> > Thanks,
> >> > - Win
> >> >
> >>
> >> You sound in especially good shape for someone who's suffered
multiple
> >> fatal shocks.
> >
> >That explains the hair.
> >
>
> He is a cat.
>
> --
>
> Regards,
>
> Boris Mohar
>
> Got Knock? - see:
> Viatrack Printed Circuit Designs http://www3.sympatico.ca/borism/
> Aurora, Ontario
>
>
```

Win just haunts this newsgroup.

Regards
Ian

;-)

1017. Re: Help wanted: airband Rx construction article.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 09:02:02 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <pgp6jvk1s1761auibe8gtvd6gp8o06cd9r@4ax.com>
Source record: 33534

>>I am looking for an article entitled " A 720 channel Airband Receiver"
>>which I believe was published in the UK magazine Radio & Electronics
>>World about 20 years ago.
>>Can anyone help?

doh !!

I've had that article in a box for years (saved all my magazines), threw it out into the bin a few weeks ago in a big clear up.

Could have done you a scan ... sorry :(

Clive

1018. Re: Who Sells Mini-Circuits DBMs?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 09:05:34 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <7qp6jv4rn2caecdpfb1agigicjisu4ik3j@4ax.com>
Source record: 33535

>You can call Mini-Circuits at 800 654-7949. They do sell in small
>quantities. I've been meaning to order some of the
>ADE-5s for awhile.

I just phone mini-circuts up directly and order straight off them (here in the UK). They have a minimum order value of ï¿½25 though - but it's easy to reach that figure with a couple of devices.

Have you tried contacting them direct ? ... give them a ring.

Clive

1019. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 09:05:43 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ido6jvkh6igdh0r66mk0bfg7bub05estf5@4ax.com>
Source record: 33538
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 08 Aug 2003 03:29:47 GMT, Eric Immel <EI@no.spam.for.me>
wrote:

>Paul, are you asking if anyone has been killed, then revived?

That's pretty close to what I'm getting at. What I *am* actually get
at is that theoretical physicists are coming around to the rather
extraordinary view that one cannot from one's own perspective be
killed by any sudden and dramatic life event. No matter how bad the
shock, you will always 'come around' to find that you've survived. The
tricky bit is that you'll probably have found yourself in a different
reality to the one you left. In the one you've left, observers will
see your cold, dead, smoking body lying sparko on the ground. Your
relatives will grieve, your obituary will be written. But *you* won't
know anything of that. You'll just believe you've had a lucky escape;
you'll go home and tell your friends and family all about it and years
later maybe you'll tell others via the Internet. Sounds nuts?
Incredible as it may seem, the majority of physicists currently
working in this field now believe this to be the case! And we're
talking world-class theoreticians here, not just the kooks who post to
alt.sci.theories.

For further info, try Googling for the following:
Many Worlds theory
Max Tegel
Quantum suicide experiment
Quantum Theory of Imortality
David Deutsche
Schroedinger's Cat
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1020. connector question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 09:48:23 UTC
From: Christer Bergstrom <christer.bergstrom@adsum.pp.se>
Message-ID: <36r6jv4h5f1psr9spktukqc1fasbrq4co1@4ax.com>
Source record: 33536

dear Sirs
I am searching for a connector for connecting to an Bendix TR-641A Transponder, I have asked the present company in charge of Bendix avionics, but no response, maybe because it is an aprox. 30 year old device, so if anyone recognizes the connector, I will be most happy.

It is labelled: M1-18MLW-DM30-FSC
link to picture of connector:
http://w1.586.telia.com/~u58600152/connector/

--
best regards
Christer Bergstrom
Viker
Sweden

1021. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 09:56:21 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0308080156.6891c51b@posting.google.com>
Source record: 33537
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>...
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?

IIRR the usual way of ending up dead from an electric shock is to have had your heart go into fibrillation.

The usual treatment for fibrillation is 4kV across the chest - the heart is a chaotic oscillator, and a decent shock disrupts whatever trajectory it is following at the time, and the new one has a good chance of being a regular heart-beat, rather than the ineffectual squirm of fibrillation.

When I was young and working on phased array diagnostic ultrasound, we got a short lecture on cine angiography, which gives nicer pictures of the blood flow in the coronary arteries, but at the that time the contrast medium that they had to inject into the heart to make the blood flow visible wasnï¿½t exactly heart friendly - you got to see about three heart beats at the normal rate, then a period of thrashing around.

Apparently, this period of thrashing around progressed to fibrillation in about 3% of cases, and they could restore normal rythm in about 97% of these cases, which suggests that quite a few people have had electric shocks that could have killed them - about thirty time more than those that died.

At around that time the EMI body-scanner crew were trying to do stroboscopic X-ray tomography on the beating heart, and utterly failed - even when beating "regularly" the heart is still a chaotic oscillator, and no two heart-beats are exactly the same. Our cardiologist was quite rude about the ignorance of the basics involved in starting down that path in the first place.

Bill Sloman, Nijmegen

1022. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 10:21:30 UTC
From: A E <aeisenhut@videotron.ca>
Message-ID: <3F3379AA.D0174A8F@videotron.ca>
Source record: 33539
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Bob Lewis (AA4PB)" wrote:

> > I've seen someone get hold of 440 V 3 phase bus bars, one in each
> hand.
>
> Does that imply that he had three hands or did he just get hold of two
> phases of a 3-phase system? :-)

Maybe we don't want to know what was the third 'hand'....

1023. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 11:33:30 UTC
From: aa988@chebucto.ns.ca
Message-ID: <bh01q9$p7h$1@News.Dal.Ca>
Source record: 33540
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

A guy I was working with one time told me he had one when working as an
electrician. He was working in the bottom of a 500V distribution cabinet,
laying on his back on the floor, when he Touched The Wrong Thing.

His parter, working in a cabinet a few yards away, heard a noice, looked
over & saw this guy's feet bouncing around. The partner bashed the
disconnect & pulled him out of the cabinet.

No heart beat.

Dead.

Good thing the other electrician knew CPR or this guy would still be dead.

He's in the IT field now, for some reason he felt the need for a career
change.

Paul Burridge (redscar@waitrose.notformail.com)
wrote:

: The question seems daft, but bear with me, gentlemen. Has anyone ever
: had an electric shock that they feel lucky to have survived?

: p.
: --

: "I believe history will be kind to me, since I intend
: to write it." - Winston Churchill

--
Howard Eisenhauer on ************************************
* *
Chebucto Community Network * Can't think of anything cute *
Halifax Nova Scotia * to put in here *
* *
aa988@chebucto.ns.ca ************************************

1024. Re: matching transistors HOW????

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 11:46:22 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <nWGdnRTi8LbfEK6iXTWJjQ@comcast.com>
Source record: 33541

take a look at your power supply design cookbooks -- you will notice current balancing resistors on each of the transistors when they are paralleled.

if you purchase all of the transistors in one lot -- the MJ15003's come 100 to a package in a polyfoam container -- chances are they are going to line up pretty closely. if you are buying them randomly you can use a DMM with a transistor checker to measure beta. for current mirrors you measure beta and VBE, for MOSFETS you measure the VGS such that IDS = a specified current (100ma or 1 amp). International Rectifier has a section on their website on MOSFET measurement, but I haven't seen anything similar for BJT's from On-Semi or ST.

i spent a rainy afternoon "binning" transistors -- that is, I took a couple hundred MOSFETs and ran the VGS and Transconductance test, marked each unit (they were TO-247) and put the results in a spread sheet. From each "tube" of IRFP9240's the distributions were tight and normal. Transconductance was closely related (I also ran linear regression, r^2 was in the 90's) to Vgs(t).

i do have MJ15003's and MJ15004's from the same package, email me privately if you need them.

"bobinphx" <rbelisle1@cox.net> wrote in message
news:05CYa.40443$Ne.25582@fed1read03...
> To all,
> I am working with a DC motor that goes forward and reverse. The motor is
> controlled by a heat-sinked and fan cooled bank of 5 mj15003
transistors(5
> each forward and reverse). On occasion the motors build up a high amount
of
> copper on the armatures, from the brushes and this causes one of the 5
> transistors to heat up and fail. The manual and the manufacture suggest
> matched transistors. What is a matched transistor????? I am guessing that
> they are tested and all have similar characteristics. But what
> characteristics am I looking for?? especially in a DC motor control.
>
> Anyone have an answer for a semi technically literate person???? (i.e., I
> know the hot end of the soldering iron, from the cold end and have the
scare
> to prove it!!!)
>
> Thanks in advance....
>
> Bob in PHX
>

>
>

1025. Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 12:07:58 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bh03qu$t7vi6$1@ID-61331.news.uni-berlin.de>
Source record: 33543

Apologies in advance if this is considered OT.

I am having a minor problem with the display on my spectrum analyser Mk2 project, see http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/index.htm . The display for this analyser is an 4.5-inch ex-TV tube. I successfully dismantled that TV and rebuilt the necessary drivers etc as a miniature monitor having TTL-level video and composite sync inputs.

Naturally the type of display this tube is now being subjected to is very different to a TV picture. There seem to be some problems with the video drive circuits, see pictures at the bottom of the above web page. The graticule fades out in the top eighth of the screen. Also see the "noise floor" photo which shows significant horizontal "bulge".

Also there is a resolution problem - one spectrum analyser sweep consists of 640 measurements, and I have a complicated interpolation circuit which "joins the dots" i.e. draws lines between the individual measurements, and also reduces the horizontal resolution to 320 pixels which I hoped would be displayable on the monitor. Problem is I can only get 160 horizontal pixels to display reliably - at 320 pixels a vertical line is very faint or invisible (depending on how much white there was in the preceeding microsecond or so's worth of scan line.

The circuit diagram is also on that page (http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/circuitm .pdf). I'm no TV expert. Can anyone suggest what modifications should be made to the video driver circuit to correct these problems? Alternatively what newsgroup might be populated with TV gurus?

73

Hans G0UPL

1026. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 12:15:28 UTC
From: K Wind <kwind@news-server.neo.rr.com>
Message-ID: <AvMYa.63145$ib2.16684641@twister.neo.rr.com>
Source record: 33542
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?

Would 1,500VDC with 6mA capability flowing through one arm and out the other be considered lethal? At one time, I knew how much current was considered lethal, but have forgotten.

My first job was at a company that manufactured electrostatic voltmeters, high voltage power supplies and high voltage amplifiers. I worked in the test department and calibrated just about all of the products. Among various test equipment, I used a +/- 1000VDC power supply with 1mA current limit. I swear, every time I was shocked by that power supply, the current limit LED turned on.

Ken

>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

1027. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 12:35:18 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F339906.41EB1695@ob-wan.com>
Source record: 33460

Ian White, G3SEK wrote:
>
> Michael A. Terrell wrote:
> >
> > That looks like a common "liquid tight" bushing used to run a
> >flexible cable from an outdoor electrical box to a piece of machinery,
> >or an outdoor light using SJ or SJ-T type rubber jacketed cable. They
> >are available in plastic or machined aluminum from most electrical
> >distributors.
>
> I knew they had to exist in the USA, because the same thing needs to be
> done wherever in the world you go.
>
> So UK "cable gland" = US "liquid tight cable bushing"?
>
> As a final check, do the people behind the counter in the electrical
> distributors speak the same language?
>
> Please don't ask why they're called "glands" over here. I believe it's
> an old steam-age term for a part that looks rather similar... but it
> still doesn't say much for those old-time engineers' knowledge of
> anatomy.

The adjustable part of a stuffing box, actually. Comes from the French
word for acorn. No, it doesn't make much sense even when you _do_ look
at the etymology.

Rob

1028. Re: has anyone built an amp based on uPC1651G as shown on pg 137 of w1fb's qrp notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 13:40:11 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <bLNYa.26$sb3.88537@news.ntplx.net>
Source record: 33544

http://rf.rfglobalnet.com/library/ApplicationNotes/files/5/silicon.pdf

"10-4GoodBuddy" <10-4GoodBuddy@nowhere.net> wrote in message
news:20030807172410.074$CM@news.newsreader.com...
> If so can you point me to either a datasheet for the part, or some other
> referance about the part, or the amp.
>
>
> thanks
>
>

1029. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 13:48:16 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <_NCcnQzSmcO2N66iU-KYuQ@comcast.com>
Source record: 33545
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Randy,

Thanks for your response. The obvious thing you would like to do is to have the software be smart enough to distinguish between signal and noise. But then the hardware becomes moot, and you have invented a better DSP noise reduction circuit.

BTW, I am considering getting an ANC4 to get rid of power line noise on 6 meters. Fortunately, the noise is coming from the North, a very seldom used beam heading.

Tam/WB2TT

1030. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 13:55:28 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d4bacf0930147989b78@news.inreach.net>
Source record: 33546
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>,
redscar@waitrose.notformail.com mentioned...
>
> The question seems daft,

Yes, since the victim isn't going to be around to tell anyone.

> but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?

Bear with you, because you said one thing, but really meant another...

> p.
> --

I don't know about you, but getting shocked by 120VAC is bad enough,
so when you get zapped by 230VAC, it's a whole lot worse!

--
@@F@r@o@m@@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1031. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 13:55:57 UTC
From: Dave Holford <holford@sympatico.ca>
Message-ID: <3F33ABED.56135A4D@sympatico.ca>
Source record: 33449
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

> > > >Several people have and of course they are all dead.
> > >
> > > Well I don't believe the answer's that simple. I'll explain in due
> >
> > Yes it is. 'Fatal' doesn't have any slack in its definition. You could
> modify it
> > by adding 'near' as a prefix.
> >
> > > course, but would like to give a few others a chance to guess what I'm
> > > driving at (this isn't some sort of joke BTW).
> > > --
> > >

> but you can be clinicaly death and restarted can't you? so does fatal imply
> permenent death or can it be temporary?
> Pat

The original poster must be a journalist.

Our newspaper this morning has a story about two men who were
"Electrocuted" in an industrial accident. They were treated and released
from hospital!

Dave

1032. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:03:44 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d4d9e669aa584989b7a@news.inreach.net>
Source record: 33447
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <3f324cc8$1@cpns1.saic.com>, richard.p.henry@saic
mentioned...
>
> "Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message
> news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
> >
> > "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
> > news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
> > > 10KV to fire magnetron in counter battery radar. Took six marines to
> stop
> > > me from burying my screw driver in the chest of the asshole that thought
> > it
> > > would be cute to push the radiate button.
> >
> > I remember hearing the story of an Air Force tech working on a 30' radar
> > dish. For some dumb reason, someone energized it and promptly microwaved
> > him to death.
> >
> > Some of these stories are hair rasing... and I'm too much of a weenie to
> > stick my tongue on a 9V battery...
>
> A Raytheon corporate legend is that one of the engineers discovered the
> microwave oven principle when a radar melted a chocolate bar in his shirt
> pocket.

When I was in the army at Ft. Monmouth, NJ, we trained on a radar
trainer, had a klystron that put out 1W to the horn on the top of the
unit. We could put our finger over the horn and feel it get mildly
warm from the RF.

Big deal. The Real Thing put our 5 megawatts!

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html

@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1033. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:11:26 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d4f68d34e17d9989b7b@news.inreach.net>
Source record: 33448
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <401eed4d.0308072225.20397121@posting.google.com>,
HoldenCaulfield@att.net mentioned...
> "WB3FUP \(Mike Hall\)" <wb3fup@msn.com> wrote in message
news:<bgu54o$sici3$1@ID-134747.news.uni-berlin.de>...
>
> > 10KV to fire magnetron in counter battery radar. Took six marines to stop
> > me from burying my screw driver in the chest of the asshole that thought it
> > would be cute to push the radiate button.
> >
> > --
> > 73 es cul
> >
> > wb3fup
> > a Salty Bear
> >
>
> I got one of those from a marine corps radar system (TPS-22).
> We were supposed to use a metal grounding rod with wooden handle
> and chain to discharge the high voltage caps. I held onto the
> metal rod instead of the wooden handle. The thing was off at
> the time, but the caps were probably at 10KV and it knocked
> me across the room.
>
> -Bill

I think the most hair raising for me was when I was measuring the CRT
Ultor voltage with a Heathkit HV probe and the ground lead alligator
clip snapped loose. The hair on my arms started to literally raise!

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1034. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:11:48 UTC
From: Dave Shrader <david.shrader@comcast.net>
Message-ID: <EcOYa.65732$lt4.35429@rwcrnsc51.ops.asp.att.net>
Source record: 33450
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

My ANC-4 is sitting on top of the ICOM 746. I have a short piece of coax, 7 to 8 feet, to a doublet with a total length of 8 feet on the floor against an outside wall.

Works Great!

I've used the ANC-4 for almost two years. While in Massachusetts the QTH was 100 meters from the New England Power Grid with three sets of high tension [> 67,000 volts] three phase power lines [nine wires total]. The power lines were generally quite quiet but during summer humidity and/or thunderstorms they would get 'noisy'. The ANC-4 reduced the noise to S1 typical levels.

Here in New Hampshire, my local noise source is the local LAN where the router is four feet from my receiver. Similar results with the ANC-4.

BTW, it was given to me as a gift by W1KSZ who picked it up on e-bay for about $60.00. Thanks many times over, Dick.

DD, W1MCE
+ + +

Tarmo Tammaru wrote:

> Randy,
>
> Thanks for your response. The obvious thing you would like to do is to have
> the software be smart enough to distinguish between signal and noise. But
> then the hardware becomes moot, and you have invented a better DSP noise
> reduction circuit.
>
> BTW, I am considering getting an ANC4 to get rid of power line noise on 6
> meters. Fortunately, the noise is coming from the North, a very seldom used
> beam heading.
>
> Tam/WB2TT
>
>

1035. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:14:12 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bh0b7khpc1@freenet9.carleton.ca>
Source record: 33451

```
"Ian Buckner" (Ian_Buckner@agilent.com) writes:
> "Boris Mohar" <borism@sympatico.ca> wrote in message
> news:4kd5jv8vag4flckvt8gdrt7sgra2a89sm4@4ax.com...
>> On Thu, 7 Aug 2003 08:05:50 -0700, "RP Henry" <richard.p.henry@saic
> dot
>> com> wrote:
>>
>> >
>> >"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
>> >news:bgtmgm$d9s$1@freenet9.carleton.ca...
>> >> Winfield Hill (whill@picovolt.com) writes:
>> >> > Paul Burridge wrote...
>> >> >>
>> >> >> The question seems daft, but bear with me, gentlemen. Has
> anyone
>> >> >> ever had an electric shock that they feel lucky to have
> survived?
>> >> >
>> >> > I've had a few fatal shocks.
>> >> >
>> >> > Thanks,
>> >> > - Win
>> >> >
>> >>
>> >> You sound in especially good shape for someone who's suffered
> multiple
>> >> fatal shocks.
>> >
>> >That explains the hair.
>> >
>>
>> He is a cat.
>>
>> --
>>
>> Regards,
>>
>> Boris Mohar
>>
>> Got Knock? - see:
>> Viatrack Printed Circuit Designs http://www3.sympatico.ca/borism/
>> Aurora, Ontario
>>
>>
```

> Win just haunts this newsgroup.
>
> Regards
> Ian
>
> ;-)
>
So you're saying he's sort of an Obi-Wan Kenobi type? "Use
the grounding strap Luke".

Michael

1036. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:26:09 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d52d9a2469392989b7d@news.inreach.net>
Source record: 33452
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <3F328292.E6A6A404@videotron.ca>, aeisenhut@videotron.ca
mentioned...
> Paul Burridge wrote:
>
> > On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
> > <leckfamXXnospamXX@attglobal.net> wrote:
> >
> > >Several people have and of course they are all dead.
> >
> > Well I don't believe the answer's that simple. I'll explain in due
>
> Yes it is. 'Fatal' doesn't have any slack in its definition. You could modify it
> by adding 'near' as a prefix.

I agree. He said one thing, but meant another. Snot what you think!

Answer this question:

Q: Twenty years ago, a plane is flying at 20,000 feet over Germany. If
you will recall, Germany at the time was politically divided into West
Germany and East Germany. Anyway, during the flight, TWO of the
engines fail. The pilot, realizing that the last remaining engine is
also failing, decides on a crash landing. Unfortunately, the engine
fails before he has time and the plane crashes smack in the middle of
"no-man's-land" between East Germany and West Germany. Where would you
bury the survivors - East Germany or West Germany or in "no-man's-
land?"

DOH!

For the answer, and other similar Qs, see
http://dailyfunnies.org/archives/000637.html

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html

@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1037. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:31:22 UTC
From: A E <aeisenhut@videotron.ca>
Message-ID: <3F33B43A.EFCBAAC1@videotron.ca>
Source record: 33453
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Watson A.Name - 'Watt Sun'" wrote:

> In article <3F328292.E6A6A404@videotron.ca>, aeisenhut@videotron.ca
> mentioned...
> > Paul Burridge wrote:
> >
> > > On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
> > > <leckfamXXnospamXX@attglobal.net> wrote:
> > >
> > > >Several people have and of course they are all dead.
> > >
> > > Well I don't believe the answer's that simple. I'll explain in due
> >
> > Yes it is. 'Fatal' doesn't have any slack in its definition. You could modify it
> > by adding 'near' as a prefix.
>
> I agree. He said one thing, but meant another. Snot what you think!
>
> Answer this question:
>
> Q: Twenty years ago, a plane is flying at 20,000 feet over Germany. If
> you will recall, Germany at the time was politically divided into West
> Germany and East Germany. Anyway, during the flight, TWO of the
> engines fail. The pilot, realizing that the last remaining engine is
> also failing, decides on a crash landing. Unfortunately, the engine
> fails before he has time and the plane crashes smack in the middle of
> "no-man's-land" between East Germany and West Germany. Where would you
> bury the survivors - East Germany or West Germany or in "no-man's-
> land?"
>
> DOH!
>

Wouldn't they complain?

1038. Re: connector question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:36:10 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.199d55336831c0e29899b7@192.168.42.131>
Source record: 33454

In article <36r6jv4h5f1psr9spktukqc1fasbrq4co1@4ax.com>, Christer Bergstrom says...

> dear Sirs
> I am searching for a connector for connecting to an Bendix TR-641A
> Transponder, I have asked the present company in charge of Bendix
> avionics, but no response, maybe because it is an aprox. 30 year old
> device, so if anyone recognizes the connector, I will be most happy.

I do. That particular style is also known as a "Winchester" connector, primarily from its use on early mainframe and minicomputer disk drive units (the big ones that look like small washing machines).

I've printed a picture of the unit to show my wholesaler. I don't think they'll have any problem finding a mate for it. I'll get back to you with a quote as soon as I have some numbers.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

1039. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:42:09 UTC
From: Ralph Naylor <ranaylor@NOSPAMadelphia.net>
Message-ID: <5FOYa.11102$jg.3457174@news1.news.adelphia.net>
Source record: 33456
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
Yep, made me a believer in GFCIs, which weren't around when this happened.
My folks had just gotten a new hedge clipper, and their idiot son decided to
have at a shrub one morning. Plugged it in, walked out barefoot on the
still-damp grass. Began sculpting and promptly cut through the extension
cord, which jammed in the blades. My muscles locked up and I couldn't drop
it. After a few seconds of this I fell over, making even better contact
with the ground. I finally managed to grab the plastic side handle with my
other hand and pull it free. Whew.... Every part of my body hurt, I went
back to bed for the rest of the day.

Then there's the incident with the soldering iron and the ten automotive
batteries in series, but I didn't get a jolt from that ;-)

Regards,
Ralph in NH

1040. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:45:19 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d5759715d2585989b7e@news.inreach.net>
Source record: 33455
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <bguajl$7rk$1@nrc-news.nrc.ca>, pat.ford@nrc.ca
mentioned...
>
> "A E" <aeisenhut@videotron.ca> wrote in message
> news:3F328292.E6A6A404@videotron.ca...
> > Paul Burridge wrote:
> >
> > > On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
> > > <leckfamXXnospamXX@attglobal.net> wrote:
> > >
> > > >Several people have and of course they are all dead.
> > >
> > > Well I don't believe the answer's that simple. I'll explain in due
> >
> > Yes it is. 'Fatal' doesn't have any slack in its definition. You could
> modify it
> > by adding 'near' as a prefix.
> >
> > > course, but would like to give a few others a chance to guess what I'm
> > > driving at (this isn't some sort of joke BTW).
> > > --

> but you can be clinicaly death and restarted can't you? so does fatal imply
> permenent death or can it be temporary?
> Pat

Fatal is fatal. You're brain dead, which is the definition of death.
If you have a near-death experience, then that's when you can live to
tell about it.

"He's dead, Jim."

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html

@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1041. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:48:18 UTC
From: Tom Sevart <n2uhcNOSPAM@yahoo.com>
Message-ID: <bh0d48$t3tvc$1@ID-52518.news.uni-berlin.de>
Source record: 33458
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com> wrote in message
news:MPG.199d52d9a2469392989b7d@news.inreach.net...
>
> Q: Twenty years ago, a plane is flying at 20,000 feet over Germany. If
> you will recall, Germany at the time was politically divided into West
> Germany and East Germany. Anyway, during the flight, TWO of the
> engines fail. The pilot, realizing that the last remaining engine is
> also failing, decides on a crash landing. Unfortunately, the engine
> fails before he has time and the plane crashes smack in the middle of
> "no-man's-land" between East Germany and West Germany. Where would you
> bury the survivors - East Germany or West Germany or in "no-man's-
> land?"

Actually, he shouldn't have been flying so close to the border. There was a
buffer zone between East & West Germany at the time and pilots were aware of
it. I think it was around 10 or 20 miles or so.

And I think burying survivors would be a violation of their rights.

--
Tom Sevart N2UHC
Frontenac, KS

http://www.geocities.com/n2uhc

1042. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:49:22 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d58503b7caf87989b80@news.inreach.net>
Source record: 33457
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <bgtlsqdvd1$8300dec7@news.demon.co.uk>,
root@mauve.demon.co.uk mentioned...
> In sci.electronics.design Harris <leckfamXXnospamXX@attglobal.net> wrote:
> > Several people have and of course they are all dead.
>
>
> Well, you can have shocks that would cause death if left untreated.
> As some people get treated, they get to experience it all, apart from
> actually getting planted.

That's near-death. There _is_ a difference.

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1043. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 14:58:13 UTC
From: RP Henry <richard.p.henry@saic>
Message-ID: <3f335815$1@cpns1.saic.com>
Source record: 33459
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com> wrote in message
news:MPG.199d52d9a2469392989b7d@news.inreach.net...

> Q: Twenty years ago, a plane is flying at 20,000 feet over Germany. If
> you will recall, Germany at the time was politically divided into West
> Germany and East Germany. Anyway, during the flight, TWO of the
> engines fail. The pilot, realizing that the last remaining engine is
> also failing, decides on a crash landing. Unfortunately, the engine
> fails before he has time and the plane crashes smack in the middle of
> "no-man's-land" between East Germany and West Germany. Where would you
> bury the survivors - East Germany or West Germany or in "no-man's-
> land?"

Since it was 20 years ago, some of the survivors might be dead by now, so
the joke loses a little of its punch.

1044. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:12:50 UTC
From: Bibby <m.bibby@comcast.net>
Message-ID: <S5PYa.98182$YN5.69429@sccrnsc01>
Source record: 33461
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

More likely a lawyer trolling for business.

Malcolm

"Dave Holford" <holford@sympatico.ca> wrote in message
news:3F33ABED.56135A4D@sympatico.ca...
>
> > > > >Several people have and of course they are all dead.
> > > > >
> > > > > Well I don't believe the answer's that simple. I'll explain in due
> > > >
> > > > Yes it is. 'Fatal' doesn't have any slack in its definition. You could
> > modify it
> > > > by adding 'near' as a prefix.
> > > >
> > > > > course, but would like to give a few others a chance to guess what
I'm
> > > > > driving at (this isn't some sort of joke BTW).
> > > > > --
> > > > >
> >
> > but you can be clinicaly death and restarted can't you? so does fatal
imply
> > permenent death or can it be temporary?
> > Pat
> >
> >
> The original poster must be a journalist.
>
> Our newspaper this morning has a story about two men who were
> "Electrocuted" in an industrial accident. They were treated and released
> from hospital!
>
> Dave

1045. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:17:00 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bh0ib2$9li$1@bob.news.rcn.net>
Source record: 33465

<c.a.m@antijunk3.blueyonder.co.uk> wrote in message
news:goj2ivso3b7sfd2e52acherjn18bl0t273@4ax.com...
>
> >Yes the 995x has a 4 to 20 multiplyer, but this increase the jitter on
the
> >output frequnce, therefore i prefere an 400MHz precition osc. if it is
> >possible to find it.
>
> One way would be to have a VCO and simple 8-pin PLL I guess clocking the
chip ?
>
> Your going to be hard pushed to find an XTAL block with a 400MHz output.
>
> Some of the older Pentium mother boards used to use an XTAL and a chip to
> generate the main hundred-odd MHz clock, not sure what the chips where
though.

I've used such multiplier chips to go from 10 to 60 MHz, for example. Look
carefully at the jitter specs. You won't like them.

During his talk on the Software Defined Radio at the recent Central States
VHF Conference, Gerry Youngblood mentioned that they avoid programming the
9954 to certain frequencies in order to reduce the worst spurs.

Those operating frequencies are achieved by slight changes in the software
and setting the 9954 to a "good" nearby frequency.

No details were given and I didn't get around to asking for the details.
Does AD give hints?

1046. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:18:38 UTC
From: Alex Gibson <alxx@ihug.com.au>
Message-ID: <bh0enu$fl6$1@lust.ihug.co.nz>
Source record: 33462
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>

One of the guys on a maintenance crew I was on in a previous job
and was doing testing with managed to get a nice 415vac 400Hz
across the chest.

Doing testing in mec relay panel the relays were in the back of the panel / box and
the doors are where all the circuit breakers are mounted.
remeber he made contact with the uncovered terminal of a transformer.

I was working with him as well as a few others, activating sensors(sticking a spanner in
front etc)
and he was confirming the right voltages were being recieved to activate relays etc.
Just heard a loud shout over the intercom and we all went running.

He was lucky he didn't get throw by it as he could have fallen about
10 foot on to the tarmac.

Just stunned at the time. Had to take him for a ecg afterwards
standard precaution. No problems at the time.

But his health seemed to deteriate after that.
Maybe it triggered an existing condition.
Six months later he suffered a heart attack.

From my own experiance, rf burns hurt more than
standard 50Hz ac or dc shocks even though I would have to
rate car iginition systems a close second.

Alex

1047. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:28:46 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <epe7jv4b6u3oq7qhonn47rj57mdj903j72@4ax.com>
Source record: 33466
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 8 Aug 2003 07:58:13 -0700, "RP Henry" <richard.p.henry@saic
dot com> wrote:

>
>"Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com> wrote in message
>news:MPG.199d52d9a2469392989b7d@news.inreach.net...
>
>> Q: Twenty years ago, a plane is flying at 20,000 feet over Germany. If
>> you will recall, Germany at the time was politically divided into West
>> Germany and East Germany. Anyway, during the flight, TWO of the
>> engines fail. The pilot, realizing that the last remaining engine is
>> also failing, decides on a crash landing. Unfortunately, the engine
>> fails before he has time and the plane crashes smack in the middle of
>> "no-man's-land" between East Germany and West Germany. Where would you
>> bury the survivors - East Germany or West Germany or in "no-man's-
>> land?"
>
>Since it was 20 years ago, some of the survivors might be dead by now, so
>the joke loses a little of its punch.

Even more when you first heard it 20 years *before* the supposed
incident. :-)
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1048. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:28:47 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <0ff7jvo3f4daenaulq4vd109mrv93fe7nc@4ax.com>
Source record: 33467
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 9 Aug 2003 01:18:38 +1000, "Alex Gibson" <alxx@ihug.com.au>
wrote:

>From my own experiance, rf burns hurt more than
>standard 50Hz ac or dc shocks even though I would have to
>rate car iginition systems a close second.

I think I may have experienced rf burns some years ago. Is this when
you touch a metal object close to an rf field; it feels thermally
hot enough to burn you, but when the field is killed, said object
instantly feels normal room temperature again?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1049. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:28:49 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <6lf7jvsfa7fpjsup1m26od3bskegpnus0s@4ax.com>
Source record: 33468
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 8 Aug 2003 06:55:28 -0700, Watson A.Name - 'Watt Sun'
<alondra101@hotmail.com> wrote:

>In article <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>,
>redscar@waitrose.notformail.com mentioned...
>>
>> The question seems daft,
>
>Yes, since the victim isn't going to be around to tell anyone.
>
>> but bear with me, gentlemen. Has anyone ever
>> had an electric shock that they feel lucky to have survived?
>
>Bear with you, because you said one thing, but really meant another...

I think you've misunderstood. See my reply to Eric Immel.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1050. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:40:26 UTC
From: Alex Gibson <alxx@ihug.com.au>
Message-ID: <bh0g7b$gd9$1@lust.ihug.co.nz>
Source record: 33463
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
news:ido6jvkh6igdh0r66mk0bfg7bub05estf5@4ax.com...
> On Fri, 08 Aug 2003 03:29:47 GMT, Eric Immel <EI@no.spam.for.me>
> wrote:
>
> >Paul, are you asking if anyone has been killed, then revived?
>
> That's pretty close to what I'm getting at. What I *am* actually get
> at is that theoretical physicists are coming around to the rather
> extraordinary view that one cannot from one's own perspective be
> killed by any sudden and dramatic life event. No matter how bad the
> shock, you will always 'come around' to find that you've survived. The
> tricky bit is that you'll probably have found yourself in a different
> reality to the one you left. In the one you've left, observers will
> see your cold, dead, smoking body lying sparko on the ground. Your
> relatives will grieve, your obituary will be written. But *you* won't
> know anything of that. You'll just believe you've had a lucky escape;
> you'll go home and tell your friends and family all about it and years
> later maybe you'll tell others via the Internet. Sounds nuts?
> Incredible as it may seem, the majority of physicists currently
> working in this field now believe this to be the case! And we're
> talking world-class theoreticians here, not just the kooks who post to
> alt.sci.theories.
>
> For further info, try Googling for the following:
> Many Worlds theory
> Max Tegel
> Quantum suicide experiment
> Quantum Theory of Imortality
> David Deutsche
> Schroedinger's Cat

Are yes, the multiverse people.

I think David Deutsche still has his page up on qubits.org

Alex

1051. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 15:52:03 UTC
From: Spehro Pefhany <speff@interlog.com>
Message-ID: <4oh7jvgn1f8ld6jhcuvnhjk8avqhlvvcn0@4ax.com>
Source record: 33464
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 08 Aug 2003 10:05:43 +0100, the renowned Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>That's pretty close to what I'm getting at. What I *am* actually get
>at is that theoretical physicists are coming around to the rather
>extraordinary view that one cannot from one's own perspective be
>killed by any sudden and dramatic life event. No matter how bad the
>shock, you will always 'come around' to find that you've survived. The
>tricky bit is that you'll probably have found yourself in a different
>reality to the one you left. In the one you've left, observers will
>see your cold, dead, smoking body lying sparko on the ground. Your
>relatives will grieve, your obituary will be written. But *you* won't
>know anything of that. You'll just believe you've had a lucky escape;
>you'll go home and tell your friends and family all about it and years
>later maybe you'll tell others via the Internet.

Does that mean that my smoking/exploding MOSFETs have narrowly
survived their "both sides of the half-bridge on" event in some
parallel universe? How about my dog who got runned over (sic) when I
was 12? Is he happily chasing various critters somewhere?

Best regards,
Spehro Pefhany
--
"it's the network..." "The Journey is the reward"
speff@interlog.com Info for manufacturers: http://www.trexon.com
Embedded software/hardware/analog Info for designers: http://www.speff.com

1052. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 16:44:00 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <kik7jvk8flfejeci3q0rqlrpl4e7bodh2j@4ax.com>
Source record: 33469
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 9 Aug 2003 01:18:38 +1000, "Alex Gibson" <alxx@ihug.com.au>
wrote:

>Just stunned at the time. Had to take him for a ecg afterwards
>standard precaution. No problems at the time.
>
>But his health seemed to deteriate after that.
>Maybe it triggered an existing condition.
>Six months later he suffered a heart attack.
>
An immediate EKG may not have shown anything, but a follow-up by a
cardiologist might have shown problems.

>From my own experiance, rf burns hurt more than
>standard 50Hz ac or dc shocks even though I would have to
>rate car iginition systems a close second.
>
RF frequency burns are nastier than DC or low frequency, and are much
more disruptive to the body's electrical/nervous system.

They can also burn internally, with little outward burn shown.

A co-worker some years ago was sloppy, and put a few hundred watts of
RF through his hand. Nasty burn which took a very long time to heal.
Over 15 years, but I bet he still has a scar.

My advice is to avoid zapping anything you can't buy at the parts
store.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1053. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 17:12:30 UTC
From: ray_psi@yahoo.com
Message-ID: <5205c684.0308080912.44a82397@posting.google.com>
Source record: 33470

Floyd Davidson <floyd@barrow.com> wrote in message news:<874r0sx5wh.fld@barrow.com>...
> ray_psi@yahoo.com (ray) wrote:
> >Pray tell us how you arrived at this statement whioh I remind you is a
> >matter of public record. Are you saying 2=10*10/20? 'cause that sure
> >the heck looks like what you said in the following:
> >>
> >> On the other hand, if an amplifier rated to deliver only 2 watts
> >> into 20 Ohms is used... that too will deliver 10 volts, also at
> >> a miniscule power level into a 70K Ohm load, and work just fine.

Where's your 10 volts coming from? That is what you left out. You
never say what "THAT" is. As in "that too" in the sentence above
posted by you.

> The statement is correct. When you read what I posted and
> understand it, the statement then makes sense.
>
> >But hey I haven't paid my, syntaz lately. You missed the error in your
> >first post then you failed to correct it in your response. But yet you
>
> It isn't an error. It is correct. As it says, an amplifier
> rated to deliver only 2 watts into a 20 Ohm load can deliver 10
> volts, at a miniscule power level, into a 70K Ohm load.
>
> >agreed that it takes 5 watts into a 20 ohm load to provide 10 volts.
> >How touching.
>
> Howe

ver, the above does *not* say that it will deliver 10 volts
> with a 20 Ohm load. It says that it can deliver 10 volts with a
> 70K Ohm load.
>
> In fact any amp that can deliver 0.0014 watts or more can
> deliver 10 volts to a 70K Ohm load.
>
> If you want me to explain it again, using different words, I
> can. You probably will need an slight attitude adjustment to
> really learn it though... ;-)

1054. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 17:14:41 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <O66cneyeEL0WR66iXTWJhQ@comcast.com>
Source record: 33471
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Dave,

Thanks for the info. In my case, the source seems to be a bank of 4 transformers on a pole about 300 feet away. Weirdest thing I had was S9 white noise from about 40 to 55 MHz with about 50% amplitude modulation at around 50 KHz. Turned out to be a 60 amp cartridge fuse in my fuse box about to go bad. I think the 50 KHz was a mechanical resonance in the fuse.

I don't know about the 746, but my 756 has dual watch capability, which lets you listen to two frequencies at the same time. It would be interesting if they would let you vary the phase of the secondary channel..

Tam/WB2TT
"Dave Shrader" <david.shrader@comcast.net> wrote in message news:EcOYa.65732$It4.35429@rwcrnsc51.ops.asp.att.net...
> My ANC-4 is sitting on top of the ICOM 746. I have a short piece of
> coax, 7 to 8 feet, to a doublet with a total length of 8 feet on the
> floor against an outside wall.
>
> Works Great!
>
> I've used the ANC-4 for almost two years. While in Massachusetts the QTH
> was 100 meters from the New England Power Grid with three sets of high
> tension [> 67,000 volts] three phase power lines [nine wires total].
> The power lines were generally quite quiet but during summer humidity
> and/or thunderstorms they would get 'noisy'. The ANC-4 reduced the noise
> to S1 typical levels.
>
> Here in New Hampshire, my local noise source is the local LAN where the
> router is four feet from my receiver. Similar results with the ANC-4.
>
> BTW, it was given to me as a gift by W1KSZ who picked it up on e-bay for
> about $60.00. Thanks many times over, Dick.
>
> DD, W1MCE

1055. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 17:31:25 UTC
From: Jerry Avins <jya@ieee.org>
Message-ID: <3F33DE6D.F02314ED@ieee.org>
Source record: 33472
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Tarmo Tammaru wrote:
>
> Dave,
>
> Thanks for the info. In my case, the source seems to be a bank of 4
> transformers on a pole about 300 feet away. Weirdest thing I had was S9
> white noise from about 40 to 55 MHz with about 50% amplitude modulation at
> around 50 KHz. Turned out to be a 60 amp cartridge fuse in my fuse box about
> to go bad. I think the 50 KHz was a mechanical resonance in the fuse.
>
...

There are lots of weird noise sources. As a kid in the 40s, I was part of a family visit to an old farm west of Bethlehem Pa., in what was definitely "fringe area" TV reception. The man of the house was telling my father about the strong zig-zag pattern that sometimes showed up on the screen, blanking out the video and often lousing up vertical synch. He wanted to know if the FCC would track down the interference; he thought it was a ham about half a mile away. Just then, the interference started, and right after, his son came downstairs to join us. A little while later, his daughter went upstairs, and the interference cleared when she got to the top. Without saying anything, I went over to the stairway switch and turned it on and off a few times. "On" caused the interference. When we swapped the bulb with one in a floor lamp, the floor lamp caused the same interference. It has been one of my enduring regrets that I didn't ask to keep the bulb. It was probably thrown out.

Jerry
--
Engineering is the art of making what you want from things you can get.
ï¿½
ï¿½
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1056. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 17:39:11 UTC
From: Oscar <oscar@nospam.com>
Message-ID: <3F33E03C.B3061A5D@nospam.com>
Source record: 33473

Any Home Depot or Lowes will have these, two to a bag under $ 2.00
At HD they are in the same aisle with the romex clamps and all emt/rigid
fittings.

m wrote...

We call them cord grips at work. Pipe thread on one side, and a
compression gasket arrangement on the other. Available in metal or
plastic. Thomas&Betts and Hubbell are a couple of the brands we use.
They provide strain relief and a water tight seal to cords coming in
and out of electrical panels.

1057. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 18:05:24 UTC
From: Oscar <oscar@nospam.com>
Message-ID: <3F33E662.F77AC823@nospam.com>
Source record: 33474

here is a link for photo of a jbox you will never have to replace !

http://www.carlon.com/Brochures/2B10-6P_Rated_JunctionBoxes.pdf

Available at any home depot in electrical dept. under $ 20
depending on the size you need. You can drill it to accept
the weathertight strain relief that another poster recommended.

regards.

Roy wrote:

> For years I've had a relay box in the back yard to remotely switch among
> antennas. The plastic freezer boxes I used deteriorate in the sun and
> have to be replaced from time to time. Last time I was at the surplus
> store I picked up an ammo box which will be the new home for the relays.
> I plan on using N connectors for the RF due to their weatherproof
> construction. The problem is a connector for the relay control cable. I
> want a weatherproof bulkhead connector with at least 8 or 9 conductors,
> and I'd like the cable part to be weatherproof also. I don't want to use
> an in-line connector because of the problems of weatherproofing and
> strain relieving wires going through the box wall.
>
> There are a bunch of old military connectors that would be fine, but I
> need a set of complete ones, with back shell for the cable end, etc.
> I've been keeping an eye on eBay, but so far haven't spotted anything
> quite right.
>
> Does anyone know a source for a suitable connector set?
>
> Roy Lewallen, W7EL

1058. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 18:18:07 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.199d892fc693e11e98969c@news-central.giganews.com>
Source record: 33475

In article <bh03qu$t7vi6$1@ID-61331.news.uni-berlin.de>,
Hans.Summers@Tudor.Com says...
>
> The circuit diagram is also on that page
> (http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/circuitm
> .pdf). I'm no TV expert. Can anyone suggest what modifications should be
> made to the video driver circuit to correct these problems? Alternatively
> what newsgroup might be populated with TV gurus?

I'd check with the sci.electronics.repair denizens on this. They are
the undisputed video gurus of Usenet.

I imagine that it all comes down to bandwidth. Low video bandwidth will
translate directly into dim and/or smeary details. You may need to look
for some video-driver components that are expressly designed for
computer monitors (or oscilloscopes), rather than TV sets. Maybe it's
time to cannibalize an old IBM PC monochrome monitor?

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1059. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 18:18:44 UTC
From: chris54321@hotmail.com
Message-ID: <ZEKdnSOEt8AZdK6iXTWJhg@dls.net>
Source record: 33476
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>, pb@osiris1.notthisbit.co.uk wrote:
>
>The question seems daft, but bear with me, gentlemen. Has anyone ever
>had an electric shock that they feel lucky to have survived?

I got 6000V from a Neon transformer once. Ouch! Only rated at 7ma, though.
The new one I got does 12000V at 15ma. I'm alot more careful now.

Chris

1060. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 18:20:37 UTC
From: chris54321@hotmail.com
Message-ID: <ZEKdnSKEt8BrdK6iXTWJhg@dls.net>
Source record: 33477
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <3F331DE0.50D1AEF9@earthlink.net>, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

> I find that very interesting, since every chocolate bar I have ever
>had was wrapped in aluminum foil.

I always thought it was just shiny paper. There's not much Aluminum there,
if any.

Chris

1061. Re: am transmitter help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 18:27:18 UTC
From: Floyd Davidson <floyd@barrow.com>
Message-ID: <87llu4romx.fld@barrow.com>
Source record: 33478

ray_psi@yahoo.com (ray) wrote:
>Floyd Davidson <floyd@barrow.com> wrote in message news:<874r0sx5wh.fld@barrow.com>...
>> ray_psi@yahoo.com (ray) wrote:
>> >Pray tell us how you arrived at this statement whioh I remind you is a
>> >matter of public record. Are you saying 2=10*10/20? 'cause that sure
>> >the heck looks like what you said in the following:
>> >>
>> >> On the other hand, if an amplifier rated to deliver only 2 watts
>> >> into 20 Ohms is used... that too will deliver 10 volts, also at
>> >> a miniscule power level into a 70K Ohm load, and work just fine.
>>
>>
>Where's your 10 volts coming from? That is what you left out. You
>never say what "THAT" is. As in "that too" in the sentence above
>posted by you.

I went into a *lot* of detail about how to get any voltage you want.

--
Floyd L. Davidson <http://web.newsguy.com/floyd_davidson>
Ukpeagvik (Barrow, Alaska) floyd@barrow.com

1062. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 18:36:54 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d8da5d9b044ce989b81@news.inreach.net>
Source record: 33479
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <oGrYa.19242$bo1.16996@news-server.bigpond.net.au>,
leckfamXXnospamXX@attglobal.net mentioned...
> Several people have and of course they are all dead.

The more I read that subject line, the more I think it's so
ridiculously silly. So I saved the OP with the title
"StupidQuestionOfTheWeek". :-)

> "Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
> news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
> >
> > The question seems daft, but bear with me, gentlemen. Has anyone ever
> > had an electric shock that they feel lucky to have survived?
> >
> > p.
> > --

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1063. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 18:45:25 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199d8f9e52506d8c989b82@news.inreach.net>
Source record: 33480
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <j5qcnT8vdZQFUa-iXTWJkw@comcast.com>, tecoates@comcast.net
mentioned...
> A former member of the Air Force told me about a safety training video
> narrated by a transmitter tech who did not observe *all* the procedures. He
> survived to make the video, but as a double amputee.
>
> I was told that this training video was part of the curriculum for so many
> years that the principal character became somewhat of a celebrity. Perhaps
> someone with more direct knowledge can add or correct the details.
>
> Tom, N3IJ

Well, that's a helluva way to become a celebrity! But on
observation, the amputee must've been a DOD civilian, because he
couldn't have remained in the AF without his legs. Or whatever was
amputated. Or maybe he did the narration after he had recovered and
was discharged.

> "Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
> news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
> >
> > The question seems daft, but bear with me, gentlemen. Has anyone ever
> > had an electric shock that they feel lucky to have survived?
> >
> > p.

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1064. Motorola Advisor Pager

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 19:29:40 UTC
From: Colin Lowe <colinloweRE_MOVE_ME@jet.es>
Message-ID: <SWSYa.2368$w4.1432162@news-reader.eresmas.com>
Source record: 33481

Hi all,
I�m looking for tune-up info for a VHF Motorola Advisor Pocsag Pager.

I have booought a new Xtal and installed it and I can now send a message to the pager on 145.275 MHz using my Kantronics KPC9612 TNC. However the pager was originally on 153MHz and rather than just swop the Xtal I need to tweak up the receiver a little as I�m sure it will be deaf.

So if you have any tune-up info for a VHF Motorola Advisor I would like to hear from you.

I�m also looking for a Motorola Advisor or a NEC Provider with a highband receive board (171.325 MHz) for another project. If you have one keeping around the shack let me know how much you want for it.

Regards Colin

***** As usual remove the "RE_MOVE_ME" from my address *****

1065. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 20:38:04 UTC
From: Theo <theodore.twyler@ntlworld.com>
Message-ID: <MSTYa.1227$rQ.455218@newsfep1-win.server.ntli.net>
Source record: 33482
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

No, but I have been cured of AIDS, just got a set
of spark plugs for my Diesel lorry and a couple of
skyhooks to hold up my HF dipole!

Theo

1066. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 20:42:38 UTC
From: Charles Edmondson <edmondson.ns@ieee.nw.org.invalid>
Message-ID: <3f340b3f$1@news.cadence.com>
Source record: 33483
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Eric in the Evening wrote:

>Haven't read all the posts yet, but...Way back in high school ('bout 65-66),
>I was working on a TV set in electronics shop. I was in the back room, by
>myself, and had just turned it off. I was following all safety procedures,
>one hand to my side, other hand on the insulated screwdriver, prying off the
>25Kv lead to the picture tube. Well we didn't know that the "decorative"
>metal railing of the work bench was grounded. My hand slipped off of the
>insulation onto the metal shaft off the screwdriver and I was leaning
>against the workbench. Next thing I remember was that I was flat on my back,
>with my head in the doorway, six feet from workbench. All the class were
>gathered around the teacher who said "My God! He's alive!" Turns out, they
>had heard the discharge (through me), and I had been out for at least 3-5
>minutes. So I guess you could say I survived a "fatal" shock.
>
>Years later, in the phone company, while reaching through some equipment to
>get a wire being passed to me, my forehead touch the +400V and my wrist
>touched a -400V of a telegraph (yes, telegraph) circuit. Didn't knock me out
>but it sure stung.....
>
>Eric KA6USJ
>
>
>
As for telco shocks...

Wasn't fatal, but sure was painful! Working in the Palm Desert, CA.
central office frame. The temperature is probably only 85-90, but still
had a healthy coating of sweat on my arm, and was reaching through the
frame when my arm rested on the wire wrap pins and someone hit it with
ring current! Zap, my arm jerks up, hits the wire wrap pins on the
block above, and someone hits IT with ringvoltage! Zap, my arm jerks
DOWN, hits the pins below just as another jolt of ring current...

Did this about three times! Arm was sore for a week, and my coworkers
didn't stop laughing for an hour!

Charlie
Edmondson Engineering
Unique Solutions to Unusual Problems

1067. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 20:52:55 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bh12j7jlm1@titan.btinternet.com>
Source record: 33484

> Regenerative detectors are at their best when they are rather
> tightly coupled to antennas that are electrically short.
==========

What gave you that idea?

Reg

1068. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 21:01:16 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F340F9C.6000409@hotmail.com>
Source record: 33485

GFCI?

Tom Bruhns wrote:
> Gary Cavie <m0jjh@despammed.com> wrote in message
news:<MPG.199c55417df5676989686@news.freeserve.com>...
> ...
>
>>A couple, obviously not fatal, but enough to make me think twice about
>>going for it again.
>>
>>The first was as a young child, when I pushed a plug with no back on it
>>into a socket using the palm of my hand,
>
>
> Reminds me back 20 years ago, I asked my young daughter to unplug an
> ice cream maker. I was watching her as she got a slightly surprised
> expression on her face and the GFCI did its job. Sure confirmed my
> belief in GFCIs!
>
> Two shocks I can easily remember: 250VDC from the back of an NC-57
> receiver, over 40 years ago, and I can still see the scar on my right
> index finger, and the CRT 2nd anode voltage from a color TV that made
> me sit down on the floor pretty hard. I suppose neither was very
> close to being fatal, just memorable. Interestingly, there's a nearly
> symmetrically-matching scar on the left index finger from different
> youthful folly.
>
> Cheers,
> Tom

1069. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 21:25:15 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <3t38jvo52gpkm084dn3kjtfo124481t1fi@4ax.com>
Source record: 33488

On Fri, 08 Aug 2003 21:36:08 GMT, Gary S. <Idontwantspam@net> wrote:

>On Fri, 08 Aug 2003 17:01:16 -0400, Alex <ve3leg@hotmail.com> wrote:
>
>>GFCI?
>>
>Ground Fault Circuit Interruptor.

How splendid! We call them Residual Current Circuit Breakers in
England. Typically they trip out at just over the amount of current
required to kill someone. Keeps the bills down that way. In *this*
universe, anyway.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1070. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 21:25:17 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <lc48jvkqmfnd6pvmtq50cuja41ad7ftgd2@4ax.com>
Source record: 33489
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 08 Aug 2003 15:52:03 GMT, Spehro Pefhany <speff@interlog.com>
wrote:

>Does that mean that my smoking/exploding MOSFETs have narrowly
>survived their "both sides of the half-bridge on" event in some
>parallel universe? How about my dog who got runned over (sic) when I
>was 12? Is he happily chasing various critters somewhere?

The world's brightest minds would have it so, strange as it seems. For
a gentle introduction into the subject, check out 'The Universe Next
Door' by Marcus Chown.

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1071. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 21:36:08 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <dl58jvkh84hs5n32hooo6se7qfmbokb7ge@4ax.com>
Source record: 33486

On Fri, 08 Aug 2003 17:01:16 -0400, Alex <ve3leg@hotmail.com> wrote:

>GFCI?
>
Ground Fault Circuit Interruptor.

It detects a sudden rise in current to ground and shuts the circuit
off in a fraction of a second.

Fuses protect the circuit, GFCI protects people.

The present US Electrical Code requires them in areas where water is
nearby, including bathrooms, kitchens, garages, and outdoors.

You are encouraged to use them in other places where there is danger
of zapping yourself.

They are not a guarantee, but they boost the odds in your favor.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1072. Question about delay lines

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 21:43:44 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86y8y3j04v.fsf@duchess.twilley.org>
Source record: 33487

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

I'm interested in experimenting with phased arrays, but I can't find
any variable delay lines. I don't want coils of transmission line --
what I'd like is a little widget that can be tweaked to change the
amount of delay, but I don't see any of that for analog stuff like
transmission lines, just digital stuff like TTL logic. Help?

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE/NBmVGPFSfAB/ezgRAgskAKCbQFMITmGhGItOA3RksbCzp1D+hwCg2AgT
uzxFUsx4WhIZ9U6SkYJ+j1k=
=UNrg
-----END PGP SIGNATURE-----
```

1073. Re: Question about delay lines

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 22:26:15 UTC
From: mikea@mikea.ath.cx
Message-ID: <bh1826$h59$3@puck.litech.org>
Source record: 33490

Jack Twilley <jmt+usenet@twilley.org> wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1

> I'm interested in experimenting with phased arrays, but I can't find
> any variable delay lines. I don't want coils of transmission line --
> what I'd like is a little widget that can be tweaked to change the
> amount of delay, but I don't see any of that for analog stuff like
> transmission lines, just digital stuff like TTL logic. Help?

We meet in the oddest places, Jack, and this one's as odd as any. ;=)

For receiving, you could use voltage-biased varicaps; I know that lots
of VCRs use delay lines in which the variable elements are varicaps,
and the first such I encountered was an Ampex FR-900, back in 1966.
Linearity could be a problem, of course, so you might have to have
a DAC doing the biasing based on table lookup of the desired delay.

For transmitting, I think even the military use lots of coils of
transmission line, though I'm not privy to the innards of the
modern stuff. Scientific American had an article on phased-array
rigs in Feb. 1985; your library probably has a copy.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

1074. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 23:01:20 UTC
From: HoldenCaulfield@att.net
Message-ID: <401eed4d.0308081501.1c0278e6@posting.google.com>
Source record: 33491
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Watson A.Name - 'Watt Sun' <alondra101@hotmail.com> wrote in message
news:<MPG.199d4d9e669aa584989b7a@news.inreach.net>...
> In article <3f324cc8$1@cpns1.saic.com>, richard.p.henry@saic
> mentioned...
> >
> > "Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message
> > news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
> > >
> > > "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
> > > news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
> > > > 10KV to fire magnetron in counter battery radar. Took six marines to
> stop
> > > > me from burying my screw driver in the chest of the asshole that thought
> it
> > > > would be cute to push the radiate button.
> > >
> > > I remember hearing the story of an Air Force tech working on a 30' radar
> > > dish. For some dumb reason, someone energized it and promptly microwaved
> > > him to death.
> > >
> > > Some of these stories are hair rasing... and I'm too much of a weenie to
> > > stick my tongue on a 9V battery...
> >
> > A Raytheon corporate legend is that one of the engineers discovered the
> > microwave oven principle when a radar melted a chocolate bar in his shirt
> > pocket.
>
> When I was in the army at Ft. Monmouth, NJ, we trained on a radar
> trainer, had a klystron that put out 1W to the horn on the top of the
> unit. We could put our finger over the horn and feel it get mildly
> warm from the RF.
>
> Big deal. The Real Thing put our 5 megawatts!
>
> --

Sure, but the pulse width is only a microsecond, so the
average power is only 5 watts at one pulse per second.
I forget the rep rate of the one I woked on but at
6uS per mile and 400 miles round trip, the rep rate
would be about 400 Hz. So it's 400 times 5, or 2KW.

-Bill

1075. Re: Question about delay lines

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 23:09:00 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86u18riw6r.fsf@duchess.twilley.org>
Source record: 33492

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Mike" == Mike Andrews <mikea@mikea.ath.cx> writes:

Jack> I'm interested in experimenting with phased arrays, but I can't
Jack> find any variable delay lines. I don't want coils of
Jack> transmission line -- what I'd like is a little widget that can
Jack> be tweaked to change the amount of delay, but I don't see any of
Jack> that for analog stuff like transmission lines, just digital
Jack> stuff like TTL logic. Help?

Mike> We meet in the oddest places, Jack, and this one's as odd as
Mike> any. ;=)

It's a small world, after all. :-)

Mike> For receiving, you could use voltage-biased varicaps; I know
Mike> that lots of VCRs use delay lines in which the variable elements
Mike> are varicaps, and the first such I encountered was an Ampex
Mike> FR-900, back in 1966. Linearity could be a problem, of course,
Mike> so you might have to have a DAC doing the biasing based on table
Mike> lookup of the desired delay.

The only way I've used variable capacitors (which is what I'm thinking
varicaps expands to) is in antenna tuners. A quick Google doesn't
show any circuits for using varicaps in delay lines, but television
stations apparently used them way back then.

I was considering ADC-digital delay-DAC but I wasn't sure how much
signal quality would be lost in translation. I also must confess I
wasn't exactly sure what sort of voltage/current/etc would be expected
over the transmission line.

Mike> For transmitting, I think even the military use lots of coils of
Mike> transmission line, though I'm not privy to the innards of the
Mike> modern stuff. Scientific American had an article on phased-array
Mike> rigs in Feb. 1985; your library probably has a copy.

While I'd love to build myself a baby elephant cage, I'm afraid I'm
more likely to end up with several "lightning rods" across the top of
my rented abode. I will definitely look into that SciAm article.

Mike> -- Mike Andrews mikea@mikea.ath.cx Tired old sysadmin since 1964

Jack.
- --
Jack Twilley
```

jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.2 (FreeBSD)

iD8DBQE/NC2TGPFSfAB/ezgRArQsAKCZepixLEd649PGK5OeCScK3r8bAQCfeNzB
7qy8IKXvPUmWfPu/1fKph5s=
=OvVw
-----END PGP SIGNATURE-----

1076. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 23:25:06 UTC
From: john graesser <graesser@tca.net>
Message-ID: <vj8c5n9180kt48@corp.supernews.com>
Source record: 33493
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Chris1" <chris54321@hotmail.com> wrote in message
news:ZEKdnSOEt8AZdK6iXTWJhg@dls.net...
> In article <ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>,
pb@osiris1.notthisbit.co.uk wrote:
> >
> >The question seems daft, but bear with me, gentlemen. Has anyone ever
> >had an electric shock that they feel lucky to have survived?
>
> I got 6000V from a Neon transformer once. Ouch! Only rated at 7ma, though.
> The new one I got does 12000V at 15ma. I'm alot more careful now.

During my junior lab while working for a physics degree, we had to build a gas flow geiger counter to count cosmic rays (the cosmic ray group ran the class). The 5000 volt supply we built for the tubes had no current limiting, so the current limits of the components was all the protection we had. I got 5000 volts to the tip of one of my fingers while working on it, it left a nice brown spot that lasted for several weeks. That wasn't the scariest shock event in my life, I was driving down the highway, and felt the hair raise up on my arms. Then there was a boom and my car radio stopped working. That was the one time that I was in a lightning event. Fortunately that was years before I was a ham or I would have lost several more radios at the same time.
thanks, John.
KC5DWD

1077. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 23:47:45 UTC
From: Lee Leduc <leeleduc@netscape.com>
Message-ID: <4gd8jv8fep03nd7g761esse2acpbf31jbt@4ax.com>
Source record: 33494

Sorry for the slow response but the Internet connection to the "other side" is sooooooooo slow!

Yes, I have had a a fatal electric shock in the past.

Yours truly,

William Kemmler

1078. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 23:56:28 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199dd887330869ae989b8b@news.inreach.net>
Source record: 33495
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <0ff7jvo3f4daenaulq4vd109mrv93fe7nc@4ax.com>,
redscar@waitrose.notformail.com mentioned...
> On Sat, 9 Aug 2003 01:18:38 +1000, "Alex Gibson" <alxx@ihug.com.au>
> wrote:
>
> >From my own experiance, rf burns hurt more than
> >standard 50Hz ac or dc shocks even though I would have to
> >rate car iginition systems a close second.
>
> I think I may have experienced rf burns some years ago. Is this when
> you touch a metal object close to an rf field; it feels thermally
> *hot* enough to burn you, but when the field is killed, said object
> *instantly* feels normal room temperature again?

No, RF burns is when the skin is actually burnt.

> --
>

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1079. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-08 23:59:32 UTC
From: Dave Holford <holford@sympatico.ca>
Message-ID: <3F343964.637006AF@sympatico.ca>
Source record: 33496
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Watson A.Name - 'Watt Sun'" wrote:
>
> In article <j5qcnT8vdZQFUa-iXTWJkw@comcast.com>, tecoates@comcast.net
> mentioned...
> > A former member of the Air Force told me about a safety training video
> > narrated by a transmitter tech who did not observe *all* the procedures. He
> > survived to make the video, but as a double amputee.
> >
> > I was told that this training video was part of the curriculum for so many
> > years that the principal character became somewhat of a celebrity. Perhaps
> > someone with more direct knowledge can add or correct the details.
> >
> > Tom, N3IJ
>
> Well, that's a helluva way to become a celebrity! But on
> observation, the amputee must've been a DOD civilian, because he
> couldn't have remained in the AF without his legs. Or whatever was
> amputated. Or maybe he did the narration after he had recovered and
> was discharged.
>

I wouldn't count on it.

My Brother-in-Law lost a leg while in the airforce and served more than
20 years after that before he retired, picked up quite a few promotions
along the way.

I think you will find that amputees have served in the USAF, RAF, RCAF,
RCN and probably several other military services over the years.
Admittedly they lost their limbs after they joined the service.

From what I can recall one USAF aircrew member lost a limb in a (B-47)?
crash, the RCN guy lost one after his aircraft went off a carrier and he
passed under the carrier and lost, I think a leg. The most famous is
probably Douglas Bader who lost both legs and went on to serve as a
fighter pilot in WWII. One thing they all have in common is that they
fought like hell to stay in.

Dave

1080. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 00:15:15 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <k1f8jvc53r6go8jdrlbadmb1po3k4c796g@4ax.com>
Source record: 33397
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 8 Aug 2003 16:56:28 -0700, Watson A.Name - 'Watt Sun'
<alondra101@hotmail.com> wrote:

>In article <0ff7jvo3f4daenaulq4vd109mrv93fe7nc@4ax.com>,
>redscar@waitrose.notformail.com mentioned...
>> On Sat, 9 Aug 2003 01:18:38 +1000, "Alex Gibson" <alxx@ihug.com.au>
>> wrote:

>> I think I may have experienced rf burns some years ago. Is this when
>> you touch a metal object close to an rf field; it feels thermally
>> *hot* enough to burn you, but when the field is killed, said object
>> *instantly* feels normal room temperature again?
>
>No, RF burns is when the skin is actually burnt.
>
The example above sounds more like inductive heating.

If an ungrounded piece of metal is near an RF energized coil, a
current is induced in it which heats it up. Somewhat similar to a
microwave oven.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1081. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 00:54:27 UTC
From: NN7K@reno.rmci.net
Message-ID: <qtXYa.3029$u44.1714@fe01.atl2.webusenet.com>
Source record: 33398
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Tam- never had much luck with one got (also 6 meter op), but , also, BEWARE if into weak signal stuff - has 6 dB LOSS on recieve (DC bands, who cared, background noise worse than that, but at VHF ???) If you want one, make you good deal! Jim NN7K

Tam wrote:
> Randy,
>
> Thanks for your response. The obvious thing you would like to do is to have
> the software be smart enough to distinguish between signal and noise. But
> then the hardware becomes moot, and you have invented a better DSP noise
> reduction circuit.
>
> BTW, I am considering getting an ANC4 to get rid of power line noise on 6
> meters. Fortunately, the noise is coming from the North, a very seldom used
> beam heading.
>
> Tam/WB2TT
>
>

1082. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 01:54:02 UTC
From: Jeff <frontline_electronics@NSatt.net>
Message-ID: <_uYYa.90794$3o3.6282838@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33399
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com> wrote in message
news:MPG.199d52d9a2469392989b7d@news.inreach.net...
> In article <3F328292.E6A6A404@videotron.ca>, aeisenhut@videotron.ca
> mentioned...
> > Paul Burridge wrote:
> >
> > > On Thu, 07 Aug 2003 12:33:24 GMT, "Harris"
> > > <leckfamXXnospamXX@attglobal.net> wrote:
> > >
> > > >Several people have and of course they are all dead.
> > >
> > > Well I don't believe the answer's that simple. I'll explain in due
> >
> > Yes it is. 'Fatal' doesn't have any slack in its definition. You could
> modify it
> > by adding 'near' as a prefix.
>
> I agree. He said one thing, but meant another. Snot what you think!
>
> Answer this question:
>
> Q: Twenty years ago, a plane is flying at 20,000 feet over Germany. If
> you will recall, Germany at the time was politically divided into West
> Germany and East Germany. Anyway, during the flight, TWO of the
> engines fail. The pilot, realizing that the last remaining engine is
> also failing, decides on a crash landing. Unfortunately, the engine
> fails before he has time and the plane crashes smack in the middle of
> "no-man's-land" between East Germany and West Germany. Where would you
> bury the survivors - East Germany or West Germany or in "no-man's-
> land?"
>

Land in no-man's-land and they might be, burying
the SURVIVORS.... at that time.
Jeff

> DOH!
>
> For the answer, and other similar Qs, see
> http://dailyfunnies.org/archives/000637.html
>
>
> --
> @@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@

> ###Got a Question about ELECTRONICS? Check HERE First:###
> http://users.pandora.be/educypedia/electronics/databank.htm
> My email address is whitelisted. *All* email sent to it
> goes directly to the trash unless you add NOSPAM in the
> Subject: line with other stuff. alondra101 <at> hotmail.com
> Don't be ripped off by the big book dealers. Go to the URL
> that will give you a choice and save you money(up to half).
> http://www.everybookstore.com You'll be glad you did!
> Just when you thought you had all this figured out, the gov't
> changed it: http://physics.nist.gov/cuu/Units/binary.html
> @@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1083. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 02:49:59 UTC
From: Bob Yates <bobwyates@earthlink.net>
Message-ID: <3F3460A8.DB72DB38@earthlink.net>
Source record: 33400
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

Nothing like that, yet.

Rewired some factory emergency lights and replaced several more, one leg of a 480V circuit, live. Work careful and no problems.

Removing a high-pressure bulb from a high-voltage circuit, glass envelope broke in my hand while trying to unscrew it, didn't know I could move that fast.

Rewiring a conveyor, co-worker said the power was off, sparks flew when I cut the cable. I just stared at the remains of my pliers and then at him. ONE HAND in contact with the work, nothing else, work on insulated surface, heavy rubber sole boots, and anything else I can think of.

Worked at one plant that had had a color blind electrician, that really taught me caution, never knew what color wired carried what voltage.

1084. Re: Motorola Advisor Pager

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 03:22:12 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.199e08bba2f7226a9899bd@192.168.42.131>
Source record: 33401

In article <SWSYa.2368$w4.1432162@news-reader.eresmas.com>, Colin Lowe says...

> Hi all,
> I&#65533;m looking for tune-up info for a VHF Motorola Advisor Pocsag Pager.

Suggestion: Pay a visit to Batlabs (http://www.batlabs.com). Also, the message forum at batboard.batlabs.com. Between the two of them, you'll probably learn more about that pager than you ever wanted to know.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

1085. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 03:59:55 UTC
From: Eric in the Evening <GEFERG@prodigy.net>
Message-ID: <%k_Ya.77$nL5.55@newssvr16.news.prodigy.com>
Source record: 33402
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hey Charles,

When I was a "frameman" (oops, make that "frame attendant") in the Alameda Central Office, had exactly the same type of "shock". Air conditioning had broken, we were in t-shirts, about 90+ degrees in the CO on a summers day and sweating. Reaching through the frame from the equipment side hit someone who was ringing and became a human bell clapper for about 20-30 seconds. All this at the top of a rolling ladder. My fellow employees and myself got a laugh out of it (me later). Actually happened a few times over my 27 year career. At least I'm not unique in that sense. Thanks for sharing......
Eric KA6USJ

1086. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 04:24:12 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <qF_Ya.45403$Ne.37303@fed1read03>
Source record: 33403
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

would that be the ever famous problem resolution "cleared while testing"

1087. Re: Question about delay lines

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 04:27:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vj8u162nuprddb@corp.supernews.com>
Source record: 33404

The only variable delay lines I've ever seen with the delay variable more than a couple of nanoseconds are some units used in an old Tektronix instrument of some sort. They're awfully rare.

Of course, even transmission line delay lines produce a delay equal to the electrical length of the line, and a voltage or current transformation ration of one, only if terminated in their characteristic impedance, or a few special cases. And the impedances of elements of efficient arrays vary all over the map as phasing is changed. But a variable delay line (most often implemented as binary-weighted lengths of transmission line that can be switched in and out) can be practical if the array elements are electrically very short and/or lossy, to swamp the effects of mutual Z(*). That means it's practical for a receive array but not so practical for transmitting(**). You'll find more about this in Chapter 8 of the ARRL Antenna Book.

You might be able to make use of some of the tapped digital delay lines (for receive only or very low power levels, of course) if you can compensate for the insertion loss and frequency-dependent characteristics. Another option is L networks. Although these can be adjusted for various delays, it would be tricky to make an adjustment arrangement that would adjust the delay without also changing the voltage and current transformation ratio and the equivalent characteristic impedance -- both elements would have to be adjusted together in a particular way. Of course, you could make a series of L networks with binary weighted delays and switch them as you would transmission lines. The disadvantage is that the L network delay and equivalent Z0 will change with frequency, while those of real transmission lines won't.

(*) It's also practical if there's a very large number of elements, so that each element is effectively in the same environment as all the others. I worked on a radar using this principle back in the '60s. It had switched delay lines to steer a transmit array of 10,000 separate transmitters, each with its own antenna, and a receive array of over 5,000 separate receivers, each with its own antenna. It was actually the phasing of the Tx and Rx local oscillators which were controlled, though. Last I heard, it was still in operation.

(**) If you build a receive array where the signals are combined in a low-loss fashion, you encounter exactly the same problems as for a transmit array. Lossy summing networks can stabilize the impedances and simplify the job just like lossy elements can.

Roy Lewallen, W7EL

Jack Twilley wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> I'm interested in experimenting with phased arrays, but I can't find
> any variable delay lines. I don't want coils of transmission line --
> what I'd like is a little widget that can be tweaked to change the
> amount of delay, but I don't see any of that for analog stuff like
> transmission lines, just digital stuff like TTL logic. Help?
>
> Jack.
> - --
> Jack Twilley
> jmt at twilley dot org
> http colon slash slash www dot twilley dot org slash tilde jmt slash
> -----BEGIN PGP SIGNATURE-----
> Version: GnuPG v1.2.2 (FreeBSD)
>
> iD8DBQE/NBmVGPFSfAB/ezgRAgskAKCbQFMITmGhGItOA3RksbCzp1D+hwCg2AgT
> uzxFUsx4WhIZ9U6SkYJ+j1k=
> =UNrg
> -----END PGP SIGNATURE-----

1088. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 05:09:19 UTC
From: Richard Henry <rphenry@home.com>
Message-ID: <3m%Ya.9966$Ye.2902@fed1read02>
Source record: 33405
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Bob Yates" <bobwyates@earthlink.net> wrote in message
news:3F3460A8.DB72DB38@earthlink.net...

>
> Rewiring a conveyor, co-worker said the power was off, sparks flew when
> I cut the cable. I just stared at the remains of my pliers and then at
> him. ONE HAND in contact with the work, nothing else, work on insulated
> surface, heavy rubber sole boots, and anything else I can think of.
>

I worked college summers as an electrician. Cut a live lamp circuit with my brand new pliers, leaving a 14-ga notch.

Years later, I saw "my" pliers in the lab tech's toolbox. He said he had done the same thing a few years back. I didn't really believe they were his until I found my old pliers in the bottom of my garage toolkit.

1089. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 05:19:10 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F348430.42B80B74@earthlink.net>
Source record: 33406
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Chris1 wrote:
>
> In article <3F331DE0.50D1AEF9@earthlink.net>, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:
>
> > I find that very interesting, since every chocolate bar I have ever
> >had was wrapped in aluminum foil.
>
> I always thought it was just shiny paper. There's not much Aluminum there,
> if any.
>
> Chris

A very thin aluminum foil, with a paper backing. Use an Ohm meter on
a piece to see that it is conductive.
--

Its August 5, 2003, so I'm 51 today!
Michael A. Terrell
Central Florida

1090. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 06:59:42 UTC
From: eric.jacobsen@ieee.org
Message-ID: <3f349bc1.209493334@news.earthlink.net>
Source record: 33407
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

On Fri, 08 Aug 2003 13:31:25 -0400, Jerry Avins <jya@ieee.org> wrote:

>Tarmo Tammaru wrote:
>>
>> Dave,
>>
>> Thanks for the info. In my case, the source seems to be a bank of 4
>> transformers on a pole about 300 feet away. Weirdest thing I had was S9
>> white noise from about 40 to 55 MHz with about 50% amplitude modulation at
>> around 50 KHz. Turned out to be a 60 amp cartridge fuse in my fuse box about
>> to go bad. I think the 50 KHz was a mechanical resonance in the fuse.
>>
> ...
>
>There are lots of weird noise sources. As a kid in the 40s, I was part
>of a family visit to an old farm west of Bethlehem Pa., in what was
>definitely "fringe area" TV reception. The man of the house was telling
>my father about the strong zig-zag pattern that sometimes showed up on
>the screen, blanking out the video and often lousing up vertical synch.
>He wanted to know if the FCC would track down the interference; he
>thought it was a ham about half a mile away. Just then, the interference
>started, and right after, his son came downstairs to join us. A little
>while later, his daughter went upstairs, and the interference cleared
>when she got to the top. Without saying anything, I went over to the
>stairway switch and turned it on and off a few times. "On" caused the
>interference. When we swapped the bulb with one in a floor lamp, the
>floor lamp caused the same interference. It has been one of my enduring
>regrets that I didn't ask to keep the bulb. It was probably thrown out.
>
>Jerry

I think that one may have been intended for an embassy somewhere...

Eric Jacobsen
Minister of Algorithms, Intel Corp.
My opinions may not be Intel's opinions.
http://www.ericjacobsen.org

1091. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 07:22:21 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F34A104.3000006@attbi.com>
Source record: 33408
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Eric in the Evening wrote:
> Hey Charles,
>
> When I was a "frameman" (oops, make that "frame attendant") in the Alameda
> Central Office, had exactly the same type of "shock". Air conditioning had
> broken, we were in t-shirts, about 90+ degrees in the CO on a summers day
> and sweating. Reaching through the frame from the equipment side hit someone
> who was ringing and became a human bell clapper for about 20-30 seconds. All
> this at the top of a rolling ladder. My fellow employees and myself got a
> laugh out of it (me later). Actually happened a few times over my 27 year
> career. At least I'm not unique in that sense. Thanks for sharing......
> Eric KA6USJ
>
>

Eric,
In my days as a Frame Ape, I got across one of the Darned Gov't special
circuits that had a lot more than ring voltage on it. Only once though,
I can still remember the special warning tags they hadon the lines at
all the blocks, and like you Iwas at the top of the ladder when it
happened. And oh yes I also got bit by ring more than once. Remember the
way we found shorts?
Bill Higdon

1092. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 08:01:05 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <bQo879DBpKNEAf@ifwtech.co.uk>
Source record: 33409

Paul Burridge wrote:
>>Ground Fault Circuit Interruptor.
>
>How splendid! We call them Residual Current Circuit Breakers in
>England.

That may not be an accurate translation. As I understand it, the GFCI requires a ground connection in order to operate, while the RCB does not.

The RCB functions on the difference between the outgoing 'live' current and the return current in the neutral. In the British house wiring system, those two currents should be *exactly* equal, and the difference (the 'residual current') should be zero. Any difference at all means something's wrong - ping - you're disconnected.

A typical household RCB will trip on a 60 or 100mA difference in supply current surges up to 60A. That's pretty good common-mode rejection!

RCDs can also be cascaded, so an even more sensitive RCD can be used to protect an outdoor mains socket or a workbench.

We used to have something like GFCIs over here, but changed to RCDs because RCDs still work if the entire house ground connection has failed.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1093. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 10:20:08 UTC
From: chrisdot muriel <muriel@analogdot.com>
Message-ID: <mfi9jvsnm5kfm3c1tij1adm9u1kk4902e7@4ax.com>
Source record: 33410

On Fri, 8 Aug 2003 11:17:00 -0400, "R J Carpenter" <rcarpen@erols.com>
wrote:

>
><c.a.m@antijunk3.blueyonder.co.uk> wrote in message
>news:goj2ivso3b7sfd2e52acherjn18bl0t273@4ax.com...
>>
>><snip>

>Those operating frequencies are achieved by slight changes in the software
>and setting the 9954 to a "good" nearby frequency.
>
>No details were given and I didn't get around to asking for the details.
>Does AD give hints?
>
If you go to www.analog.com/dds then scroll down & select the
"Technical Library" link (under the "Technical Support Resources"
heading) you can download the DDSTutor (900K+ pdf-file).
Then do a Ctrl-F and search for "sweet" in the pdf itself.
Some hints are given there.

Chris Muriel, G3ZDM

1094. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 10:31:27 UTC
From: Boris Mohar <borism@sympatico.ca>
Message-ID: <saj9jvsdamaujhjat8ru83ve9dtsdfqbvd@4ax.com>
Source record: 33411
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>
>The question seems daft, but bear with me, gentlemen. Has anyone ever
>had an electric shock that they feel lucky to have survived?
>
>p.

This guy did believe it or not.

http://www.electrical-contractor.net/electrocution.htm

--

Regards,

Boris Mohar

Got Knock? - see:
Viatrack Printed Circuit Designs http://www3.sympatico.ca/borism/
Aurora, Ontario

1095. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 10:35:45 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <8mg9jv89eq3c2t07pnm1ukbm7pita0tm98@4ax.com>
Source record: 33413

On Sat, 9 Aug 2003 09:01:05 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>A typical household RCB will trip on a 60 or 100mA difference in supply
>current surges up to 60A. That's pretty good common-mode rejection!

It's better than that. 30mA is the standard currently.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1096. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 10:35:46 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <e1h9jvod4o2tjlu294ei65h4gb90dm3g0n@4ax.com>
Source record: 33414
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 08 Aug 2003 19:59:32 -0400, Dave Holford
<holford@sympatico.ca> wrote:

>From what I can recall one USAF aircrew member lost a limb in a (B-47)?
>crash, the RCN guy lost one after his aircraft went off a carrier and he
>passed under the carrier and lost, I think a leg. The most famous is
>probably Douglas Bader who lost both legs and went on to serve as a
>fighter pilot in WWII. One thing they all have in common is that they
>fought like hell to stay in.

You're right there. Respect is due!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1097. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 10:35:47 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <p4h9jv8dhghu5erar643nohdfefcmdo1rj@4ax.com>
Source record: 33415
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 09 Aug 2003 00:15:15 GMT, Gary S. <Idontwantspam@net> wrote:

>The example above sounds more like inductive heating.
>
>If an ungrounded piece of metal is near an RF energized coil, a
>current is induced in it which heats it up. Somewhat similar to a
>microwave oven.

I don't see how it can be. The metal in this case was only hot whilst
the RF was flying about. It was cold to the touch the second the power
was cut. If it takes no time to cool down I infer there's something
more to it.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1098. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 10:35:49 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <gah9jvc8fgkvidoi36ir7vkc97jmjrqs59@4ax.com>
Source record: 33416
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 8 Aug 2003 18:25:06 -0500, "john graesser" <graesser@tca.net>
wrote:

> That wasn't the scariest
>shock event in my life, I was driving down the highway, and felt the hair
>raise up on my arms. Then there was a boom and my car radio stopped working.
>That was the one time that I was in a lightning event.

For a moment there I thought you were about to tell us you were
abducted by aliens. :-)
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1099. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 11:21:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vj9ma6h5gdp116@corp.supernews.com>
Source record: 33412

No, the GFCI doesn't need the safety ground. Like the device you're describing, it measures the difference between the "hot" and "neutral" wires, by running the pair together through a transformer. A GFCI is supposed to trip in 1/40 of a second at 5 mA.

In our system, like yours, the "hot" and "neutral" wires should always carry equal currents, and the safety ground shouldn't carry any. However, the safety ground is sized the same as the current-carrying conductors so it'll handle a fault current large enough to kick the circuit breaker. Its primary function is to protect against something like the "hot" wire making contact with a metal appliance frame, which should be connected to the safety ground. When it comes to a GFCI, no assumption is made about how much of the imbalance current is returned via the safety ground and how much via the Earth or some other path.

Roy Lewallen, W7EL

Ian White, G3SEK wrote:
> Paul Burridge wrote:
>
>>> Ground Fault Circuit Interruptor.
>>
>>
>> How splendid! We call them Residual Current Circuit Breakers in England.
>
>
> That may not be an accurate translation. As I understand it, the GFCI
> requires a ground connection in order to operate, while the RCB does not.
>
> The RCB functions on the difference between the outgoing 'live' current
> and the return current in the neutral. In the British house wiring
> system, those two currents should be *exactly* equal, and the difference
> (the 'residual current') should be zero. Any difference at all means
> something's wrong - ping - you're disconnected.
>
> A typical household RCB will trip on a 60 or 100mA difference in supply
> current surges up to 60A. That's pretty good common-mode rejection!
>
> RCDs can also be cascaded, so an even more sensitive RCD can be used to
> protect an outdoor mains socket or a workbench.
>
> We used to have something like GFCIs over here, but changed to RCDs
> because RCDs still work if the entire house ground connection has failed.
>
>

1100. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 11:24:47 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <O3cZa.597$fZ3.484489@newsfep1-win.server.ntli.net>
Source record: 33426
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

>>Without saying anything, I went over to the
> >stairway switch and turned it on and off a few times. "On" caused the
> >interference. When we swapped the bulb with one in a floor lamp, the
> >floor lamp caused the same interference. It has been one of my enduring
> >regrets that I didn't ask to keep the bulb. It was probably thrown out.
==========
That bulb was probably an old coiled 'Edison' type . They were /are known to
form a tuned circuit resonating in the old TV band 1 (about 48 - 62 MHz)
acting as a TX when power is applied.

Frank GM0CSZ / KN6WH

1101. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 12:13:04 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <O3cZa.598$fZ3.484489@newsfep1-win.server.ntli.net>
Source record: 33427

> A typical household RCB will trip on a 60 or 100mA difference in supply
> current surges up to 60A. That's pretty good common-mode rejection!
==========
Don't want to be pedantic but the RCDs in domestic switchboards in the UK
(at least here in Scotland) trip at 30 mA .
I just had a look at my house's switch board made by SQUARE -D (England)
to British Standard BS5486 pt 13

In UK industry I have come across RCDs which trip at 100 mA

Frank GM0CSZ / KN6WH

1102. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 12:22:08 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <zEk2+OCwdON$EAbT@ifwtech.co.uk>
Source record: 33423

Paul Burridge wrote:
>On Sat, 9 Aug 2003 09:01:05 +0100, "Ian White, G3SEK"
><G3SEK@ifwtech.co.uk> wrote:
>
>
>>A typical household RCB will trip on a 60 or 100mA difference in supply
>>current surges up to 60A. That's pretty good common-mode rejection!
>
>It's better than that. 30mA is the standard currently.

Sorry, I got mixed-up about that. Our house was wired under the older regulations which allowed the lights to be protected by a separate 100mA RCD, while the power outlets are protected at 30mA. The idea was that tripping a power circuit is less likely to plunge the whole house into darkness.

The standard for new household installations is now 30mA all around, although 100mA units are still available for industrial uses.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1103. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 12:40:29 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <UUX$KeD9uON$EA$V@ifwtech.co.uk>
Source record: 33424

Roy Lewallen wrote:
>No, the GFCI doesn't need the safety ground. Like the device you're
>describing, it measures the difference between the "hot" and "neutral"
>wires, by running the pair together through a transformer. A GFCI is
>supposed to trip in 1/40 of a second at 5 mA.
>
>In our system, like yours, the "hot" and "neutral" wires should always
>carry equal currents, and the safety ground shouldn't carry any.
>However, the safety ground is sized the same as the current-carrying
>conductors so it'll handle a fault current large enough to kick the
>circuit breaker.

That is pretty much the same as our RCDs, right down to the large-sized 'protective earth' wire.

>Its primary function is to protect against something like the "hot"
>wire making contact with a metal appliance frame, which should be
>connected to the safety ground.

An interesting thing happens when you switch off to isolate part of the house wiring, and then cut the "dead" three-wire cable. (We call it "flat twin and earth". It has PVC-insulated hot and neutral wires with a bare ground wire in between, all in a flattish grey or white PVC sheath. Is this what you call "Romex"?) If you cut the hot and ground wires together, nothing happens; but if you cut the neutral and ground wires together, the RCD trips. That's a puzzle the first time it happens, but it's because that cable isn't quite as "dead" as you think. the isolating switches interrupt only the hot wire, so the neutral and earth are still being shared with everything else that's switched on in the house.

Does that happen in the USA, or do you have two-pole isolating switches for individual sub-circuits?

This isn't totally idle curiosity. If there's an electrical problem while we're staying with the in-laws in Atlanta, I'm the one who's supposed to know about these things...

>When it comes to a GFCI, no assumption is made about how much of the
>imbalance current is returned via the safety ground and how much via
>the Earth or some other path.
>
Exactly the same as our RCD, then... just a slightly ambiguous name.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)

Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1104. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 13:21:01 UTC
From: bpn518@aol.com
Message-ID: <20030809092101.04924.00001530@mb-m26.aol.com>
Source record: 33417

Radio Shack used to sell a voice chip in a kit that let you record and play back either 10-15 seconds of audio, or another one that I think could have 4 messages up to 5 seconds each. All you had to do was add a battery. Many modified this into an
enclosure with relay for PTT for a one-button voice keyer. I think the chip is still available, but not from Radio Shack.
Try some of the electronic supply houses.
You could probably easily then make the
interface from the pc to the voice kit.

Alternatively, there are a number of logging programs that have the capability for voice keyers right in the software. I think Logger and N1MM are 2 of them, and N1MM is free. N1MM is a contesting software being developed by N1MM, but a also a group effort. Keying is CW, voice, Data modes.
Visit n1mm.com.

Good luck.
Bennett ko2ok.

1105. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 14:42:57 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199ea838bf8d1195989b94@news.inreach.net>
Source record: 33418
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <3F3460A8.DB72DB38@earthlink.net>, bobwyates@earthlink.net
mentioned...
> Paul Burridge wrote:
> >
> > The question seems daft, but bear with me, gentlemen. Has anyone ever
> > had an electric shock that they feel lucky to have survived?
> >
> > p.
> > --
> >
> > "I believe history will be kind to me, since I intend
> > to write it." - Winston Churchill
>
> Nothing like that, yet.
>
> Rewired some factory emergency lights and replaced several more, one leg
> of a 480V circuit, live. Work careful and no problems.
>
> Removing a high-pressure bulb from a high-voltage circuit, glass
> envelope broke in my hand while trying to unscrew it, didn't know I
> could move that fast.
>
> Rewiring a conveyor, co-worker said the power was off, sparks flew when
> I cut the cable. I just stared at the remains of my pliers and then at
> him. ONE HAND in contact with the work, nothing else, work on insulated
> surface, heavy rubber sole boots, and anything else I can think of.
>
> Worked at one plant that had had a color blind electrician, that really
> taught me caution, never knew what color wired carried what voltage.

I knew a color-blind guy who sometimes worked on the electrical
wiring, and his technique was to very quickly touch the wires together
to see if things worked. Problem was, often this resulted in sparks
big time!

This guy got hired on as a grape picker when he was young, and others
were wondering how he filled up his basket so quickly. Turned out he
was was picking a lot more than just the ripe ones!

See, color-blind guys (most of the time, women are seldom color-blind)
have never been able to see colors, so they don't know any difference.
And they often think they can do what they really can't. If you'd
been told by others that this color that looks the same to you is both
red, orange and green, you'd just say that they didn't know what

they're talking about and do whatever you thought was right.

And since wire color codes are so important, the color-blind
electrician or technician is a real danger to himself and others.

For a really cool color perception test, see URL
http://www.toledo-bend.com/colorblind/Ishihara.html

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1106. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 14:50:39 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199eaa1ba4fc573c989b95@news.inreach.net>
Source record: 33419
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <%k_Ya.77$nL5.55@newssvr16.news.prodigy.com>,
GEFERG@prodigy.net mentioned...
> Hey Charles,
>
> When I was a "frameman" (oops, make that "frame attendant") in the Alameda
> Central Office, had exactly the same type of "shock". Air conditioning had
> broken, we were in t-shirts, about 90+ degrees in the CO on a summers day
> and sweating. Reaching through the frame from the equipment side hit someone
> who was ringing and became a human bell clapper for about 20-30 seconds. All
> this at the top of a rolling ladder. My fellow employees and myself got a
> laugh out of it (me later). Actually happened a few times over my 27 year
> career. At least I'm not unique in that sense. Thanks for sharing......
> Eric KA6USJ

I was with a manager in the switchroom, and he put his hand on a 66
block and got a tingle, "whoops!" he pulled it away. Taught him a
lesson that the telephone lines are not to be trifled with! They'll
let you know that it's not nice to fool with Mother Nature.

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1107. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 14:57:10 UTC
From: "Watson A.Name - 'Watt Sun'" <alondra101@hotmail.com>
Message-ID: <MPG.199eab9ce8e37bf8989b96@news.inreach.net>
Source record: 33420
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <3F348430.42B80B74@earthlink.net>,
mike.terrell@earthlink.net mentioned...
> Chris1 wrote:
> >
> > In article <3F331DE0.50D1AEF9@earthlink.net>, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:
> >
> > > I find that very interesting, since every chocolate bar I have ever
> > >had was wrapped in aluminum foil.
> >
> > I always thought it was just shiny paper. There's not much Aluminum there,
> > if any.
> >
> > Chris
>
> A very thin aluminum foil, with a paper backing. Use an Ohm meter on
> a piece to see that it is conductive.

I used to be able to do that with the nickle plated antistatic bags
that parts came in back in 1980. The ohmmeter would measure several
hundred ohms. But nowadays all I can measure is an open. I just
tried it again, measured open even on the 200M range.

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1108. K 01252-d Co-ax

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 17:33:25 UTC
From: Dick <dick@langwang.demon.co.uk>
Message-ID: <WrF5geBIBTN$Ew8p@langwang.demon.co.uk>
Source record: 33421

Has anyone come across K01252-d co-ax cable and/or could tell me what its basic spec is ? I think its made by Huber + Suhner but I don't seem to be able to get into their web site at the moment to check, I need a length of thin co-ax to finish a job off & all I can dig out of my junk box is a reel of this stuff. Looks good quality but (like me) years old !!!!

--
Dick
GM0MNL

1109. HP 141T, 8552B, 8553B?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 18:02:52 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vjadqi6p54d3bb@corp.supernews.com>
Source record: 33422

I just got this setup and the it seems to work OK except the that the
DISPLAY UNCAL lamp on the 8553B doesn't light when it should. Is this a
common failure that is an easy fix, any tips appreciated.
tnx
hank wd5jfr

1110. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 19:11:19 UTC
From: Mark Fergerson <mfergerson1@cox.net>
Message-ID: <3F354757.1080007@cox.net>
Source record: 33425
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Fri, 08 Aug 2003 03:29:47 GMT, Eric Immel <EI@no.spam.for.me>
> wrote:
>
>
>>Paul, are you asking if anyone has been killed, then revived?
>
>
> That's pretty close to what I'm getting at. What I *am* actually get
> at is that theoretical physicists are coming around to the rather
> extraordinary view that one cannot from one's own perspective be
> killed by any sudden and dramatic life event. No matter how bad the
> shock, you will always 'come around' to find that you've survived. The
> tricky bit is that you'll probably have found yourself in a different
> reality to the one you left. In the one you've left, observers will
> see your cold, dead, smoking body lying sparko on the ground. Your
> relatives will grieve, your obituary will be written. But *you* won't
> know anything of that. You'll just believe you've had a lucky escape;
> you'll go home and tell your friends and family all about it and years
> later maybe you'll tell others via the Internet.

Now that you've explained what you meant, I'll mention
that I must be on at least my fifth parallel Universe.

I told a few tales about my "teleportation experiments"
here some time back, all involving from 220VAC @ 60 Hz to a
few kV @ 400 Hz. I tend to jump rather than tear muscles
because I'm skinny, you see.

Mark L. Fergerson

1111. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 19:46:02 UTC
From: averyfineman@aol.com
Message-ID: <20030809154602.02197.00001971@mb-m12.aol.com>
Source record: 33428

In article <AvMYa.63145$ib2.16684641@twister.neo.rr.com>, "K Wind"
<kwind@news-server.neo.rr.com> writes:

>"Paul Burridge" <redscar@waitrose.notformail.com> wrote in message
>news:ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com...
>>
>> The question seems daft, but bear with me, gentlemen. Has anyone ever
>> had an electric shock that they feel lucky to have survived?
>
>Would 1,500VDC with 6mA capability flowing through one arm and out the other
>be considered lethal? At one time, I knew how much current was considered
>lethal, but have forgotten.

Think of "30-30" as a mnemonic.

If the source has over 30 Volts and can supply over 30 milliamperes
through the cardiac region, you will go into cardiac fibrilation.

High voltage with little supply current will affect the nerves and the
resulting muscle spasms can cause other kinds of injuries, some
that may be fatal.

DON'T DO IT. PAY ATTENTION!

Len Anderson
still living in the same reality I was born into...

1112. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 19:46:03 UTC
From: averyfineman@aol.com
Message-ID: <20030809154603.02197.00001972@mb-m12.aol.com>
Source record: 33429

In article <3f324cc8$1@cpns1.saic.com>, "RP Henry" <richard.p.henry@saic dot
com> writes:

>"Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message
>news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
>>
>> "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
>> news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
>> > 10KV to fire magnetron in counter battery radar. Took six marines to stop
>> > me from burying my screw driver in the chest of the asshole that thought
it
>> > would be cute to push the radiate button.
>>
>> I remember hearing the story of an Air Force tech working on a 30' radar
>> dish. For some dumb reason, someone energized it and promptly microwaved
>> him to death.
>>
>> Some of these stories are hair rasing... and I'm too much of a weenie to
>> stick my tongue on a 9V battery...
>
>A Raytheon corporate legend is that one of the engineers discovered the
>microwave oven principle when a radar melted a chocolate bar in his shirt
>pocket.

That's been an Urban Legend for decades...probably a PR plant from
someone at Raytheon's Santa Barbara, CA, division that deveeloped
the RadaRange (originally a trademark of Raytheon before they sold that
consumer line to Amana).

========

While all the war stories and chit-chat are entertaining, please consider
a real-life tragedy that happened to a TV broadcast van in Los Angeles
last year. The van had stopped and erected its field-to-transmitter link
dish to Mount Wilson where the TV transmitter was. Standard
procedure here to get a clear shot above buildings and obstructions,
all the field vans have such erectable dishes.

Nobody in the field crew seems to have noticed that the van was under
a "high-line" of higher-voltage lines common in local area power
distribution. The dish and its two-section small crane came in contact
with the high-line. Somehow the kind of contact sent a good-sized
electrical power flow down into the van. A woman reporter was severely
burned in addition to being knocked unconscious...burns severe enough
to require amputation of part of an arm and part of a leg. She survived
but spent many months in the hospital and physical therapy, had to use

a wheelchair to get around even though active and healthy and not yet 40 before the accident.

This incident was clearly a result of STUPID NON-ATTENTION by the TV field crew. That high-line distribution is common all over this city and adjoining cities. To erect the link dish right into power wiring of any kind was just compounding the stupidity.

I mention this because amateur radio nearly always involves outside antennas in urban areas close to utility power wiring on poles. The possibility of fatal or terrible electric shock isn't confined to some radio-electronic box interior...it exists out in the open, in plain sight. Keep it in mind to avoid frying that mind.

Len Anderson
retired (and still living) electronic engineer person

1113. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 20:24:49 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <saoZa.66$LI.36733@newsfep1-win.server.ntli.net>
Source record: 33356

> Radio Shack used to sell a voice chip in a kit that let you record and
play
> back either 10-15 seconds of audio, or another one that I think could have
4
> messages up to 5 seconds each. All you had to do was add a battery. Many
> modified this into an
> enclosure with relay for PTT for a one-button voice keyer. I think the
chip
> is still available, but not from Radio Shack.
> Try some of the electronic supply houses.
> You could probably easily then make the
> interface from the pc to the voice kit.
=====
That family of integrated circuits is made by Information Storage Devices
Inc (ISD) ,San Jose -California
The early types (1992) were ISD1012A , ISD1016A , ISD1020A with
Record/Playback duration of 12 , 16 and 20 seconds respectively . The
respective upper pass band limits are 4.5 , 3.4 and 2.7 kHz.
They have an onboard mic amplifier , automatic gain control ,antialiasing
and smoothing filters and a speaker amplifier.

A number of units can be cascaded to increase overall Record/Playback
duration.

Frank GM0CSZ / KN6WH

1114. Re: Question about delay lines

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:00:20 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.199eb3a0a78615bf9899bf@192.168.42.131>
Source record: 33430

In article <vj8u162nuprddb@corp.supernews.com>, Roy Lewallen says...

> The only variable delay lines I've ever seen with the delay variable
> more than a couple of nanoseconds are some units used in an old
> Tektronix instrument of some sort. They're awfully rare.

Oh, they exist. They're often used in simulcast radio systems at
each transmitter site. The idea, of course, is to insert a calculated
delay into the modulation so that the audio signals from each site don't
end up phase-cancelling one another.

Allen Avionics is a big maker of variable delay lines. You may
want to check Ebay for them.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

1115. Re: HP 141T, 8552B, 8553B?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:10:02 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.199f030679d9e3a99899c0@192.168.42.131>
Source record: 33431

In article <vjadqi6p54d3bb@corp.supernews.com>, Henry Kolesnik says...

> I just got this setup and the it seems to work OK except the that the
> DISPLAY UNCAL lamp on the 8553B doesn't light when it should. Is this a
> common failure that is an easy fix, any tips appreciated.

Silly question... Did you check the bulb? ;-)

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

1116. Re: 1750 meter projects..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:14:42 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bh3o82$b5p$0@208.206.142.97>
Source record: 33432

Frank Gilliland wrote:

>
> Yep, limited to 1 watt power input to the final, and the total antenna/ground
> system is limited to 50 feet.
>

I assume this means using a top hat of the type used on aircraft NDB systems isn't allowed. Too bad. You can often hear those 25 watt stations for a long way at night.

Dick

1117. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:27:11 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <58najvs88j04u6buaskj8qhimq315el5h1@4ax.com>
Source record: 33441
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 09 Aug 2003 12:11:19 -0700, Mark Fergerson
<mfergerson1@cox.net> wrote:

> Now that you've explained what you meant, I'll mention
>that I must be on at least my fifth parallel Universe.

Don't bother counting. You have a *lot* more to go, it seems.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1118. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:27:13 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <lbnajv092173nauhg8ei5b4dujn2hffs4f@4ax.com>
Source record: 33440

On 09 Aug 2003 19:46:02 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> If the source has over 30 Volts and can supply over 30 milliamperes
> through the cardiac region, you will go into cardiac fibrilation.

Sorry, Len, but I can't see it. I routinely check for HV on the anodes
of certain smallish valves with bare fingers and can't even begin to
feel anything under about 80 volts (at very much more current
capability than 30mA) at the low end. However, I read somewhere that
some guy died from just a 12V 'shock' - must have been a world
record.. :-(
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1119. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:29:28 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vjaptnme8ta53a@corp.supernews.com>
Source record: 33433

Ian White, G3SEK wrote:

> . . .

> An interesting thing happens when you switch off to isolate part of the
> house wiring, and then cut the "dead" three-wire cable. (We call it
> "flat twin and earth". It has PVC-insulated hot and neutral wires with a
> bare ground wire in between, all in a flattish grey or white PVC sheath.
> Is this what you call "Romex"?)

Yes, that's "Romex". The official designation is type NM (for Non-Metallic). 12 gauge wire, for 20 amps maximum, is "12-2 with ground" and 14 gauge, for 15 amps, is "14-2 with ground". Those are the most common sizes for residential lighting and outlet circuits.

> If you cut the hot and ground wires
> together, nothing happens; but if you cut the neutral and ground wires
> together, the RCD trips. That's a puzzle the first time it happens, but
> it's because that cable isn't quite as "dead" as you think. the
> isolating switches interrupt only the hot wire, so the neutral and earth
> are still being shared with everything else that's switched on in the
> house.
>
> Does that happen in the USA, or do you have two-pole isolating switches
> for individual sub-circuits?

I don't quite follow where you're cutting the wires or where the RCD is located. Here, you can get a GFCI as either a circuit breaker you install in the service box to protect a whole circuit, or incorporated in a duplex outlet. Both are easily identifiable by the conspicuous test button. The breaker differs from an ordinary breaker in that the neutral wire is also routed through it.

Circuit breakers interrupt only the "hot" wire. It's been a long time since I studied the code (NEC - National Electrical Code), but I'm sure that switching the neutral is still a no-no. Neutral wires are all brought back to the service box, where they're all connected to the central power feed wire. The safety grounds are brought back to the service box separately, where they're connected to the same point as the neutrals. Neutral and safety ground are connected together only at the service box, nowhere else.

> This isn't totally idle curiosity. If there's an electrical problem
> while we're staying with the in-laws in Atlanta, I'm the one who's
> supposed to know about these things...

I'd at least get a home-handyman book on electrical wiring, and a real code book if you'll be doing anything other than pretty simple wiring. The rules are quite complex, dictating things like how close to a junction box wires have to be supported, how they can be routed, what size junction box is required for various combinations of entering/exiting wires, etc. In Oregon, wiring can legally be done only by the homeowner or a licensed electrician, but each state and many localities have their own rules. I think all, or just about all, the states now at least have agreed to use the NEC. (You're probably technically forbidden to touch the wiring, depending on Georgia and Atlanta regulations.) The presence of non-code wiring could result in non-payment of insurance if a home were to have an electrical fire.

I wired the addition to our home, which involved adding seven circuits including outside outlets and lights. I also replaced and upgraded the service box. Those jobs were done with electrical work permits, and both were inspected and passed. So I have done a bit of this before. But it was a lot of years ago now, the code evolves, and my memory fades.

Roy Lewallen, W7EL

1120. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:30:40 UTC
From: Jerry Avins <jya@ieee.org>
Message-ID: <3F356800.1BEC0FBD@ieee.org>
Source record: 33434
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

```
Eric Jacobsen wrote:
>
> On Fri, 08 Aug 2003 13:31:25 -0400, Jerry Avins <jya@ieee.org> wrote:
>
> > ... It has been one of my enduring regrets
> >that I didn't ask to keep the bulb. It was probably thrown out.
> >
> >Jerry
>
> I think that one may have been intended for an embassy somewhere...
>
About a year later, I read about such a bulb in QST. The author believed
that Edison-effect electrons excited a self broad-band resonance in the
doubly coiled filament, sustaining oscillation by a mechanism I forget,
but that seemed reasonable at the time. Incandescent lamps are filled
with low-pressure nitrogen to avoid damage from the Edison effect, and
interaction with the gas figured in his explanation. It was that
explanation that led me to build an open-air triode. I was surprised as
anyone when that worked, and I took it as a confirming instance for the
now-forgotten explanation.

Jerry
--
Engineering is the art of making what you want from things you can get.
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```

1121. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:35:45 UTC
From: Jerry Avins <jya@ieee.org>
Message-ID: <3F356931.50C9C226@ieee.org>
Source record: 33435
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Frank Dinger wrote:
>
> >>Without saying anything, I went over to the
> > >stairway switch and turned it on and off a few times. "On" caused the
> > >interference. When we swapped the bulb with one in a floor lamp, the
> > >floor lamp caused the same interference. It has been one of my enduring
> > >regrets that I didn't ask to keep the bulb. It was probably thrown out.
> ================
> That bulb was probably an old coiled 'Edison' type . They were /are known to
> form a tuned circuit resonating in the old TV band 1 (about 48 - 62 MHz)
> acting as a TX when power is applied.
>
> Frank GM0CSZ / KN6WH

Thank you thankyouthankyou! I've been called a crazy liar more than once
over that bulb. There was no channel 1 when that incident happened, but
I suppose that a small change of geometry could raise the frequency. The
explanation in QST had it that the frequency was swept over a fairly
large range as the voltage varied during a cycle.

Jerry
--
Engineering is the art of making what you want from things you can get.
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1122. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:41:34 UTC
From: Jim Thompson <Jim-T@analog_innovations.com>
Message-ID: <0iqajvcfdbrqbtf8qiqh0ld3006nceae19@4ax.com>
Source record: 33436
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

On Sat, 09 Aug 2003 17:35:45 -0400, Jerry Avins <jya@ieee.org> wrote:

> Engineering is the art of making what you want from things you can get.

Love that byline.

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona Voice:(480)460-2350	
Jim-T@analog_innovations.com Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

For proper E-mail replies SWAP "-" and "_"

Why is it that Democrats can't debate politely?
And are only rude and interruptive.
Lack of mental capacity?

1123. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:42:12 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bh3prk$eh0$0@208.206.142.97>
Source record: 33437

Tom Coates wrote:

> How much voltage is the 110V primary winding insulated for, typically? Is
> there a non-destructive way to find out? I've been thinking about achieving
> a 4x stepup by feeding 24V into a 6V winding and getting 440V. Even more,
> p-p.

I dunno, Tom, that's probably pushing things. You could re-insulate the low voltage winding by taking the tranformer apart, using some thin HV insulating material, tape, whatever you're sure would handle the HV youi plan, and then rewind the secondary back on. This assumes the secondary is wound on the outer layer, which is usually the case. Make sure to rewind the same number of turns, and be careful to not overfill the space with insulation such that it all won't fit back together.

Dick

1124. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:47:55 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3F356C0B.5F7F628F@bloomer.net>
Source record: 33438
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Nope.

Paul Burridge wrote:
>
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

1125. Re: HP 141T, 8552B, 8553B?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 21:57:19 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vjari2nuns1f84@corp.supernews.com>
Source record: 33439

The bulb shows no continuity and my sorrily xeroxed manual is missing page 6-13 where I assume DS1 is listed. Can someone please tell me the lamp specs and whether it screws in, plugs or solder.
tnx
hank wd5jfr
"Dr. Anton Squeegee" <SpammersAreVermin@dev.null> wrote in message news:MPG.199f030679d9e3a99899c0@192.168.42.131...
> In article <vjadqi6p54d3bb@corp.supernews.com>, Henry Kolesnik says...
>
> > I just got this setup and the it seems to work OK except the that the
> > DISPLAY UNCAL lamp on the 8553B doesn't light when it should. Is this a
> > common failure that is an easy fix, any tips appreciated.
>
> Silly question... Did you check the bulb? ;-)
>
>
>
> --
> Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
> (Known to some as Bruce Lane, KC7GR)
> kyrrin a/t bluefeathertech d-o=t c&o&m
> "Quando Omni Flunkus Moritati" (Red Green)

1126. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 22:30:03 UTC
From: Barry Lennox <pbarryplennoxp@operamail.com>
Message-ID: <53tajv042dpv6sebif5svr7uuetu2bjrmj@4ax.com>
Source record: 33442
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 08 Aug 2003 10:05:43 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Fri, 08 Aug 2003 03:29:47 GMT, Eric Immel <EI@no.spam.for.me>
>wrote:
>
>>Paul, are you asking if anyone has been killed, then revived?
>
>That's pretty close to what I'm getting at. What I *am* actually get
>at is that theoretical physicists are coming around to the rather
>extraordinary view that one cannot from one's own perspective be
>killed by any sudden and dramatic life event. No matter how bad the
>shock, you will always 'come around' to find that you've survived. The
>tricky bit is that you'll probably have found yourself in a different
>reality to the one you left. In the one you've left, observers will
>see your cold, dead, smoking body lying sparko on the ground. Your
>relatives will grieve, your obituary will be written. But *you* won't
>know anything of that. You'll just believe you've had a lucky escape;
>you'll go home and tell your friends and family all about it and years
>later maybe you'll tell others via the Internet. Sounds nuts?
>Incredible as it may seem, the majority of physicists currently

Well that is funky!

Got electrocuted pretty well as a teenager. Fiddling about with an
ex-Army ZC1 set I'd converted to mains, managed to take 230vac from
arm to arm for what seemed like several minutes, but was probably a
second. Was sick, shaking, sore and sweaty for a couple of hours,
still had sore muscles for several days. Not at all funny. But the
universe I came back to seemed pretty normal.

Did the NDE thing after drowning in the school pool as a kid though,
can pretty clearly recall looking down on myself, and the teacher
"bringing me back" I suspect she still wanted to hassle me about the
unfinished homework, and drowning was not going to be accepted as an
excuse! Still the same universe though!

Barry Lennox

1127. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 22:55:40 UTC
From: Jerry Avins <jya@ieee.org>
Message-ID: <3F357BEC.F75543CF@ieee.org>
Source record: 33443
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Jim Thompson wrote:
>
> On Sat, 09 Aug 2003 17:35:45 -0400, Jerry Avins <jya@ieee.org> wrote:
>
> > Engineering is the art of making what you want from things you can get.
>
> Love that byline.
>
> ...Jim Thompson

Thanks. As its author, I give you permission to use it freely.

Jerry
--
Engineering is the art of making what you want from things you can get.
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1128. Re: K 01252-d Co-ax

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-09 23:15:50 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000006a.002c1f11@btinternet.com>
Source record: 33444

Hi,

Your wish is my command -

http://www.cables.co.kr/cables/Coaxial%20cable/Cable%20
Selection/Cable%20Selection.htm

Don't forget to copy the whole of the URL. Despite the Kanji
style characters, the technical bits are in normal engineering
format.

Cheers - Joe

1129. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 00:18:34 UTC
From: "Sir Charles W. Shults III" <aichipREM@OVEcfl.THISrr.com>
Message-ID: <ubgZa.26652$K4.1417910@twister.tampabay.rr.com>
Source record: 33445
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Well, years ago I got nailed by a 15 kv neon transformer, and I found myself on the ground seeing electric cartoons, Chinese algebra and vibrating light bars. After struggling to make the chest muscles relax enough to inhale, I decided that there were safer things to mess around with- yeah, for about a week!
But the only NDE I have had was the end of June of this year, after a vicious bout of food poisoning after eating at Golden Corral here in Orlando. I was so dehydrated I could not sweat, with a temperature of 104 F (that's 40 C for all the metric people). I spent most of the time that I felt hot in the shower, soaking. On the third day, early in the morning, I had the bright light/dark tunnel experience. Even now, when I start to think about it, it is difficult not to tear up. It was a most interesting adventure and one that really hit deeply in the emotional center.
I can see why so many people feel so moved or changed by it, but I was pretty much "there" already, so it has only left a few marks on me.

Cheers!

Chip Shults
My robotics, space and CGI web page - http://home.cfl.rr.com/aichip

1130. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 01:01:38 UTC
From: averyfineman@aol.com
Message-ID: <20030809210138.17796.00002021@mb-m15.aol.com>
Source record: 33347

In article <bh03qu$t7vi6$1@ID-61331.news.uni-berlin.de>, "Hans Summers"
<Hans.Summers@Tudor.Com> writes:

>Apologies in advance if this is considered OT.
>
>I am having a minor problem with the display on my spectrum analyser Mk2
>project, see
>http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/index.htm
>. The display for this analyser is an 4.5-inch ex-TV tube. I successfully
>dismantled that TV and rebuilt the necessary drivers etc as a miniature
>monitor having TTL-level video and composite sync inputs.
>
>Naturally the type of display this tube is now being subjected to is very
>different to a TV picture. There seem to be some problems with the video
>drive circuits, see pictures at the bottom of the above web page. The
>graticule fades out in the top eighth of the screen. Also see the "noise
>floor" photo which shows significant horizontal "bulge".
>
>Also there is a resolution problem - one spectrum analyser sweep consists of
>640 measurements, and I have a complicated interpolation circuit which
>"joins the dots" i.e. draws lines between the individual measurements, and
>also reduces the horizontal resolution to 320 pixels which I hoped would be
>displayable on the monitor. Problem is I can only get 160 horizontal pixels
>to display reliably - at 320 pixels a vertical line is very faint or
>invisible (depending on how much white there was in the preceeding
>microsecond or so's worth of scan line.
>
>The circuit diagram is also on that page
>(http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/circuitm
>.pdf). I'm no TV expert. Can anyone suggest what modifications should be
>made to the video driver circuit to correct these problems? Alternatively
>what newsgroup might be populated with TV gurus?

If there is a "fade" of part of the screen when doing off-on switching
of the CRT (either grid or cathode, doesn't make much difference),
the fade can be due to simple AC coupling between the off-on
driver circuit and CRT circuit. The CRT needs a DC coupling to keep
the baseline constant. AC coupling will "move" the baseline
depending on the capacitor-load-resistance time constant.

If the top of the display has faded towards black, then one can guess
two things: The CRT cathode is being driven negative to turn on the
beam and there is AC coupling to shift the baseline and thus the
"on" pulse tips towards black level.

"Fuzz" or "smear" on the display for fine detail is invariably a band-
width thing. Poor high frequency response in the video driver to CRT
will cause that. That can be overcome by "peaking" techniques on
the driver circuits, first done six decades ago or so with tubes/valves.

Very nice construction on the little TV conversion to display on your
website! :-)

Len Anderson
retired (from regular hours) electronic engineer person

1131. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 01:01:40 UTC
From: averyfineman@aol.com
Message-ID: <20030809210140.17796.00002022@mb-m15.aol.com>
Source record: 33446

In article <401eed4d.0308081501.1c0278e6@posting.google.com>,
HoldenCaulfield@att.net (Bill Bowden) writes:

>Watson A.Name - 'Watt Sun' <alondra101@hotmail.com> wrote in message
>news:<MPG.199d4d9e669aa584989b7a@news.inreach.net>...
>> In article <3f324cc8$1@cpns1.saic.com>, richard.p.henry@saic
>> mentioned...
>> >
>> > "Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message
>> > news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
>> > >
>> > > "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
>> > > news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
>> > > > 10KV to fire magnetron in counter battery radar. Took six marines to
>> stop
>> > > > me from burying my screw driver in the chest of the asshole that
>thought
>> it
>> > > > would be cute to push the radiate button.
>> > >
>> > > I remember hearing the story of an Air Force tech working on a 30' radar
>> > > dish. For some dumb reason, someone energized it and promptly
microwaved
>> > > him to death.
>> > >
>> > > Some of these stories are hair rasing... and I'm too much of a weenie to
>> > > stick my tongue on a 9V battery...
>> >
>> > A Raytheon corporate legend is that one of the engineers discovered the
>> > microwave oven principle when a radar melted a chocolate bar in his shirt
>> > pocket.
>>
>> When I was in the army at Ft. Monmouth, NJ, we trained on a radar
>> trainer, had a klystron that put out 1W to the horn on the top of the
>> unit. We could put our finger over the horn and feel it get mildly
>> warm from the RF.
>>
>> Big deal. The Real Thing put our 5 megawatts!
>
>Sure, but the pulse width is only a microsecond, so the
>average power is only 5 watts at one pulse per second.
>I forget the rep rate of the one I woked on but at
>6uS per mile and 400 miles round trip, the rep rate
>would be about 400 Hz. So it's 400 times 5, or 2KW.

>
>-Bill

A very rough estimate of "radar range" (time out to return of echo) is 500 feet per microsecond. For a 200 mile search radar the time out to echo return is 2+ milliseconds, depending on whether it is calibrated for statute or nautical miles. Typical PRF for those 200 mile search radars was 400 Hz (PRT of about 2.5 mSec).

Average power output is Peak x ((pulse width)/(repetition time)) or 5 MW divided by 2500 = 2 KW.

2 KW concentrated in a 2 to 5 degree cone can have a devastating heating effect on human tissue.

One may or may not be "in" the cone of the beam right up close to the feedhorn but, with the construction of most search radars (maritime or ground) there isn't much walk-around space to get away from the feedhorn or the very close in-person effects of microwave radiation.

When working on HIGH POWER RF at any frequency, believe in the inverse square law and put as much distance from the antenna as possible...or have a trusted person down on the power controls who keeps the thing OFF while up there doing whatever.

I think it would be an interesting subject to compare peak power RF effects versus average power RF effects. I can't seem to find much on that in hundreds of pages of medical-biological reports on the effects of RF radiation on human tissue. Unfortunately, that has been pretty well shunted aside so that someone can get their pet "alternate universe" speculations going on in here. :-)

All this gee-whizzy speculation stuff leaves me shocked.
But not fatally so...

Len Anderson
retired (from regular hours) electronic engineer person

1132. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 01:23:18 UTC
From: joe <joe_not_jake@nospam.com>
Message-ID: <3F359E84.F6EA249@nospam.com>
Source record: 33348

Good point for safety, year or so ago, a new ham lost his life
while putting up an antenna on the roof of a friends home,
also a new ham. The antenna contacted house power lines.

73 joe

Avery wrote:

> clipped....
> I mention this because amateur radio nearly always involves outside
> antennas in urban areas close to utility power wiring on poles. The
> possibility of fatal or terrible electric shock isn't confined to some
> radio-electronic box interior...it exists out in the open, in plain sight.
> Keep it in mind to avoid frying that mind.
>
> Len Anderson
> retired (and still living) electronic engineer person

1133. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 01:33:15 UTC
From: joe <joe_not_jake@nospam.com>
Message-ID: <3F35A0D9.CDD70794@nospam.com>
Source record: 33349

hi,

A gfci monitors for a current imbalance between the Hot and Neutral
conductors.
A ground connection is not necessary. Per NEC 210-7

http://www.leviton.com/sections/techsupp/faq.htm#2 wire gfi

Regards.

"Gary S." wrote:

> On Fri, 08 Aug 2003 17:01:16 -0400, Alex <ve3leg@hotmail.com> wrote:
>
> >GFCI?
> >
> Ground Fault Circuit Interruptor.
>
> It detects a sudden rise in current to ground and shuts the circuit
> off in a fraction of a second.
>
> Fuses protect the circuit, GFCI protects people.
>
> The present US Electrical Code requires them in areas where water is
> nearby, including bathrooms, kitchens, garages, and outdoors.
>
> You are encouraged to use them in other places where there is danger
> of zapping yourself.
>
> They are not a guarantee, but they boost the odds in your favor.
>

1134. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 01:43:24 UTC
From: joe <joe_not_jake@nospam.com>
Message-ID: <3F35A33A.31CF7E74@nospam.com>
Source record: 33350

Only 120vac on a 20 a bench lab supply,
in radio shop back in 1975 building radio from kits, tubes.

One of the pot heads could not get his radio to work,
so he asked for help and like a stupid jerk I say ok.

I wanted to look it over first before I plug it in,
so I have it in both hands, then pot head plugs in the radio,
next thing I feel is my hands getting tight grip on the metal
cabinet, my chest and heart start to feel the electricity and
I slowly feel that I am starting to black out.

Luck for me the power cord was still coiled up from factory,
I was able to lean backwards and fall off the lab
chair and that caused the plug to pull out of the outlet.

I hit the floor hard but did not feel it due to my body all
numb from the shock.

joe

Titus Pomponius Atticus wrote:

> Once... 990 vac at 30 amps for a split second from right hand to left hand.
> Stopped breathing, no heart beat but still aware for a few seconds.
>
> How quiet everything got! Oh, I could still hear my coworkers laughing as I slid
> to the floor, but the normal, unnoticed noises of respiration and circulation
> were gone. About the time my vision started to go (seeing green, purple, black
> splotches, all else fading), my heart gave a great single beat then took off
> into tachycardia, then settled after a few seconds into a normal but fast
> rhythm. I could breath and see again, but was too weak to get up for several
> minutes. By this time the coworkers had figured out things were a bit more
> serious and I was helped to my feet. That's when I noticed the burn on one hand,
> where my thumb knuckle had brushed the case of the defective amplifier. It never
> really hurt, the burn spot, but my chest muscles were sore for a week, also took
> about that long for my strength return to normal.
>
> I've been shocked many times before and since, but that was the closest I got to
> buying the tiny farm.
>
> On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge
> <redscar@waitrose.notformail.com> wrote:
>
> >
> >The question seems daft, but bear with me, gentlemen. Has anyone ever

> >had an electric shock that they feel lucky to have survived?
> >
> >p.

1135. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 03:22:06 UTC
From: averyfineman@aol.com
Message-ID: <20030809232206.24390.00001685@mb-m19.aol.com>
Source record: 33351

In article <lbnajv092173nauhg8ei5b4dujn2hffs4f@4ax.com>, Paul Burridge
<redscar@waitrose.notformail.com> writes:

>On 09 Aug 2003 19:46:02 GMT, averyfineman@aol.com (Avery Fineman)
>wrote:
>
>> If the source has over 30 Volts and can supply over 30 milliamperes
>> through the cardiac region, you will go into cardiac fibrilation.
>
>Sorry, Len, but I can't see it. I routinely check for HV on the anodes
>of certain smallish valves with bare fingers and can't even begin to
>feel anything under about 80 volts (at very much more current
>capability than 30mA) at the low end. However, I read somewhere that
>some guy died from just a 12V 'shock' - must have been a world
>record.. :-(

I'm not concerned with what YOU do personally, nor will I set any
"standards" for all humans based on what one human can or can't
do or feel.

I got the "30-30" phrase while working at Birtcher Instruments, a
semiconductor test instrument maker and a division of Birtcher
Medical that made several different medical electronic instruments
(EKG, RF knife/cautery, defibrilators,etc.). Someone at Birtcher
Medical told me about it. I was Chief Engineer at Birtcher Instruments
in Monterey Park, California, a suburb of Los Angeles (not the upstate
Monterey, CA, where some FedEx deliveries went, hi). I don't think
that my employer at the time would give me false information.

The City of Los Angeles building and safety codes don't require
inspection of 24 VAC wiring in residences and that sort of wiring is
common here for furnace and HVAC controls, doorbells, etc. That
AC voltage is never considered "high voltage." That is probably true
of the USA National Electrical Code although I haven't read one
recently (I've only read the coding in the Numeric Electromagnetic
Code recently, quite different from the other "NEC").

I really don't know the medical-biological low threashold for direct
cardiac stimulation through an opening in the chest cavity. I don't
care to know. I care to know NOT to futz around with my or anyone
else's body with anything above the "30-30" limits.

If YOU want to experiment with your own body, feel free. Then you
transport yourself to that other "reality." When you get there, ask
someone there to shock themselves into this reality and tell us all what
it is like "over there." I live in THIS reality where survival depends on

not treating electricity cavalierly like it was words in a newsgroup.

Happy zapping.

Len Anderson
retired (from regular hours) electronic engineer person

1136. Re: Source for power transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 03:22:07 UTC
From: averyfineman@aol.com
Message-ID: <20030809232207.24390.00001686@mb-m19.aol.com>
Source record: 33352

In article <YFadnSRrUJ8uSK-iU-KYgg@comcast.com>, "Tom Coates"
<tecoates@comcast.net> writes:

>How much voltage is the 110V primary winding insulated for, typically? Is
>there a non-destructive way to find out? I've been thinking about achieving
>a 4x stepup by feeding 24V into a 6V winding and getting 440V. Even more,
>p-p.

The insulation MIGHT be figured as twice the maximum peak-to-peak
AC swing to all other windings and their twice peak-to-peak values and
the core and frame. No guarantee, just a rule of thumb.

A "non-destructive way to find out?" Absolutely. Get an old plate
transformer of about 250 VDC kind or higher, put a variable auto-
transformer on the input, and series the secondary through a very
high value resistor, say around a MegOhm, to the device under test.
Use a scope to measure the AC across the device under test.

Bring up the autotransformer (trade names Variac - General Radio -
or Powerstat - Superior Electric) voltage from zero and watch the
scope waveform. When it starts to break up, that's the breakdown
voltage, approximately related to the variable autotransformer setting
and the ratio of voltage step-up of the test transformer. The series
resistance value limits the short-circuit current flow; with 1 MegOhm
and, say, 400 VAC, the maximum current flow would be 0.4 mA AC.

Any "HiPot" tester (former Brewster Electronics) can do the same
thing.

The design and capabilities of transformers are covered in essence
in the old "Green Bible," or ITT Radio Handbook for Engineers, circa
1950s. Also the "Blue Bible" of the 1970s and later. There's a lot
more to power transformer design than realized. You CAN get a
voltage step-up as you described but you will NOT get the rated
currents into any finite load. I will let the "student" figure that one
out.

A coarse approximation of winding a small power transformer is to
figure the number of turns per volt per winding as the E-I core center
square area in square inches divided by 6.5. Choose wire size to
handle the current. That's only for estimation purposes since there are
lots of variables involved. I'm not saying to rewind anything, just that
you will probably get the increased NO-LOAD voltage, but that will
drop depending on the equivalent load resistance.

Len Anderson
retired (from regular hours) electronics engineer person

1137. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 03:31:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vjbf5060tpaa62@corp.supernews.com>
Source record: 33353
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I had a NDE when I congratulated a young lady on her pregnancy, and it turned out she wasn't pregnant. Near-fatal shock, it was, too.

Roy Lewallen, W7EL

1138. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 07:15:32 UTC
From: yukio <yano@shaw.ca>
Message-ID: <oimZa.688388$ro6.14269630@news2.calgary.shaw.ca>
Source record: 33354

What is the Video format ?
if its NTSC 525 line interlaced, there are two 262 line fields
transmitted per frame Don't know what is used in your QTH PAL, SECAM,
Other ? Check timming diagram to see if it is compatable with TV Scan
format !

Yukio VE5YS
"Hans Summers" <Hans.Summers@Tudor.Com> wrote in message
news:bh03qu$t7vi6$1@ID-61331.news.uni-berlin.de...
>
> Apologies in advance if this is considered OT.
>
> I am having a minor problem with the display on my spectrum analyser Mk2
> project, see
>
http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/index.htm
> . The display for this analyser is an 4.5-inch ex-TV tube. I successfully
> dismantled that TV and rebuilt the necessary drivers etc as a miniature
> monitor having TTL-level video and composite sync inputs.
>
> Naturally the type of display this tube is now being subjected to is very
> different to a TV picture. There seem to be some problems with the video
> drive circuits, see pictures at the bottom of the above web page. The
> graticule fades out in the top eighth of the screen. Also see the "noise
> floor" photo which shows significant horizontal "bulge".
>
> Also there is a resolution problem - one spectrum analyser sweep consists
of
> 640 measurements, and I have a complicated interpolation circuit which
> "joins the dots" i.e. draws lines between the individual measurements, and
> also reduces the horizontal resolution to 320 pixels which I hoped would
be
> displayable on the monitor. Problem is I can only get 160 horizontal
pixels
> to display reliably - at 320 pixels a vertical line is very faint or
> invisible (depending on how much white there was in the preceeding
> microsecond or so's worth of scan line.
>
> The circuit diagram is also on that page
>
(http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/circuitm
> .pdf). I'm no TV expert. Can anyone suggest what modifications should be
> made to the video driver circuit to correct these problems? Alternatively
> what newsgroup might be populated with TV gurus?

>
> 73
>
> Hans G0UPL
>
>

1139. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 07:43:53 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <YEW8euE5efN$EAvz@ifwtech.co.uk>
Source record: 33355

Roy Lewallen wrote:
>Ian White, G3SEK wrote:
>
>> . . .
>
>> An interesting thing happens when you switch off to isolate part of
>>the house wiring, and then cut the "dead" three-wire cable. (We call
>>it "flat twin and earth". It has PVC-insulated hot and neutral wires
>>with a bare ground wire in between, all in a flattish grey or white
>>PVC sheath. Is this what you call "Romex"?)
>
>Yes, that's "Romex". The official designation is type NM (for
>Non-Metallic). 12 gauge wire, for 20 amps maximum, is "12-2 with
>ground" and 14 gauge, for 15 amps, is "14-2 with ground". Those are the
>most common sizes for residential lighting and outlet circuits.
>
Good - so that's two more entries for the US-UK Electrotechnical
Translating Dictionary: Romex/FT&E and GFCI/RCD.

>> If you cut the hot and ground wires together, nothing happens; but
>>if you cut the neutral and ground wires together, the RCD trips.
>>That's a puzzle the first time it happens, but it's because that
>>cable isn't quite as "dead" as you think. the isolating switches
>>interrupt only the hot wire, so the neutral and earth are still being
>>shared with everything else that's switched on in the house.
>> Does that happen in the USA, or do you have two-pole isolating
>>switches for individual sub-circuits?
>
>I don't quite follow where you're cutting the wires or where the RCD is
>located. Here, you can get a GFCI as either a circuit breaker you
>install in the service box to protect a whole circuit, or incorporated
>in a duplex outlet. Both are easily identifiable by the conspicuous
>test button. The breaker differs from an ordinary breaker in that the
>neutral wire is also routed through it.
>
>Circuit breakers interrupt only the "hot" wire. It's been a long time
>since I studied the code (NEC - National Electrical Code), but I'm sure
>that switching the neutral is still a no-no. Neutral wires are all
>brought back to the service box, where they're all connected to the
>central power feed wire. The safety grounds are brought back to the
>service box separately, where they're connected to the same point as
>the neutrals. Neutral and safety ground are connected together only at
>the service box, nowhere else.
>

On our single-phase 230V systems, we have two different ways of connecting neutral and ground. The old way is to have a separate individual earth rod at each house, with no connection to neutral in the house wiring. However, the power company's neutral is cross-linked to earth (maybe in several places) so neutral is always pretty close to earth potential.

The more modern way, called "Protective Multiple Earthing" or PME, links the protective ground to neutral at each house, directly upstream of the RCD, but the house has no physical earth connection of its own. The power company provides multiple earthing connections in its network, so there's always one not far away, and once again neutral is pretty close to earth potential. PME is supposed to be more reliable than individual earth rods at each house, but the Wiring Regs do not like people to add their own earth connections... which makes real problems for radio hams supplied by PME systems.

Coming back to the RCD question, it seems that our breakers/isolators for individual sub-circuits in the house (eg "upstairs lights") interrupt the live/hot line only. When you "isolate" the sub-circuit you're working on, the hot line is dead and safe... but the neutral and ground mesh for the whole house is still connected.

Now when you snip through the Romex, if your cutter blade connects the neutral and ground wires, it creates a sneak path between neutral and ground for all the other sub-circuits in the house are that are still active, and that pops the GFCI/RCD. It's a surprise the first time it happens - especially if you've rigged a temporary worklight from another sub-circuit, and especially if you find yourself kneeling on the rafters above the bedroom ceiling, suddenly in total darkness! Such experiences tend to concentrate the mind, so then you learn to nibble through the cable more carefully, one wire at a time.

>> This isn't totally idle curiosity. If there's an electrical problem
>>while we're staying with the in-laws in Atlanta, I'm the one who's
>>supposed to know about these things...
>
>I'd at least get a home-handyman book on electrical wiring, and a real
>code book if you'll be doing anything other than pretty simple wiring.

[Snipped some very good advice]

I'd never be involved in new wiring; but in our transatlantic family, I'm expected at least to understand what I'm looking at.

Actually the in-laws' house was built quite recently, so the wiring seems to make sense. Our wives' parents' old home in upstate NY was quite another matter... to British eyes, the wiring in there was downright scary.

It's pretty clear that US and UK household wiring practices are now converging on the same basic principles, subject of course to the differences in your "split-rail" system and ours.

Then there are the additional eccentricities that things like wiring codes will always have. There are often many safe ways to do it, but the only acceptable way is The Code's Way.

> But it was a lot of years ago now, the code evolves, and my memory
>fades.

That's a real problem - the code evolving, I mean... not... what was the other thing?

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1140. Re: HP 141T, 8552B, 8553B?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 10:01:10 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <IToZa.112$LI.58437@newsfep1-win.server.ntli.net>
Source record: 33357

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vjari2nuns1f84@corp.supernews.com...
> The bulb shows no continuity and my sorrily xeroxed manual is missing page
> 6-13 where I assume DS1 is listed. Can someone please tell me the lamp
> specs and whether it screws in, plugs or solder.
==========
To overcome ANY bulb problem I would suggest you check the supply voltage to the bulb.

If DC replace the bulb by a LED and a suitable series resistor . If AC add a diode (with suitable PIV) in series with the LED and the series resistor. (Although the LED is a diode , it has a low PIV ,hence the requirement for the additional diode).

Frank GM0CSZ / KN6WH

1141. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 11:41:37 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F362F71.601CCE9D@ob-wan.com>
Source record: 33366

Paul Burridge wrote:
>
> On Fri, 08 Aug 2003 21:36:08 GMT, Gary S. <Idontwantspam@net> wrote:
>
> >On Fri, 08 Aug 2003 17:01:16 -0400, Alex <ve3leg@hotmail.com> wrote:
> >
> >>GFCI?
> >>
> >Ground Fault Circuit Interruptor.
>
> How splendid! We call them Residual Current Circuit Breakers in
> England. Typically they trip out at just over the amount of current
> required to kill someone. Keeps the bills down that way. In *this*
> universe, anyway.

They're Earth Leakage Detectors in Australia. ;-)

Rob

1142. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 11:42:57 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F362FC1.ED3ABB61@ob-wan.com>
Source record: 33364
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> On Fri, 08 Aug 2003 15:52:03 GMT, Spehro Pefhany <speff@interlog.com>
> wrote:
>
> >Does that mean that my smoking/exploding MOSFETs have narrowly
> >survived their "both sides of the half-bridge on" event in some
> >parallel universe? How about my dog who got runned over (sic) when I
> >was 12? Is he happily chasing various critters somewhere?
>
> The world's brightest minds would have it so, strange as it seems. For
> a gentle introduction into the subject, check out 'The Universe Next
> Door' by Marcus Chown.

Naah. Never was into Science Fantasy ...

Rob

1143. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 12:06:22 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <00bcjvga11vlkielf7us7g4t60mkcotr5b@4ax.com>
Source record: 33360
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 10 Aug 2003 10:30:03 +1200, Barry Lennox
<pbarryplennoxp@operamail.com> wrote:

> Still the same universe though!

How would you know?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1144. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 12:06:23 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <cdbcjv8itkipsdngasuvc2npq7dpsmslsu@4ax.com>
Source record: 33361

On 10 Aug 2003 03:22:06 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> I really don't know the medical-biological low threashold for direct
> cardiac stimulation through an opening in the chest cavity. I don't
> care to know. I care to know NOT to futz around with my or anyone
> else's body with anything above the "30-30" limits.

As a general safety rule I'm sure you're right. However it does
overlook the fact that different individuals have different tolerance
levels, hence the fatality at 12V (the only recorded one, I believe)
and that Polish electrician who checks for the presence of 230VAC by
sticking his fingers in light sockets where he perceives a "slight
tingle." I personally can't feel 60V dc *at all* and would be
interested to know of others experiences of the lowest voltage they
can feel - without suggesting anyone do so, of course. Based on past
experience, I suppose.

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1145. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 12:09:18 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <ACqZa.12479$os2.182634@news2.e.nsc.no>
Source record: 33358

Some CW rigs without a display use a morse annunciator to give their frequency. Would it be simple to replace that with a voice memory chip so that it would actually talk back to you - even in your own voice - rather than use morse code?

Sverre
www.qsl.net/la3za

> That family of integrated circuits is made by Information Storage Devices
> Inc (ISD) ,San Jose -California
> The early types (1992) were ISD1012A , ISD1016A , ISD1020A

1146. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 12:30:03 UTC
From: Blake <bleverett@pants.att.net>
Message-ID: <fVqZa.94893$0v4.6515085@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33359
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Dave Platt wrote:

>
> Seems to go along well with "keep one hand in your back pocket" and
> "don't work on this stuff while standing in a puddle of water".

When I am around high voltages, I practice the "two-hand rule" - I keep both hands in my pockets and don't touch anything.

Blake

--
Drop 'pants' to reply by email

1147. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 12:33:12 UTC
From: Klaatu <alien@mars.net>
Message-ID: <3F363B88.37ED54D6@mars.net>
Source record: 33384
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> On Fri, 8 Aug 2003 18:25:06 -0500, "john graesser" <graesser@tca.net>
> wrote:
>
> > That wasn't the scariest
> >shock event in my life, I was driving down the highway, and felt the hair
> >raise up on my arms. Then there was a boom and my car radio stopped working.
> >That was the one time that I was in a lightning event.
>
> For a moment there I thought you were about to tell us you were
> abducted by aliens. :-)

Listen, Earthman, it's not _always_ our fault. Sometimes people are
abducted by humans TOO you know...

klaatu

1148. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 12:45:02 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F363E4E.F273DB5C@ob-wan.com>
Source record: 33372
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Jerry Avins wrote:
>
> Eric Jacobsen wrote:
> >
> > On Fri, 08 Aug 2003 13:31:25 -0400, Jerry Avins <jya@ieee.org> wrote:
> >
> > > ... It has been one of my enduring regrets
> > >that I didn't ask to keep the bulb. It was probably thrown out.
> > >
> > >Jerry
> >
> > I think that one may have been intended for an embassy somewhere...
> >
> About a year later, I read about such a bulb in QST. The author believed
> that Edison-effect electrons excited a self broad-band resonance in the
> doubly coiled filament, sustaining oscillation by a mechanism I forget,
> but that seemed reasonable at the time. Incandescent lamps are filled
> with low-pressure nitrogen to avoid damage from the Edison effect, and
> interaction with the gas figured in his explanation. It was that
> explanation that led me to build an open-air triode. I was surprised as
> anyone when that worked, and I took it as a confirming instance for the
> now-forgotten explanation.

Open-air triode?? Do tell, you have me fascinated...

Rob

1149. Re: Voice Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 13:02:31 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <8egcjv4a1mj15gbvseqa80p2okqpdmv3md@4ax.com>
Source record: 33362

>Some CW rigs without a display use a morse annunciator to give their
>frequency. Would it be simple to replace that with a voice memory chip so
>that it would actually talk back to you - even in your own voice - rather
>than use morse code?

Yes.

Their is a chip that's now being used on the newer intel P4 mother boards (to report boot up problems etc).

The same chip is also used here ...

<http://www.robot-electronics.co.uk/shop/Speech_Synthesizer_SP032006.htm>

You can upload your own audio samples to it as well, which can be played back in anyway you so choose.

Clive

1150. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 13:28:41 UTC
From: tk <gamach1@ispwest.com>
Message-ID: <3F364889.A57827D7@ispwest.com>
Source record: 33363

Years ago (50's) I was sitting on a 240 volt 600 amp circuit breaker
inside the Power Distribution Frame of an IBM 704 installed at the Air
Force Computing Center in the Pentagon. A civil service operator came in
early and hit the power on button..... I survived and so did the
operator....
murder is murder.... whatever the reason.

Ted in Atlanta KD4EE

Scott wrote:

> Nope.
>
> Paul Burridge wrote:
> >
> > The question seems daft, but bear with me, gentlemen. Has anyone ever
> > had an electric shock that they feel lucky to have survived?
> >
> > p.
> > --
> >
> > "I believe history will be kind to me, since I intend
> > to write it." - Winston Churchill
>
> --
>
> Scott
> http://corbenflyer.tripod.com
> http://groups.yahoo.com/group/ParasolAirplanes
> Building RV-4
> Gotta Fly or Gonna Die!

1151. Re: Connector advice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 13:35:02 UTC
From: tk <gamach1@ispwest.com>
Message-ID: <3F364A06.F3653635@ispwest.com>
Source record: 33365

Look under the hood at the engine compartment bulkhead of junked automobiles.
You'll find all types of multi-conductor, water-proof, feed through
connectrors,

Ted in Atlanta

Oscar wrote:

> here is a link for photo of a jbox you will never have to replace !
>
> http://www.carlon.com/Brochures/2B10-6P_Rated_JunctionBoxes.pdf
>
> Available at any home depot in electrical dept. under $ 20
> depending on the size you need. You can drill it to accept
> the weathertight strain relief that another poster recommended.
>
> regards.
>
> Roy wrote:
>
> > For years I've had a relay box in the back yard to remotely switch among
> > antennas. The plastic freezer boxes I used deteriorate in the sun and
> > have to be replaced from time to time. Last time I was at the surplus
> > store I picked up an ammo box which will be the new home for the relays.
> > I plan on using N connectors for the RF due to their weatherproof
> > construction. The problem is a connector for the relay control cable. I
> > want a weatherproof bulkhead connector with at least 8 or 9 conductors,
> > and I'd like the cable part to be weatherproof also. I don't want to use
> > an in-line connector because of the problems of weatherproofing and
> > strain relieving wires going through the box wall.
> >
> > There are a bunch of old military connectors that would be fine, but I
> > need a set of complete ones, with back shell for the cable end, etc.
> > I've been keeping an eye on eBay, but so far haven't spotted anything
> > quite right.
> >
> > Does anyone know a source for a suitable connector set?
> >
> > Roy Lewallen, W7EL

1152. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 15:19:19 UTC
From: Alex <ve3leg@hotmail.com>
Message-ID: <3F366277.40103@hotmail.com>
Source record: 33367
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I got a nice little zap when I accidently put my finger across the drive coil contacts of my Kenwood TS-520. I felt it all the way up my arm. The schematic says it's approx 300V. I have no idea what the current was.

Paul Burridge wrote:
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

1153. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 15:34:42 UTC
From: Mike Gilmour <mike@tfjazz.freeserve.co.uk>
Message-ID: <bh5osldft1@news7.svr.pol.co.uk>
Source record: 33368
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Maybe apocryphal but I heard that if you're stupid enough to look into an open waveguide of an active 10cm marine radar it would cause that eye to become the equivalent of a hard boiled egg. No need for a 3 minute timer then?

"Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
>
> "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
> news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
> > 10KV to fire magnetron in counter battery radar. Took six marines to stop
> > me from burying my screw driver in the chest of the asshole that thought it
> > would be cute to push the radiate button.
>
> I remember hearing the story of an Air Force tech working on a 30' radar
> dish. For some dumb reason, someone energized it and promptly microwaved
> him to death.
>
> Some of these stories are hair rasing... and I'm too much of a weenie to
> stick my tongue on a 9V battery...
>
>
> --
> Tom Sevart N2UHC
> Frontenac, KS
>
> http://www.geocities.com/n2uhc
>
>
>
>

1154. 28v switcher psu crt wanted..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 15:50:33 UTC
From: zindazenda <zen@ic24.net>
Message-ID: <vjcqeasg5q29ef@corp.supernews.com>
Source record: 33369

hello...

looking to build a simple (read cheap and small) even crude 28v 10amp switch mode psu to run on 240v in..have liiked on google etc but nothing found..
anyone know of any published designs..thanks simon g0zen..
please reply to group or zen@lineisp.co.uk..

thanks

1155. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 16:08:38 UTC
From: Keyboard In The Wilderness <KITW@forest.com>
Message-ID: <a6uZa.31777$ff.31461@fed1read01>
Source record: 33370
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Had big time Electric Shocks -- never fatal obviously
Had big time shocks that should (could) have been fatal -- ART- 13 Dynamotor
Navy. 440 AC - steel mill, etc.
But tis the current that does you in, not the voltage.

Coupla hundred milliAmperes will do it --- URL:
http://hypertextbook.com/facts/2000/JackHsu.shtml

Guess my Irish hide has lots of ohms!

Steel Mill Stories from the 40's (Maybe Urban Legend)

1. A lunch eater sat down and rested his head on a huge copper bus bar
(voltage unknown), someone turned on the switch, he was reduced to a
frazzled lump with a half a sandwich!

2. A careless electrician up high on an overhead crane, got across a high
voltage line and fell into one of those giant ladles that pour out the
molten steel. Not found.

Maybe the old steel mill hands -- told this to the new guys to scare the
hell out of em, Worked for me!

Lock the distribution box, take off all jewelry, keep one mitt behind you,
keep away from the chassis, -- all good advice, mostly learned the hard way.

Then there was a color TV High Voltage supply ---- ooccchhh !!! A teeth
rattling experience.

1156. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 16:16:55 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <s0pcjvkig7ku6rk480sd0s3n2esitiagv6@4ax.com>
Source record: 33371

On Sun, 10 Aug 2003 13:06:23 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On 10 Aug 2003 03:22:06 GMT, averyfineman@aol.com (Avery Fineman)
>wrote:
>
>> I really don't know the medical-biological low threashold for direct
>> cardiac stimulation through an opening in the chest cavity. I don't
>> care to know. I care to know NOT to futz around with my or anyone
>> else's body with anything above the "30-30" limits.
>
>As a general safety rule I'm sure you're right. However it does
>overlook the fact that different individuals have different tolerance
>levels, hence the fatality at 12V (the only recorded one, I believe)
>and that Polish electrician who checks for the presence of 230VAC by

It also matters what the surface resistance of your skin is, and how
good a "connection" to the nervous system and heart.

For example, You could put dry fingers on a 9V battery and not feel a
thing, but if you lick your fingers first, get a real tingle. Same
voltage, but the moisture allows current to flow.

In medicine, the defibrillator paddles are covered with a conductive
gel, and use a precise pulse of voltage and current. In open heart
procedures, lower voltage and current is used, with paddles applied
directly to the heart.

Of course, disrupting the heart rhythm may happen with lower voltage,
especially AC or RF.

Why is being careful such a problem for some?

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1157. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 16:21:21 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bh5urbgfv1@bob.news.rcn.net>
Source record: 33373
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

"Rob Judd" <judd@ob-wan.com> wrote in message
news:3F363E4E.F273DB5C@ob-wan.com...

> Open-air triode?? Do tell, you have me fascinated...

IIRC, field effect triodes {FETs} were made about the same time as the first
vacuum tubes, but they didn't work well enough, given materials technology
of the day.

1158. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 17:23:25 UTC
From: Jerry Avins <jya@ieee.org>
Message-ID: <3F367F8D.6C64140F@ieee.org>
Source record: 33374
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Rob Judd wrote:
>
...

> Open-air triode?? Do tell, you have me fascinated...
>
> Rob

I wrote of it before, so I'll be brief and hope I'm not boring. An open-coil hot plate with a ceramic holder to support and contain the nichrome element as filament*. Topped with galvanized window screening, the zinc removed with muriatic acid so as not to noxiously sublime, resting on the ceramic as (literally!) grid. Small glass beads -- around 1/16" -- scattered on it to create a gap and hold the screening flat. Atop that, a pie tin weighted with cooling water to serve as (literally!) plate. With 700 volts on the plate, I got measurable current on my 1000 ohm/volt meter. At -90 volts on the grid, the current was too small to read. The gain was enough to sustain oscillation.

Jerry

----
* Driven through an isolation transformer with grounded center tap.
--
Engineering is the art of making what you want from things you can get.
ï¿½
ï¿½
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½

1159. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 17:26:59 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <1hvcjvsuc50cp2d1u7ul7aukffeiiveipi@4ax.com>
Source record: 33375

On Sun, 10 Aug 2003 09:28:41 -0400, tk <gamach1@ispwest.com> wrote:

>Years ago (50's) I was sitting on a 240 volt 600 amp circuit breaker
>inside the Power Distribution Frame of an IBM 704 installed at the Air
>Force Computing Center in the Pentagon. A civil service operator came in
>early and hit the power on button..... I survived and so did the
>operator....
>murder is murder.... whatever the reason.
>
The full version of OSHA-approved (the US Occupation Safety and Health
Administration of the Department of Labor) safety lock-out/tag-out
procedure includes safety procedures such as locking out the
electrical power to a piece of equipment while it is being worked on.

There is one device applied to the breaker box that locks it off, and
then each worker places their own personal padlock to keep that device
locked, as well as a supervisor and possibly a safety engineer. The
equipment cannot be turned on until every single person is finished
and has cleared the area.

Seems obsessive, but it doesn't produce stories like on this thread.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1160. wetherwatcher

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 17:48:56 UTC
From: "b.h. lamers" <a.b.lamers@hccnet.nl>
Message-ID: <bh60i8$5tv$1@news.hccnet.nl>
Source record: 33379

hoi,
where can i find the program wetherwatcher

1161. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 17:54:55 UTC
From: Jerry Avins <jya@ieee.org>
Message-ID: <3F3686EF.88D916BF@ieee.org>
Source record: 33376
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

```
R J Carpenter wrote:
>
> "Rob Judd" <judd@ob-wan.com> wrote in message
> news:3F363E4E.F273DB5C@ob-wan.com...
>
> > Open-air triode?? Do tell, you have me fascinated...
>
> IIRC, field effect triodes {FETs} were made about the same time as the first
> vacuum tubes, but they didn't work well enough, given materials technology
> of the day.

I thought that FETs dated to the early 30s. De Forest's "audion" was
invented in 1903 and made long-distance telephony practical by 1913.

Jerry

P.S. to Rick: That was before my time.
--
Engineering is the art of making what you want from things you can get.
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```

1162. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 18:04:13 UTC
From: jwill@AstraGate.net
Message-ID: <4032bf27.0308101004.53ae8e8@posting.google.com>
Source record: 33377

averyfineman@aol.com (Avery Fineman) wrote in message
news:<20030809210140.17796.00002022@mb-m15.aol.com>...
> In article <401eed4d.0308081501.1c0278e6@posting.google.com>,
> HoldenCaulfield@att.net (Bill Bowden) writes:
>
> >Watson A.Name - 'Watt Sun' <alondra101@hotmail.com> wrote in message
> >news:<MPG.199d4d9e669aa584989b7a@news.inreach.net>...
> >> In article <3f324cc8$1@cpns1.saic.com>, richard.p.henry@saic
> >> mentioned...
> >> >
> >> > "Tom Sevart" <n2uhcNOSPAM@yahoo.com> wrote in message
> >> > news:bgu6o9$sgc8t$1@ID-52518.news.uni-berlin.de...
> >> > >
> >> > > "WB3FUP (Mike Hall)" <wb3fup@msn.com> wrote in message
> >> > > news:bgu54o$sici3$1@ID-134747.news.uni-berlin.de...
> >> > > > 10KV to fire magnetron in counter battery radar. Took six marines to
> stop
> >> > > > me from burying my screw driver in the chest of the asshole that
> thought
> it
> >> > > > would be cute to push the radiate button.
> >> > >
> >> > > I remember hearing the story of an Air Force tech working on a 30' radar
> >> > > dish. For some dumb reason, someone energized it and promptly
> microwaved
> >> > > him to death.
> >> > >
> >> > > Some of these stories are hair rasing... and I'm too much of a weenie to
> >> > > stick my tongue on a 9V battery...
> >> >
> >> > A Raytheon corporate legend is that one of the engineers discovered the
> >> > microwave oven principle when a radar melted a chocolate bar in his shirt
> >> > pocket.
> >>
> >> When I was in the army at Ft. Monmouth, NJ, we trained on a radar
> >> trainer, had a klystron that put out 1W to the horn on the top of the
> >> unit. We could put our finger over the horn and feel it get mildly
> >> warm from the RF.
> >>
> >> Big deal. The Real Thing put our 5 megawatts!
> >
> >Sure, but the pulse width is only a microsecond, so the
> >average power is only 5 watts at one pulse per second.
> >I forget the rep rate of the one I woked on but at

> >6uS per mile and 400 miles round trip, the rep rate
> >would be about 400 Hz. So it's 400 times 5, or 2KW.
> >
> >-Bill
>
> A very rough estimate of "radar range" (time out to return of echo)
> is 500 feet per microsecond. For a 200 mile search radar the time
> out to echo return is 2+ milliseconds, depending on whether it is
> calibrated for statute or nautical miles. Typical PRF for those 200
> mile search radars was 400 Hz (PRT of about 2.5 mSec).
>
> Average power output is Peak x ((pulse width)/(repetition time)) or
> 5 MW divided by 2500 = 2 KW.
>
> 2 KW concentrated in a 2 to 5 degree cone can have a devastating
> heating effect on human tissue.
>
> One may or may not be "in" the cone of the beam right up close
> to the feedhorn but, with the construction of most search radars
> (maritime or ground) there isn't much walk-around space to get
> away from the feedhorn or the very close in-person effects of
> microwave radiation.
>
> When working on HIGH POWER RF at any frequency, believe in
> the inverse square law and put as much distance from the antenna
> as possible...or have a trusted person down on the power controls
> who keeps the thing OFF while up there doing whatever.
>
> I think it would be an interesting subject to compare peak power
> RF effects versus average power RF effects. I can't seem to find
> much on that in hundreds of pages of medical-biological reports
> on the effects of RF radiation on human tissue. Unfortunately,
> that has been pretty well shunted aside so that someone can get
> their pet "alternate universe" speculations going on in here. :-)
>
> All this gee-whizzy speculation stuff leaves me shocked.
> But not fatally so...
>
> Len Anderson
> retired (from regular hours) electronic engineer person

There are a few refs and calculations in
http://arXiv.org/pdf/physics/0102007

Lu, et al (referenced) found that peak power was
responsible for spark-gap transmitter injury in rats.

Microwave hearing (referenced somewhat; see a review
Supplement to Radio Science in 1977) also seems to be
because of peak, not average, power.

John
jwill@AstraGate.net
John Michael Williams

1163. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 18:10:34 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19a02a78d1218c63989689@news-central.giganews.com>
Source record: 33378

In article <20030809210138.17796.00002021@mb-m15.aol.com>,
averyfineman@aol.com says...
> Very nice construction on the little TV conversion to display on your
> website! :-)

No kidding. I've bugged Hans a lot about how he really should be doing
all that work with a Mini-ITX PC motherboard, but all kidding aside,
that project is what "homebrewing" is really all about.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1164. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 18:21:29 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F368D29.3000202@bellsouth.net>
Source record: 33380
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

As a kid I wanted to test some light bulbs so I plugged a line cord
into the outlet and tried to touch the two bare wires to the
base of the bulb. I grabbed one bare conductor in each hand (ZAP!)
Oh the stupidity of youth! Luckly my hands were dry (no sweat!)
the house was air conditioned and humidity was very low.
I was able to quickly let go of the wires and pull the plug out of
the wall.

1165. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 18:25:01 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F368DFD.8000005@bellsouth.net>
Source record: 33381
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

>
> Some of these stories are hair rasing... and I'm too much of a weenie to
> stick my tongue on a 9V battery...
>

That's how we tested batteries when I was a kid. 'Course there was the
dufus that tried it with a 90v B battery!

1166. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 18:26:32 UTC
From: Howard Henry Schlunder <howard_hs@yahoo.com>
Message-ID: <3f368e88_5@corp.newsgroups.com>
Source record: 33382
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"K Wind" wrote in message
news:AvMYa.63145$ib2.16684641@twister.neo.rr.com...
> Would 1,500VDC with 6mA capability flowing through one arm and out the
other
> be considered lethal? At one time, I knew how much current was considered
> lethal, but have forgotten.

No. It is actually quite hard to kill yourself with electrical shocks.
There are tons easier and more likely things to die from in everyday life.

60Hz AC is most dangerous in the range of 100 to 300 mA. Current in that
range sometimes causes ventricular fibrillation, whereas currents above that
usually cause the heart to temporarily contract and protect itself. Very
high currents, however, can dissipate lots of power in your organs and cook
them, leading to a painful death if nothing stops the electrocution for
several minutes. High frequency AC (like many kilohertz and beyond) should
be less dangerous since it will be bound by "skin effect" and not penetrate
as far into your chest cavity. DC is considerably safer than 60Hz AC, and
I've read some estimates saying you need 4 times as much current to die from
DC shocks. I don't know if I believe that though; I suspect there are too
few cases to draw significant statistical conclusions. As I understand it
(and I may be wrong here), DC is safer than AC because it doesn't cause
ventricular fibrillation, so death by these shocks occur from organ damage
and falling off ladders and things.

Howard Henry Schlunder

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 80,000 Newsgroups - 16 Different Servers! =-----

1167. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 18:29:22 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F368F02.6050003@bellsouth.net>
Source record: 33383
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Keyboard In The Wilderness wrote:
> Had big time Electric Shocks -- never fatal obviously
> Had big time shocks that should (could) have been fatal -- ART- 13 Dynamotor
> Navy. 440 AC - steel mill, etc.
> But tis the current that does you in, not the voltage.

NYCTA workers have an urban legend about some one
eletrocuted when he pissed on the third rail.

> Coupla hundred milliAmperes will do it --- URL:
> http://hypertextbook.com/facts/2000/JackHsu.shtml
>
> Guess my Irish hide has lots of ohms!
>
> Steel Mill Stories from the 40's (Maybe Urban Legend)
>
> 1. A lunch eater sat down and rested his head on a huge copper bus bar
> (voltage unknown), someone turned on the switch, he was reduced to a
> frazzled lump with a half a sandwich!
>
> 2. A careless electrician up high on an overhead crane, got across a high
> voltage line and fell into one of those giant ladles that pour out the
> molten steel. Not found.
>
> Maybe the old steel mill hands -- told this to the new guys to scare the
> hell out of em, Worked for me!
>
> Lock the distribution box, take off all jewelry, keep one mitt behind you,
> keep away from the chassis, -- all good advice, mostly learned the hard way.
>
> Then there was a color TV High Voltage supply ---- oocchhh !!! A teeth
> rattling experience.
>
>

1168. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 19:40:30 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <ar7djvco8vrm1utot69ir5ks7dc951pqht@4ax.com>
Source record: 33385
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 10 Aug 2003 14:25:01 -0400, scharkalvin <wa2mze@bellsouth.net>
wrote:

>> Some of these stories are hair rasing... and I'm too much of a weenie to
>> stick my tongue on a 9V battery...
>>
>That's how we tested batteries when I was a kid. 'Course there was the
>dufus that tried it with a 90v B battery!
>
I'm sure when he could speak again he could tell you that there was
voltage present.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1169. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 19:51:25 UTC
From: averyfineman@aol.com
Message-ID: <20030810155125.04207.00002216@mb-m01.aol.com>
Source record: 33386

In article <s0pcjvkig7ku6rk480sd0s3n2esitiagv6@4ax.com>, Gary S.
<Idontwantspam@net> writes:

>On Sun, 10 Aug 2003 13:06:23 +0100, Paul Burridge
><redscar@waitrose.notformail.com> wrote:
>
>>On 10 Aug 2003 03:22:06 GMT, averyfineman@aol.com (Avery Fineman)
>>wrote:
>>
>>> I really don't know the medical-biological low threashold for direct
>>> cardiac stimulation through an opening in the chest cavity. I don't
>>> care to know. I care to know NOT to futz around with my or anyone
>>> else's body with anything above the "30-30" limits.
>>
>>As a general safety rule I'm sure you're right. However it does
>>overlook the fact that different individuals have different tolerance
>>levels, hence the fatality at 12V (the only recorded one, I believe)
>>and that Polish electrician who checks for the presence of 230VAC by
>
>It also matters what the surface resistance of your skin is, and how
>good a "connection" to the nervous system and heart.
>
>For example, You could put dry fingers on a 9V battery and not feel a
>thing, but if you lick your fingers first, get a real tingle. Same
>voltage, but the moisture allows current to flow.

Too bad the old "B" batteries aren't common any more. As a 15 year
old (back in the prehistory of mankind) newcomer hobbyist to radio
and electronics, I couldn't feel anything across the snap-on terminals
of a 67 V "B" battery. Curious, I touched my tongue to them.

Z A P ! ! ! !

Stunned, I waited about a half hour to get my tongue unrolled.

Never EVER tried such a totally dumb idea again...

>In medicine, the defibrillator paddles are covered with a conductive
>gel, and use a precise pulse of voltage and current. In open heart
>procedures, lower voltage and current is used, with paddles applied
>directly to the heart.

True enough. What is overlooked is that medical instruments,
meters, appliances are all precisely calibrated-adjusted-designed-
to-be-stable-in-their-settings...based on KNOWN INFORMATION to
medical and biological people.

>Of course, disrupting the heart rhythm may happen with lower voltage,
>especially AC or RF.
>
>Why is being careful such a problem for some?

Bravado and a general feeling of immortality. Especially true for males and once useful as a survival thing way back in time.

Some actually believe their boast "It can't happen to ME!" :-(

No problem for the morticians...keeps their business going.

The solid-state era was born with a dangerous side-effect: Low supply voltages. High voltages of 100 to 300 VDC weren't needed with transistors. Most folks are not able to feel supply voltages under 15 V, DC or AC. As a result they get way too CASUAL about handling supply rails with the power on. "Familiarity breeds contempt," etc.

When they take that casual attitude towards handling mains supplies with 115 to 230 VAC input, there's trouble just waiting to happen. It's like sticking one's hand into a snake basket...the snake may bite or it may not, depends on the snake...if it bites the bite can be deadly.

Len Anderson
retired and still living in the current reality after 56 years in electric things

1170. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 19:51:26 UTC
From: averyfineman@aol.com
Message-ID: <20030810155126.04207.00002217@mb-m01.aol.com>
Source record: 33387

In article <bh5osldft1@news7.svr.pol.co.uk>, "Mike Gilmour"
<mike@tfjazz.freeserve.co.uk> writes:

>Maybe apocryphal but I heard that if you're stupid enough to look into an
>open waveguide of an active 10cm marine radar it would cause that eye to
>become the equivalent of a hard boiled egg. No need for a 3 minute timer
>then?

Back when I was doing electronic instrumentation with an optics group
at Rockwell, my first day in that group brought forth a caution from one
of the optical physicists about lasers: "Do NOT look INTO a laser beam
unless you want that to be the LAST thing you see."

That was with a little 10 milliWatt laser used on their optical table
for initial system calibration.

Good advice I thought...and remembered it.

I'm sure there are some in here who want to gabble about "open wave-
guide" and it "not radiating much because it is open, represents a
discontinuity, and the VSWR is so high there won't be any power
radiated." Which MIGHT happen at any microwave frequency from
L-band bottom (1 GHz) on up past Ku band (24 GHz+). That will
depend on the wavelength of the physical waveguide opening to the
microwave source. The magnetron MAY also refuse to oscillate due
to a high VSWR, flash over and trip its breaker or something to not
operate. Then again it MAY - with equal likelyhood - work just fine
with an opening and radiate FULL power out that open waveguide.
Or something in between full power and no power...a big unknown.

No matter how much anyone likes hardboiled eggs, those belong in
the mouth and not the eye sockets.

Len Anderson
still looking at the world of electric things with cautious eyes

1171. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 21:17:42 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F36B676.14873784@ob-wan.com>
Source record: 33392
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Jerry Avins wrote:
>
> Rob Judd wrote:
> >
> ...
>
> > Open-air triode?? Do tell, you have me fascinated...
> >
> > Rob
>
> I wrote of it before, so I'll be brief and hope I'm not boring. An
> open-coil hot plate with a ceramic holder to support and contain the
> nichrome element as filament*. Topped with galvanized window screening,
> the zinc removed with muriatic acid so as not to noxiously sublime,
> resting on the ceramic as (literally!) grid. Small glass beads -- around
> 1/16" -- scattered on it to create a gap and hold the screening flat.
> Atop that, a pie tin weighted with cooling water to serve as
> (literally!) plate. With 700 volts on the plate, I got measurable
> current on my 1000 ohm/volt meter. At -90 volts on the grid, the current
> was too small to read. The gain was enough to sustain oscillation.

Trï¿½s bizarre!

Rob

1172. Re: wetherwatcher

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 21:22:21 UTC
From: Brian <hamster@atmc.net>
Message-ID: <bh6d5e$67cs$1@news3.infoave.net>
Source record: 33388

"b.h. lamers" <a.b.lamers@hccnet.nl> wrote in message
news:bh60i8$5tv$1@news.hccnet.nl...
> hoi,
> where can i find the program wetherwatcher
>
>

Try http://www.lafn.org/webconnect/mentor/startup/PENINDEX.HTM .

Brian

1173. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 21:42:45 UTC
From: p.kootsookos@remove.ieee.org
Message-ID: <s68k79ltciy.fsf@mango.itee.uq.edu.au>
Source record: 33389
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Jerry Avins <jya@ieee.org> writes:

>
> P.S. to Rick: That was before my time.
>

Hey, Rick! Stop pickin' on the ol' guy!!

;-)

Ciao,

Peter K.

--
Peter J. Kootsookos

"Na, na na na na na na, na na na na"
- 'Hey Jude', Lennon/McCartney

1174. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 22:16:39 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <00ddjvo8vot33lntvrjr5o0grvr4btof5e@4ax.com>
Source record: 33391
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 10 Aug 2003 11:26:32 -0700, "Howard Henry Schlunder"
<howard_hs@yahoo.com> wrote:

> DC is safer than AC because it doesn't cause
>ventricular fibrillation, so death by these shocks occur from organ damage
>and falling off ladders and things.

Funny. I was always told that DC= 'dangerous current' as it's *more*
likely to cause fatalities. Perhaps someone can settle the matter?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1175. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-10 23:09:28 UTC
From: Mike Gilmour <mike@tfjazz.freeserve.co.uk>
Message-ID: <bh6jbliat1@newsg3.svr.pol.co.uk>
Source record: 33390
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

When I worked as an RO in the Merchant Navy I found I could light my
cigarette by holding on to the overhead copper aerial feeder while
simultaneously keying the transmitter on MW (say 480 or 512 Khz) ....only
when I couldn't find my lighter. Kinda daft in retrospect...and chuckle to
think I eventually won a safety award ;-)

"Gary S." <Idontwantspam@net> wrote in message
news:k1f8jvc53r6go8jdrlbadmb1po3k4c796g@4ax.com...
> On Fri, 8 Aug 2003 16:56:28 -0700, Watson A.Name - 'Watt Sun'
> <alondra101@hotmail.com> wrote:
>
> >In article <0ff7jvo3f4daenaulq4vd109mrv93fe7nc@4ax.com>,
> >redscar@waitrose.notformail.com mentioned...
> >> On Sat, 9 Aug 2003 01:18:38 +1000, "Alex Gibson" <alxx@ihug.com.au>
> >> wrote:
>
> >> I think I may have experienced rf burns some years ago. Is this when
> >> you touch a metal object close to an rf field; it feels thermally
> >> *hot* enough to burn you, but when the field is killed, said object
> >> *instantly* feels normal room temperature again?
> >
> >No, RF burns is when the skin is actually burnt.
> >
> The example above sounds more like inductive heating.
>
> If an ungrounded piece of metal is near an RF energized coil, a
> current is induced in it which heats it up. Somewhat similar to a
> microwave oven.
>
> Happy trails,
> Gary (net.yogi.bear)
> --
> at the 51st percentile of ursine intelligence
>
> Gary D. Schwartz, Needham, MA, USA
> Please reply to: garyDOTschwartzATpoboxDOTcom

1176. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 00:07:27 UTC
From: John Moriarity <k6qq@hdo.net>
Message-ID: <vjdnj4h55q5m6d@corp.supernews.com>
Source record: 33393
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

> > That bulb was probably an old coiled 'Edison' type . They were /are known to
> > form a tuned circuit resonating in the old TV band 1 (about 48 - 62 MHz)
> > acting as a TX when power is applied.
> >
> > Frank GM0CSZ / KN6WH
>
> Thank you thankyouthankyou! I've been called a crazy liar more than once
> over that bulb. There was no channel 1 when that incident happened, but
> I suppose that a small change of geometry could raise the frequency. The
> explanation in QST had it that the frequency was swept over a fairly
> large range as the voltage varied during a cycle.

I found such a bulb in the loft of the garage of a house we were renting in the mid-1950s. I had read an article about them somewhere, so I took it inside, screwed it into a lamp near the TV, and, voila, instant Channel 3 TVI (that was the main channel in Milwaukee, WI, then). I put it in a box in my shack, and didn't think about it for some time.

I put up a tower and 20 meter beam. Before the coax was in the house, a neighbor sent his kid over to complain about TVI. I invited him to come over and see that the TV in my shack was not showing any interference, but he declined, and continued to complain over the next few months.

While preparing to leave for two weeks vacation, I had a flash of inspiration. I put the bulb in a lamp, connected a timer to the lamp, and put it in a closet (so the light couldn't be seen in an otherwise dark house). The timer turned the bulb on during evening TV hours.

I left it on for several days after our return. The neighbor never complained of TVI again.

73, John - K6QQ, glad for the statute of limitations.

1177. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 00:47:09 UTC
From: Tom Del Rosso <tdnews01@att.net.invalid>
Message-ID: <hIBZa.95581$0v4.6581377@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33394
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Watson A.Name - 'Watt Sun' wrote:
>
> I used to be able to do that with the nickle plated antistatic bags
> that parts came in back in 1980. The ohmmeter would measure several
> hundred ohms. But nowadays all I can measure is an open. I just
> tried it again, measured open even on the 200M range.

Yeah, it's been like that for at least 15 years. Anti-static work mats
aren't conductive either. So what principle do they use?

--
-Reply in group, but if emailing please add two more zeros and delete
the obvious-

1178. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 02:26:17 UTC
From: "Sir Charles W. Shults III" <aichipREM@OVEcfl.THISrr.com>
Message-ID: <d9DZa.30812$K4.1559536@twister.tampabay.rr.com>
Source record: 33395
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Actually, they ARE supposed to be conductive- at least to the tune of about a megohm. In any operation that is serious about antistatic procedures, the mats, wrist straps, and other equipment are to be tested periodically. Most testers show if a mat reads open right away.
If you have mats or other equipment that read open, then you have found defective hardware. Trash it.

Cheers!

Chip Shults
My robotics, space and CGI web page - http://home.cfl.rr.com/aichip

1179. SB-220 Capacitors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 03:02:04 UTC
From: DOUGLAS SNOWDEN <snowden@peoplepc.com>
Message-ID: <vje22a536eph21@corp.supernews.com>
Source record: 33396

I just bought an old SB-220 amplifier and have not actually received it yet. To those that have these, what is a decent source of electrolytics for the power supply? I plan on swapping them before I try to power it up, since I am sure the present ones are dry.

Doug N4IJ

1180. Re: HP 141T, 8552B, 8553B?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 03:24:21 UTC
From: Phil Rice <rice@ironbark.bendigo.latrobe.edu.au>
Message-ID: <110820031324154664%rice@ironbark.bendigo.latrobe.edu.au>
Source record: 33297

In a recent article, Henry Kolesnik <wd5jfr@oklahoma.net> wrote:

"I just got this setup and the it seems to work OK except the that the
DISPLAY UNCAL lamp on the 8553B doesn't light when it should."

I don't know why, but I just happen to have a 8553B manual on my desk.
The UNCAL light (according to the parts list) is 12V 0.06A. The wiring
to it comes from the Bandwidth & Scan width switches via the IF section
(which I don't have a manual for). It is very very complicated! (I lost
count of the number of manual pages it covered;-)

Ps: Wish I had the analyser, not just one of he manuals.

73 de Phil
------------ And now a word from our sponsor ----------------------
For a quality mail server, try SurgeMail, easy to install,
fast, efficient and reliable. Run a million users on a standard
PC running NT or Unix without running out of power, use the best!
---- See http://netwinsite.com/sponsor/sponsor_surgemail.htm ----

1181. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 03:36:23 UTC
From: Ron Gould <ron@gould.net>
Message-ID: <bh72ri02n24@enews3.newsguy.com>
Source record: 33300
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Well, I got hit by lightening while camping in the mountains as a kid. I was laying down in my "fern" bed on the ground in my pup tent. The ground liquidified like a wave, first raising my head, then lowering, and then my hips, then feet raised and lowered.

Took about 3 minutes for my eyesight to come back, about 8 or 10 minutes for any hearing. I didn't like being blind for 3 minutes alone out in a tent in bear country!

Another time as a kid, my Aunt Katherine had one of the old, old electric fence units that used a light bulb to limit the current. She put a big wattage bulb in there, to really shock the cows, as they were ignoring the regular shocks. I was out in the field, and as a kid, tried to see how high I could pee. I didn't realize the electric fence wire went thru the other side of that huge bush.

Yep, you got it--- with a body being 90% water, it went up into me, and all over my body internally. Threw me down on the ground, I saw huge Black stars (daytime), muscle contraction from electric shock, I was peeing straight upwards out of control, since I was on my back on the ground, it all came down like a fountain above me, all over me. It took years before I told this story (the other guy had it happen to him too).

Then in the Navy I got about 20 KV of RF which burned a hole clear through my finger. I could've fed a thread through my finger. Took a long time to grow together.

And, yes, I remember discharging the Radar Caps with that long grounding stick with the wood handle. Never got shocked there, just good and scared.

I got caught in front of a radar antenna (20 feet) that someone had turned on. I had my back to it, I got very sweaty and hot, turned around, and it was rotating. I've had problems with uncontrolled sweating since that day in 1958. I soak the pillow every night, my clothes everyday. To this day.

I'm thinking of changing my name to "Lucky" :-)
I've learmed to laugh at myself.
Seems everytime some Doggoned thing comes along, my Creator seems to say "Let's try this on Ron, He really gives ME a lotta laughs".

Best to all---
Ron a Scot :-)
Lucky

George R. Gonzalez <grg2@comcast.net> wrote in message
news:GbsYa.58326$Vt6.20071@rwcrnsc52.ops.asp.att.net...
> IIRC a "fatal" shock is mroe likely to be a mddling-current one. The
> stronger ones tend to self-defibbrilate you.
>
> That's why lightning strike victims often survive.
>
> A BAD shock I got once was when I had a pair of 400uf, 450V capacitors
> forming up on the cap tester.
> It was up to 450 volts, but still pulling a few milliamps. I went to set
it
> aside and wrapped one hand around one big aluminum can, other hand around
> the other can. I thought both cans were grounded, but somehow got a heck
of
> a shock! Later on I realized I was chanrging the capacitors in series for
> some reason.
>
> Take care,
>
>
> George
>
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.506 / Virus Database: 303 - Release Date: 8/1/03

1182. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 03:55:16 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F371388.30C5F57D@earthlink.net>
Source record: 33298
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Keyboard In The Wilderness wrote:
>
>
> Steel Mill Stories from the 40's (Maybe Urban Legend)

Armco (now A-K) Steel in Middletown Ohio supposedly had a man (who was upset over his wife cheating on him) commit suicide by jumping into one of the soaking pits were they heat the ingots before it is rolled into sheet metal.

The country artist, Tom T. Hall, wrote and recorded a song called, "The rolling mills of Middletown" about it. The company was going to sue him over it, but they never did.

A friend of mine who worked there told me they had a big problem with the old vending machines, and the company that owned them refused to maintain them. Someone on night shift lost his last quarter in a Coke machine so he got back on his fork lift, rammed the forks through the machine, and dumped it into one of the empty soaking pits to watch it melt.
--

Michael A. Terrell
Central Florida

1183. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 04:03:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vje5d6pnlh1l13@corp.supernews.com>
Source record: 33299
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I recall having read that AC is considerably more dangerous, for the reason that Howard stated. Furthermore, 60 Hz is just about the worst frequency. This was determined by executing dogs in less enlightened times. I've also read that Edison created and promoted the electric chair, which was run from AC, to dramatize the danger of AC over DC. He had a big investment in DC distribution systems and equipment, while Westinghouse was promoting AC power distribution.

Roy Lewallen, W7EL

Paul Burridge wrote:
> On Sun, 10 Aug 2003 11:26:32 -0700, "Howard Henry Schlunder"
> <howard_hs@yahoo.com> wrote:
>
>
>>DC is safer than AC because it doesn't cause
>>ventricular fibrillation, so death by these shocks occur from organ damage
>>and falling off ladders and things.
>
>
> Funny. I was always told that DC= 'dangerous current' as it's *more*
> likely to cause fatalities. Perhaps someone can settle the matter?
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

1184. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 05:38:02 UTC
From: Mark Fergerson <mfergerson1@cox.net>
Message-ID: <3F372BBA.40505@cox.net>
Source record: 33301
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Sat, 09 Aug 2003 12:11:19 -0700, Mark Fergerson
> <mfergerson1@cox.net> wrote:
>
>
>> Now that you've explained what you meant, I'll mention
>>that I must be on at least my fifth parallel Universe.
>
>
> Don't bother counting. You have a *lot* more to go, it seems.

Oh, certainly. I suppose I could keep shooting for a
Universe in which we have a viable manned space program... ;>)

Mark L. Fergerson

1185. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 06:35:36 UTC
From: Tom Del Rosso <tdnews01@att.net.invalid>
Message-ID: <YOGZa.96105$0v4.6609733@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33302
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Sir Charles W. Shults III wrote:
> Actually, they ARE supposed to be conductive- at least to the
> tune of about a megohm. In any operation that is serious about
> antistatic procedures, the mats, wrist straps, and other equipment
> are to be tested periodically. Most testers show if a mat reads open
> right away. If you have mats or other equipment that read open,
> then you have found defective hardware. Trash it.

A mega-ohm per what unit of distance? From any point on the mat to the
ground point?

1186. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 06:54:27 UTC
From: "Sir Charles W. Shults III" <aichipREM@OVEcfl.THISrr.com>
Message-ID: <D4HZa.26838$qg3.1824628@twister.tampabay.rr.com>
Source record: 33303
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Actually, I should have said a megohm for a ground strap and 10 megohms or so per square for mats. Since they are by area and not linear, the specification has to be per square.

Cheers!

Chip Shults
My robotics, space and CGI web page - http://home.cfl.rr.com/aichip

1187. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 07:27:49 UTC
From: Barry Lennox <pbarryplennoxp@operamail.com>
Message-ID: <oahejv0fdq47pq444unc20lpsiohikov0l@4ax.com>
Source record: 33304
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 10 Aug 2003 13:06:22 +0100, Paul Burridge
<redscar@waitrose.notformail.com> wrote:

>On Sun, 10 Aug 2003 10:30:03 +1200, Barry Lennox
><pbarryplennoxp@operamail.com> wrote:
>
>> Still the same universe though!
>
>How would you know?

Damm, so how many universals are there?

1188. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 08:25:16 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bh7jtf$r3944$1@ID-61331.news.uni-berlin.de>
Source record: 33305

It's PAL (625 line) Yukio, and I'm replicating the correct timing exactly.
The deflection oscillators are in the AN5151 TV chip so I know they must be
correct.

Hans

"yukio" <yano@shaw.ca> wrote in message
news:oimZa.688388$ro6.14269630@news2.calgary.shaw.ca...
> What is the Video format ?
> if its NTSC 525 line interlaced, there are two 262 line fields
> transmitted per frame Don't know what is used in your QTH PAL, SECAM,
> Other ? Check timming diagram to see if it is compatable with TV Scan
> format !
>
> Yukio VE5YS
> "Hans Summers" <Hans.Summers@Tudor.Com> wrote in message
> news:bh03qu$t7vi6$1@ID-61331.news.uni-berlin.de...
> >
> > Apologies in advance if this is considered OT.
> >
> > I am having a minor problem with the display on my spectrum analyser Mk2
> > project, see
> >
>
http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/index.htm
> > . The display for this analyser is an 4.5-inch ex-TV tube. I
successfully
> > dismantled that TV and rebuilt the necessary drivers etc as a miniature
> > monitor having TTL-level video and composite sync inputs.
> >
> > Naturally the type of display this tube is now being subjected to is
very
> > different to a TV picture. There seem to be some problems with the video
> > drive circuits, see pictures at the bottom of the above web page. The
> > graticule fades out in the top eighth of the screen. Also see the "noise
> > floor" photo which shows significant horizontal "bulge".
> >
> > Also there is a resolution problem - one spectrum analyser sweep
consists
> of
> > 640 measurements, and I have a complicated interpolation circuit which
> > "joins the dots" i.e. draws lines between the individual measurements,
and
> > also reduces the horizontal resolution to 320 pixels which I hoped would
> be

> > displayable on the monitor. Problem is I can only get 160 horizontal
> pixels
> > to display reliably - at 320 pixels a vertical line is very faint or
> > invisible (depending on how much white there was in the preceeding
> > microsecond or so's worth of scan line.
> >
> > The circuit diagram is also on that page
> >
>
(http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/circuitm
> > .pdf). I'm no TV expert. Can anyone suggest what modifications should be
> > made to the video driver circuit to correct these problems?
Alternatively
> > what newsgroup might be populated with TV gurus?
> >
> > 73
> >
> > Hans G0UPL
> >
> >
>
>

1189. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 08:38:19 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bh7klt$upfsq$1@ID-61331.news.uni-berlin.de>
Source record: 33306

"John Miles" <jmiles@pop.removethistomailme.net> wrote in message
news:MPG.19a02a78d1218c63989689@news-central.giganews.com...
> In article <20030809210138.17796.00002021@mb-m15.aol.com>,
> averyfineman@aol.com says...
> > Very nice construction on the little TV conversion to display on your
> > website! :-)
>
> No kidding. I've bugged Hans a lot about how he really should be doing
> all that work with a Mini-ITX PC motherboard, but all kidding aside,
> that project is what "homebrewing" is really all about.

Thanks guys.

John, the sci.electronics.repair folks didn't have anything to say about it
:-(

Someone else thought the series LC from the driver transistor's emiter to
ground might be a "colour killer" and putting a notch in the frequency
response of the driver at about the same frequency my 320 pixels are at
(4MHz). I tried shorting the L altogether and there was no visible
difference on the display. That same person also mentioned gamma of the
tube, but I don't know much about that. I would find it hard to believe that
the tube itself was the limitation here, it must be the video driver.

Interestingly the fading at the top of the screen dissappears when the
"brightness" control is turned up, but that makes the bulging noise floor
worse and also dims thin vertical lines even more. Arrgh.

73

Hans G0UPL

1190. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 09:01:53 UTC
From: Malcolm Reeves <mreeves@fullcircuit.com>
Message-ID: <ckmejv8houg19rkk67cbhoqd2ciir8b7v8@4ax.com>
Source record: 33307
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 10 Aug 2003 21:03:48 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

> I've also read that Edison created and promoted the electric
>chair, which was run from AC, to dramatize the danger of AC over DC. He
>had a big investment in DC distribution systems and equipment, while
>Westinghouse was promoting AC power distribution.

Didn't Edison try to get execution by electric chair "Westinghousing"
too, or is that a rumour.

BTW, on the subject of anti-static that measures open, some of these
are one-sided. That is, some bags are metal film coated on the
inside, so across the outside they will read open.

--

...malcolm

Malcolm Reeves BSc CEng MIEE MIRSE, Full Circuit Ltd, Chippenham, UK
(mreeves@fullcircuit.com, mreeves@fullcircuit.co.uk or mreeves@iee.org).
Design Service for Analogue/Digital H/W & S/W Railway Signalling and Power
electronics. More details plus freeware, Win95/98 DUN and Pspice tips, see:

http://www.fullcircuit.com or http://www.fullcircuit.co.uk

NEW - Desktop ToDo/Reminder program (free)

1191. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 09:43:24 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <dplejvoghim6flvrrhnosirltqd6i565s9@4ax.com>
Source record: 33308
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 11 Aug 2003 03:55:16 GMT, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

> Armco (now A-K) Steel in Middletown Ohio supposedly had a man (who
>was upset over his wife cheating on him) commit suicide by jumping into
>one of the soaking pits were they heat the ingots before it is rolled
>into sheet metal.

This reminds me of the old HG Wells short story, 'The Cone' where
precisely the same set of events is described in gory detail. Well
worth a read...
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1192. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 09:43:25 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <53mejv0bn7p2crhak7dqn0ofkuv5t0mob9@4ax.com>
Source record: 33309
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 11 Aug 2003 19:27:49 +1200, Barry Lennox
<pbarryplennoxp@operamail.com> wrote:

>On Sun, 10 Aug 2003 13:06:22 +0100, Paul Burridge
><redscar@waitrose.notformail.com> wrote:
>
>>On Sun, 10 Aug 2003 10:30:03 +1200, Barry Lennox
>><pbarryplennoxp@operamail.com> wrote:
>>
>>> Still the same universe though!
>>
>>How would you know?
>
>Damm, so how many universals are there?"

The world's top theoretical physicists tell us: "there are 10^n
universes, where 'n' is a very large number."
:-)

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1193. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 09:43:27 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <4bmejv80i206uqf32rg4j3ancbb8q16agi@4ax.com>
Source record: 33310
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 11 Aug 2003 00:09:28 +0100, "Mike Gilmour"
<mike@tfjazz.freeserve.co.uk> wrote:

>When I worked as an RO in the Merchant Navy I found I could light my
>cigarette by holding on to the overhead copper aerial feeder while
>simultaneously keying the transmitter on MW (say 480 or 512 Khz) ....only
>when I couldn't find my lighter. Kinda daft in retrospect...and chuckle to
>think I eventually won a safety award ;-)

There's a future for you at Springfield Nuclear Power Plant. :-)
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1194. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 11:25:15 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F377D1B.7A50AF35@ob-wan.com>
Source record: 33314

Avery Fineman wrote:
>
> In article <bh5osldft1@news7.svr.pol.co.uk>, "Mike Gilmour"
> <mike@tfjazz.freeserve.co.uk> writes:
>
> >Maybe apocryphal but I heard that if you're stupid enough to look into an
> >open waveguide of an active 10cm marine radar it would cause that eye to
> >become the equivalent of a hard boiled egg. No need for a 3 minute timer
> >then?
>
> Back when I was doing electronic instrumentation with an optics group
> at Rockwell, my first day in that group brought forth a caution from one
> of the optical physicists about lasers: "Do NOT look INTO a laser beam
> unless you want that to be the LAST thing you see."
>
> That was with a little 10 milliWatt laser used on their optical table
> for initial system calibration.
>
> Good advice I thought...and remembered it.
>
> I'm sure there are some in here who want to gabble about "open wave-
> guide" and it "not radiating much because it is open, represents a
> discontinuity, and the VSWR is so high there won't be any power
> radiated." Which MIGHT happen at any microwave frequency from
> L-band bottom (1 GHz) on up past Ku band (24 GHz+). That will
> depend on the wavelength of the physical waveguide opening to the
> microwave source. The magnetron MAY also refuse to oscillate due
> to a high VSWR, flash over and trip its breaker or something to not
> operate. Then again it MAY - with equal likelyhood - work just fine
> with an opening and radiate FULL power out that open waveguide.
> Or something in between full power and no power...a big unknown.
>
> No matter how much anyone likes hardboiled eggs, those belong in
> the mouth and not the eye sockets.

I like this sign:

"Do not look into the laser with your remaining eye ..."

Rob

1195. Re: SB-220 Capacitors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 12:01:51 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <PALZa.120652$Ho3.15574@sccrnsc03>
Source record: 33311

Doug -

Replacement capacitors are available from Mouser Electronics.

Jeff Weinberg at Harbach Electronics also carries a number of parts for the
SB-220 as well as
electrolytic capacitors. (See CAPS and SB-220 reference on left frame)
http://www.harbachelectronics.com/

w9gb
--
DO NOT use Reply.
Only reply through ARRL forwarding service to W9GB

"DOUGLAS SNOWDEN" <snowden@peoplepc.com> wrote in message
news:vje22a536eph21@corp.supernews.com...
> I just bought an old SB-220 amplifier and have not actually received it
yet.
> To those that have these, what is a decent source of electrolytics for the
> power supply? I plan on swapping them before I try to power it up, since
I
> am sure the present ones are dry.
>
> Doug N4IJ
>
>

1196. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 12:31:14 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <vQsx7AJSy4N$EAZd@ifwtech.co.uk>
Source record: 33312
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>On Mon, 11 Aug 2003 00:09:28 +0100, "Mike Gilmour"
><mike@tfjazz.freeserve.co.uk> wrote:
>
>>When I worked as an RO in the Merchant Navy I found I could light my
>>cigarette by holding on to the overhead copper aerial feeder while
>>simultaneously keying the transmitter on MW (say 480 or 512 Khz) ....only
>>when I couldn't find my lighter. Kinda daft in retrospect...and chuckle to
>>think I eventually won a safety award ;-)
>
>There's a future for you at Springfield Nuclear Power Plant. :-)

As Homer would insist: "Get it right - it's noocular, noocular."

It's always worried me, the way The Nuclear Briefcase gets handed to
people who can't even pronounce it.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1197. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 13:27:10 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <774fjv0vtcp14kdvpe24ilj514etbberg8@4ax.com>
Source record: 33313

On 10 Aug 2003 19:51:26 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> Back when I was doing electronic instrumentation with an optics group
> at Rockwell, my first day in that group brought forth a caution from one
> of the optical physicists about lasers: "Do NOT look INTO a laser beam
> unless you want that to be the LAST thing you see."
>
One I've seen:

"Do not look into Laser beam with remaining eye."

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1198. Re: Q-Multiplier at RF stage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 15:40:05 UTC
From: sha99@streamyx.com
Message-ID: <637584a6.0308110740.375623ef@posting.google.com>
Source record: 33315

"The Eternal Squire" <eternalsquire@comcast.net> wrote in message
news:<V5mdndMD86-OXLCiXTWJig@comcast.com>...
> In the W1FB regen receiver circuit, there was no detector stage, the
> regen oscillator was being used as a direct conversion mixer. Are you
> sure tthat the preamp will not behave this way?
>
> obtw, my address is good. all others, no spam please!
>
> Max <Max_Jens@post9.tele.dk.invalid> wrote in message
> news:3f2d65c0$0$48906$edfadb0f@dtext02.news.tele.dk...
> > Hello
> >
> > > I took a look at the links. From what I am understanding these are
> > > front-end
> > > regenerative circuits. I guess that what I can do is instead of using a
> > > loop I
> > > could use a broadband coupling transformer, and then place the tank in
> shunt
> > > with the output of the coupling transformer.
> > >
> > > Thing is, I don't understand how the regenerative preamp is different
> from
> > > the regenerative recever (aka regenerative mixer down to baseband
> audio).
> > > Can you enlighten me?
> >
> > Just to make a few things clear, I would like to say.
> >
> > There is no differents between a frontend and a preamp, it is the same
> only
> > thing is the mechanical layout.
> >
> > The only differents there is between a regenerative reciever and a
> > regenerative
> > preamplifier is that the reciever has a detector, the way of function is
> the
> > same.
> >
> > I will scan the 4 pages I have with a Q-multiplying preamp and mail them
> to
> > you, so please tell me if the e-mail adress you are using is valid.
> >
> > Regards Max
> >

> >

Dear Max and The Eternal Squire,

1. Please E-mail the scanned circuit to me too. My address is sha99@streamyx.com

2. I've found one very good example but it is mainly designed for MW.
http://hometown.aol.com/MarkWA1ION/mwt3.pdf

1199. Re: 28v switcher psu crt wanted..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 17:15:32 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308110915.2b056583@posting.google.com>
Source record: 33316

"zindazenda" <zen@ic24.net> wrote in message news:<vjcqeasg5q29ef@corp.supernews.com>...
> hello...
>
> looking to build a simple (read cheap and small) even crude 28v 10amp switch
> mode psu to run on 240v in..have liiked on google etc but nothing found..
> anyone know of any published designs..thanks simon g0zen..
> please reply to group or zen@lineisp.co.uk..

The simplest way I know to do this provides an unregulated output,
much as a mains-frequency transformer coupled supply. The advantages
are that it is much more compact and lower cost. By not using
feedback regulation, you avoid stability issues and some complexity.
One of the size and cost factors is that electrolytic caps of a given
physical size hold more energy for a 250 volt rating than for a 50V
rating. The idea is simple: just bridge-rectify the mains, feeding a
large storage capacitance. It's probably easiest to use two large
250V caps in series, with balancing/bleeder resistors across them.
Put two 1uF or more polypropylene caps in series across the HV (300V?)
DC. Transformer primary connects to the center-tap of the polyprop
caps. Other side of transformer primary is driven by a half-bridge of
power mosfets, which are driven by a self-oscillating half-bridge
driver such as the IR2153. The primary will then be driven with a
square wave, and the driver is designed to prevent overlap and handle
the high-voltage offset of the "upper" mosfet. Just rectify the
secondary (with Schottky diodes if you can get ones with high enough
voltage rating, or with ultra-fast non-Schottkys) and put a bit of
filtering on it, and you have your unregulated 28V (or other voltage,
if you wish). Add a power-factor corrector/preregulator on the front
end and you have a semi-regulated output. Design of the transformer
is left as an exercise...but isn't overwhelming and doesn't require a
lot of turns, generally.

Cheers,
Tom

1200. Q-Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 18:28:07 UTC
From: Bart25 <bart25@hvaccess.com>
Message-ID: <1y6dnfxzPoImQqqiXTWJiw@linkupamerica.com>
Source record: 33317

I had some ferrite cores in a envelope marked FT50-43. To check that these cores are actually FT50-43, I put a test winding on one and calculated the inductance. Using a Booton 260A Q-Meter, I tried to verify this. I got no indication over a wide frequency range on the Q-Meter. The Q-Meter stayed at zero.

Doing the same thing with a FT50-61 core, the Q-Meter gave a accurate indication. Is there something about the 43 material that does not allow a indication on the Q-Meter?

1201. FA: Nice HP Freqency Counter, Hi-Stab, cal, & More

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 18:35:05 UTC
From: Joe Bucher <joeb@joink.com>
Message-ID: <bh8o3n021nd@enews4.newsguy.com>
Source record: 33320

Hi all! ...I enjoy refurbishing these counters and calibrating their
excellent time bases. Very reasonable buy it now price $199.99.
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=25401&item=2550367631

Thanks for looking! 73, Joe- KF9EU

1202. Re: Automatic RF noise cancellation and audio noise measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 18:50:28 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bh8ohk$4e6$0@208.207.71.129>
Source record: 33318
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.dsp,sci.electronics.design

Jerry Avins wrote:

> An
> open-coil hot plate with a ceramic holder to support and contain the
> nichrome element as filament*. Topped with galvanized window screening,
> the zinc removed with muriatic acid so as not to noxiously sublime,
> resting on the ceramic as (literally!) grid. Small glass beads -- around
> 1/16" -- scattered on it to create a gap and hold the screening flat.
> Atop that, a pie tin weighted with cooling water to serve as
> (literally!) plate. With 700 volts on the plate, I got measurable
> current on my 1000 ohm/volt meter. At -90 volts on the grid, the current
> was too small to read. The gain was enough to sustain oscillation.

Now **that's** Homebrew!

1203. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 19:00:12 UTC
From: mikea@mikea.ath.cx
Message-ID: <bh8p3rvlc13@puck.litech.org>
Source record: 33319

Avery Fineman <averyfineman@aol.com> wrote:

> Back when I was doing electronic instrumentation with an optics group
> at Rockwell, my first day in that group brought forth a caution from one
> of the optical physicists about lasers: "Do NOT look INTO a laser beam
> unless you want that to be the LAST thing you see."

The sign I saw in the crystallography lab at ou.edu was very simple:

Caution: Do not look into laser beam with remaining eye.

That was something like a 150W Argon laser.

--
/ "I think I've figured out why that FreeBSD box is oozing green ichor \
[- I think it may be due to having the NT PDC only a foot or two away."]
\ -- Lionel (shamelessly stolen from AdB's sig in asr) /

1204. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 19:42:33 UTC
From: mikea@mikea.ath.cx
Message-ID: <bh8rj8vlc14@puck.litech.org>
Source record: 33321
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

An acquaintance was working on some plumbing Saturday in one of several houses under construction in a new subdivision in Albuquerque (New Mexico), and there was a lightning strike into another of the houses, a few hundred feet away. He told me he got knocked flat and so did his helper.

Albq is, as many will know, in high desert country, and the ground is *anything* but wet, so buried pipes aren't particularly useful as earth ground. This is a pretty good illustration of that.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

1205. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 19:44:31 UTC
From: mikea@mikea.ath.cx
Message-ID: <bh8rmuvlc15@puck.litech.org>
Source record: 33322

Lee Leduc <leeleduc@netscape.com> wrote:
> Sorry for the slow response but the Internet connection to the "other
> side" is sooooooooo slow!

> Yes, I have had a a fatal electric shock in the past.

> Yours truly,

> William Kemmler

SPLORFFFFFFFFFFFFFFFFFF

Now *where*, I ask you, _WHERE_ was the C&C on that?

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

1206. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 21:57:26 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <0n0gjvs9m37r796o3et0euva4blqe94fkb@4ax.com>
Source record: 33324

On Mon, 11 Aug 2003 19:00:12 +0000 (UTC), mikea@mikea.ath.cx (Mike
Andrews) wrote:

>Avery Fineman <averyfineman@aol.com> wrote:
>
>> Back when I was doing electronic instrumentation with an optics group
>> at Rockwell, my first day in that group brought forth a caution from one
>> of the optical physicists about lasers: "Do NOT look INTO a laser beam
>> unless you want that to be the LAST thing you see."
>
>The sign I saw in the crystallography lab at ou.edu was very simple:
>
> Caution: Do not look into laser beam with remaining eye.

Judging from all this repetition, a remarkably ubiquitous sign!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1207. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 21:57:27 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <ps0gjvo66ljnr59v7tt1hr2n31gon68b8i@4ax.com>
Source record: 33325
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 11 Aug 2003 13:31:14 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>As Homer would insist: "Get it right - it's noocular, noocular."

Well, quite. But the guy's very keen on doughnuts, so can't be all
bad. :-)

>It's always worried me, the way The Nuclear Briefcase gets handed to
>people who can't even pronounce it.

Indeed. BTW, I bought your book the other day.

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1208. Re: Q-Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 22:03:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vjg4mdasigehb0@corp.supernews.com>
Source record: 33323

Depends on the frequency. The Q of type 43 ferrite is 1 at a few MHz,
and less than 1 above that. It's unlikely that your Boonton will measure
Q that low. You'd be able to measure a decent Q at a few tens of kHz if
the meter goes that low.

The low Q is fine for broadband transformers and definitely a good thing
for RF suppression (one of the primary markets for type 43 material).
But you wouldn't want to make a tuned circuit inductor out of it at HF.

See http://www.fair-rite.com for more information about the frequency
characteristics of various types of ferrites.

Roy Lewallen, W7EL

Bart25 wrote:
> I had some ferrite cores in a envelope marked FT50-43. To check that these
> cores are actually FT50-43, I put a test winding on one and calculated the
> inductance. Using a Booton 260A Q-Meter, I tried to verify this. I got no
> indication over a wide frequency range on the Q-Meter. The Q-Meter stayed at
> zero.
>
> Doing the same thing with a FT50-61 core, the Q-Meter gave a accurate
> indication. Is there something about the 43 material that does not allow a
> indication on the Q-Meter?
>
>

1209. Re: SB-220 Capacitors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-11 22:36:49 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <IM3_a.512$zC4.312@newsfep1-gui.server.ntli.net>
Source record: 33333

> I just bought an old SB-220 amplifier and have not actually received it
yet.
> To those that have these, what is a decent source of electrolytics for the
> power supply? I plan on swapping them before I try to power it up, since
I
> am sure the present ones are dry.
=================
Suggest you try to recondition (reform) the existing electrolytic caps
before replacing them .

Remove wiring from caps and charge them individually slowly via a 1or 2 Watt
, 47 KOhms resistor to the rated working voltage .
It is possible that in the first round you won't achieve that . When voltage
across cap no longer increases ,discharge via the same resistor . Charge
again ; the end voltage will be higher. Then discharge again.
When upon charging the caps voltage no longer increases measure the voltage
across the known resistor to determine the leak current. It might be
worthwhile to repeat the charge/discharge process a few times.

In the above way I have this week reconditioned a variety of electrolytic
caps the largest being 1000 microFarad -450 V.
Although the Working Voltage for this particular cap (of which I have 8 pcs)
is 450 V ,they happily accept a charge to a voltage of 510 V with an overall
supply of 550 V , hence 40 V across the 47 kOhms series resistor ,hence the
leak current is less than 1 mA.
Some old Plessey capacitors from 1974 , 200 microFarad - 450 V have
successfully received the same treatment.
I now intend to check the effectiveness by placing the caps (1 at the time)
across the output terminals of a power supply unit made from a suitable
transformer and half wave rectifier watching the voltage output wave form on
a scope at varying load.

For lower voltage electrolytic caps smaller series resistors are required .

The caps should be slowly charged /discharged ,each operation taking about
4 - 5 minutes.

Frank GM0CSZ / KN6WH

1210. zero to 100 dial plate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 00:39:09 UTC
From: blyoung@hal-pc.org
Message-ID: <33cb2455.0308111639.6e6e7ed7@posting.google.com>
Source record: 33326

Does anybody have or know where I can get a 0 to 100 metal dial plate
from a burned-out Variac or Powerstat for a few bucks. I can use it
for my next receiver project. Thanks. Bill Young WD5HOH

1211. Re: zero to 100 dial plate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 00:52:46 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <yTWZa.94493$3o3.6607410@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33327

"Bill Young WD5HOH" <blyoung@hal-pc.org> wrote in message
news:33cb2455.0308111639.6e6e7ed7@posting.google.com...
> Does anybody have or know where I can get a 0 to 100 metal dial plate
> from a burned-out Variac or Powerstat for a few bucks. I can use it
> for my next receiver project. Thanks. Bill Young WD5HOH

http://www.fairradio.com/variac.htm has a few dial plates for Variacs, and they're pretty cheap. You may have to call or email them for their latest stock. I bought a few from them a couple months ago, and they were in new, unused condition.
Cheers!!
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Time is what keeps everything from happening all at once.

1212. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 01:05:47 UTC
From: Rex <notreally@hotmail.invalid>
Message-ID: <1afgjvgmojmspi0lt8ht2ev3fsqftlrouo@4ax.com>
Source record: 33328
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 11 Aug 2003 13:31:14 +0100, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>As Homer would insist: "Get it right - it's noocular, noocular."

Is that where George W learned the pronunciation?

1213. Re: Q-Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 01:33:54 UTC
From: Jack Smith <jsmith@mnsinc.com>
Message-ID: <ekggjv0kukhgl9vtgf8dprlpmg1b8rqt69@4ax.com>
Source record: 33329

On Mon, 11 Aug 2003 15:03:57 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Depends on the frequency. The Q of type 43 ferrite is 1 at a few MHz,
>and less than 1 above that. It's unlikely that your Boonton will measure
>Q that low. You'd be able to measure a decent Q at a few tens of kHz if
>the meter goes that low.
>
>The low Q is fine for broadband transformers and definitely a good thing
>for RF suppression (one of the primary markets for type 43 material).
>But you wouldn't want to make a tuned circuit inductor out of it at HF.
>
>See http://www.fair-rite.com for more information about the frequency
>characteristics of various types of ferrites.
>
>Roy Lewallen, W7EL
>
>Bart25 wrote:
>> I had some ferrite cores in a envelope marked FT50-43. To check that these
>> cores are actually FT50-43, I put a test winding on one and calculated the
>> inductance. Using a Booton 260A Q-Meter, I tried to verify this. I got no
>> indication over a wide frequency range on the Q-Meter. The Q-Meter stayed at
>> zero.
>>
>> Doing the same thing with a FT50-61 core, the Q-Meter gave a accurate
>> indication. Is there something about the 43 material that does not allow a
>> indication on the Q-Meter?
>>
>>
Roy is correct, the Q is too low to register on a Boonton 260A Q-meter
or, for that matter, on the 4342A Q meter. I've had success, however,
measuring coils wound on Type 43 material with both the GenRad 916 RF
bridge and a Boonton 250 RX meter. In both cases, you are measuring
R+jX of the inductor, so you can then go back and calculate the Q.
(Series with the 916 bridge, parallel with the 250 RX meter, so you
may have to do a little extra math if you take the data with the 250
RX meter.)

(I was measuring leakage and magnetizing inductance of some broadband
transformers I wound.)

Jack K8ZOA

1214. Philips RF design manual - yes, it's free, no this is not spam :)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 02:31:58 UTC
From: markaren10@yahoo.com
Message-ID: <a430c59.0308111831.35f2e754@posting.google.com>
Source record: 33330

Hi All,

I just tripped over this rather interesting publication by Philips.

It covers a ton of basic RF design and links to examples etc.

http://my.semiconductors.philips.com/acrobat/other/discretes/philips_rf_manual_3rd_edition.pdf

I am not connected with Philips, this just looks like a neat and free
RF design guide...

Mark.

1215. Re: 28v switcher psu crt wanted..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 04:29:34 UTC
From: Gerry MacDonald <gerry.macdonald@globaltv.ca>
Message-ID: <O2_Za.56554$tQ2.1691284@news1.telusplanet.net>
Source record: 33331

Take two pc type SPS and run the outputs in series, most have a input select
for 110/220 vac.
It sounds strange, but from what I have found, if the supplies are identical
it will work fine.
It's cheap easy and lots of spares to choose from.

"zindazenda" <zen@ic24.net> wrote in message
news:vjcqeasg5q29ef@corp.supernews.com...
> hello...
>
> looking to build a simple (read cheap and small) even crude 28v 10amp
switch
> mode psu to run on 240v in..have liiked on google etc but nothing found..
> anyone know of any published designs..thanks simon g0zen..
> please reply to group or zen@lineisp.co.uk..
>
> thanks
>
>

1216. Re: 28v switcher psu crt wanted..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 06:08:45 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <47ugjv8065rgt64t0chek3thtv7scd2b4m@4ax.com>
Source record: 33332

On Tue, 12 Aug 2003 04:29:34 GMT, "Gerry MacDonald"
<gerry.macdonald@globaltv.ca> wrote:

>Take two pc type SPS and run the outputs in series, most have a input select
>for 110/220 vac.

Some PC power supplies might have the 0 V DC connected to the chassis,
so putting them directly in series would require isolating the power
supplies from each other. Unfortunately, this is not possible, if you
want to properly connect the power supplies to a grounded mains
socket.

You musty disconnect the 0 V DC side (and any other circuitry on the
secondary side of the transformer) from the chassis if you want to
connect the power supplies in series. By doing this, the chassis of
each power supply can be safely connected to the mains ground.

Paul OH3LWR

1217. Re: zero to 100 dial plate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 12:39:58 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F38DDE0.4A2E9D16@gte.net>
Source record: 33334

Bill Young WD5HOH wrote:

> Does anybody have or know where I can get a 0 to 100 metal dial plate
> from a burned-out Variac or Powerstat for a few bucks. I can use it
> for my next receiver project. Thanks. Bill Young WD5HOH

You can make your own in Photoshop and print on some of the clear films
that have adhesive on one side-as in
http://www.chartpak.com/kohinoor/2surfaces/index.html
or water slip decals like:
http://www.supercaldecals.com/water-slip-decals1.html

I have made complex freq dials using these techniques.

Dale W4OP

1218. Re: Question about delay lines

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 13:11:28 UTC
From: Peter Brackett <ab4bc@ix.netcom.com>
Message-ID: <bhap21$f7l$1@slb4.atl.mindspring.net>
Source record: 33335

Roy et al:

I've always wondered why no one ever tries to use the constant resistance LC lattice all-pass
networks to make variable phase [delay] networks for HF antennas.

In the simplest LC all-pass lattice there are two matching inductors in the "through"
arms and two matchng capacitors in the "cross" arms. [Or an equivalent version with two
"through" capacitors and two "cross" inductors.]

When terminated in it's designed constant resistance R such a network also has a constant
input driving point impedance of R.

In practice, the transfer function of the LC constant resistance lattice network has a flat magnitude
over very wide frequency ranges, and twice the phase shift characteristic of a single LC network.

Potentially the phase shift could be made variable by mechanically or electrically
ganging the two "cross" capacitors together so that they could be tuned in synchronism
to continuously vary the phase shift while maintaining the constant driving point
impedance/resistance. Or vice versa, the inductors could be ganged.

For some range of pole-zero locations the full lattice can be unbalanced into a bridged-Tee
network which is perhaps easier to tune than the lattice. Indeed the transformer assisted
half-lattice is also a candidate with easier tuning.

Good information on LC lattice networks is available in the "older" network synthesis litterature.

cfr:

Louis Weinberg, "Network Analysis and Synthesis", McGraw-Hill, New York, 1962.
Shelved at you technical library under LC Shelf Call TK3226.W395

or...

Ernst A. Guillemin, "Synthesis of Passive Networks", John Wiley, New York, 1957.

Shelved at LC Shelf Call TK3226.G84 or Dewey 621.319.

For some reason folks interested in phasing antennas have not seemed to be interested
in the constant resistance all-pass LC networks. I don't know why? They seem to meet
all of the relavent requirements. i.e. a constant resistive driving point impedance, and a
potential of continuous 360 degree variable phase, while maintaining the constant driving
point impedance.

--
Peter K1PO
Indialantic By-the-Sea, FL.

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vj8u162nuprddb@corp.supernews.com...
> The only variable delay lines I've ever seen with the delay variable
> more than a couple of nanoseconds are some units used in an old
> Tektronix instrument of some sort. They're awfully rare.
>
> Of course, even transmission line delay lines produce a delay equal to
> the electrical length of the line, and a voltage or current
> transformation ration of one, only if terminated in their characteristic
> impedance, or a few special cases. And the impedances of elements of
> efficient arrays vary all over the map as phasing is changed. But a
> variable delay line (most often implemented as binary-weighted lengths
> of transmission line that can be switched in and out) can be practical
> if the array elements are electrically very short and/or lossy, to swamp
> the effects of mutual Z(*). That means it's practical for a receive
> array but not so practical for transmitting(**). You'll find more about
> this in Chapter 8 of the ARRL Antenna Book.
>
> You might be able to make use of some of the tapped digital delay lines
> (for receive only or very low power levels, of course) if you can
> compensate for the insertion loss and frequency-dependent
> characteristics. Another option is L networks. Although these can be
> adjusted for various delays, it would be tricky to make an adjustment
> arrangement that would adjust the delay without also changing the
> voltage and current transformation ratio and the equivalent
> characteristic impedance -- both elements would have to be adjusted
> together in a particular way. Of course, you could make a series of L
> networks with binary weighted delays and switch them as you would
> transmission lines. The disadvantage is that the L network delay and
> equivalent Z0 will change with frequency, while those of real
> transmission lines won't.
>
> (*) It's also practical if there's a very large number of elements, so
> that each element is effectively in the same environment as all the
> others. I worked on a radar using this principle back in the '60s. It

> had switched delay lines to steer a transmit array of 10,000 separate
> transmitters, each with its own antenna, and a receive array of over
> 5,000 separate receivers, each with its own antenna. It was actually the
> phasing of the Tx and Rx local oscillators which were controlled,
> though. Last I heard, it was still in operation.
>
> (**) If you build a receive array where the signals are combined in a
> low-loss fashion, you encounter exactly the same problems as for a
> transmit array. Lossy summing networks can stabilize the impedances and
> simplify the job just like lossy elements can.
>
>
> Roy Lewallen, W7EL
>
> Jack Twilley wrote:
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > I'm interested in experimenting with phased arrays, but I can't find
> > any variable delay lines. I don't want coils of transmission line --
> > what I'd like is a little widget that can be tweaked to change the
> > amount of delay, but I don't see any of that for analog stuff like
> > transmission lines, just digital stuff like TTL logic. Help?
> >
> > Jack.
> > - --
> > Jack Twilley
> > jmt at twilley dot org
> > http colon slash slash www dot twilley dot org slash tilde jmt slash
> > -----BEGIN PGP SIGNATURE-----
> > Version: GnuPG v1.2.2 (FreeBSD)
> >
> > iD8DBQE/NBmVGPFSfAB/ezgRAgskAKCbQFMITmGhGItOA3RksbCzp1D+hwCg2AgT
> > uzxFUsx4WhIZ9U6SkYJ+j1k=
> > =UNrg
> > -----END PGP SIGNATURE-----
>

1219. Wanted: 4-Condr FEMALE Connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 13:40:47 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <gg6_a.674$q9.47000@read1.cgocable.net>
Source record: 33337
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.swap

Have a requirement to make an interface cable to connect an FT-90 to a Motorcycle Helmet Sprkr/Mic Assy which has a MALE (tip-ring-ring-sleeve) Plug on it.

I need a Yaesu Female connector (tip-ring-ring-sleeve) and will connect the other end of the cable to the FT-90 Mic & Ext Spkr jack.

Does anyone know of a supplier of the Female 4 Condr Connector OR has a scrap Yaesu Portable that I can salvage the Remote Jack connector for this project.
Tnx & 73...Norm VE3CZI

1220. Re: 28v switcher psu crt wanted..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 13:43:55 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <IwidnU0XId5Tc6WiU-KYvA@comcast.com>
Source record: 33336

On EBay, the Power-One International Series of 24 Volt switchers will handle wide input ranges. It would just be a matter of tweaking the regulator detect circuit -- I don't even think it would require adjusting the compensation. These supplies typically sell for under $40. There is a power supply section under test and measurement. Cheaper to buy than build.

Jack

"zindazenda" <zen@ic24.net> wrote in message news:vjcqeasg5q29ef@corp.supernews.com...
> hello...
>
> looking to build a simple (read cheap and small) even crude 28v 10amp switch
> mode psu to run on 240v in..have liiked on google etc but nothing found..
> anyone know of any published designs..thanks simon g0zen..
> please reply to group or zen@lineisp.co.uk..
>
> thanks
>
>

1221. FS: ASTATIC BASE from a S-200/JT-30 Desk Microphone!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 14:59:30 UTC
From: rlucch2098@aol.com
Message-ID: <20030812105930.08314.00001319@mb-m20.aol.com>
Source record: 33338

Hi All;
Have you lost the twist-on base from your Astatic S-200 desk microphone?
I have two for sale, both nice condition & may fit the JT-30 also?
Price is $22.00.
Pics>>
http://www.myradioroom.com/s200base.jpg
Thanks es 73..........RICH-WA2RQY RLUCCH2098@aol.com
Web-Page URL> HTTP://members.aol.com/rlucch2098/index.html

1222. Re: zero to 100 dial plate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 15:36:55 UTC
From: dt@dt.prohosting.com
Message-ID: <ubruulwfc.fsf@dt.prohosting.com>
Source record: 33339

Try taking one of those clear plastic phony CDs that comes in a package of CDRs and use it as the dial. Print the scale on one of those stick-on CD labels and you'll have a nice professional looking dial.

David

1223. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 19:11:03 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0308121111.3aa48760@posting.google.com>
Source record: 33340
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

snef73@hotmail.com (Allan York) wrote in message
news:<50bd7fef.0308011558.2af6cdc7@posting.google.com>...
> Hi, I am looking for advice on how to integrate a PIC microchip with a
> ham radio transciever. I will use this in a robot. I am looking for
> 100 - 300 mile range. I have a ham radio license.
>
> Thanks for the help

If you are in the U.S., review FCC rules under part 15.217 governing
operation within the 160-190 kHz band (yes it's kHz). Reliable 100
mile range is possible is some areas at limited information rates. I'm
not sure if remote control is allowed.

Frank W. Raffaeli
AOM Wireless
http://www.aomwireless.com/

1224. Re: Philips RF design manual - yes, it's free, no this is not spam :)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-12 22:03:59 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <mglijvgj4t7hfiulpmlrrhikfir7q69qb9@4ax.com>
Source record: 33341

On 11 Aug 2003 19:31:58 -0700, markaren10@yahoo.com (Mark Aren) wrote:

>Hi All,
>
>I just tripped over this rather interesting publication by Philips.
>
>It covers a ton of basic RF design and links to examples etc.
>
>http://my.semiconductors.philips.com/acrobat/other/discretes/philips_rf_manual_3rd_edition.pdf
>
>I am not connected with Philips, this just looks like a neat and free
>RF design guide...

Is the complete thing available at this URL?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1225. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 00:55:23 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f398c3e.2224615@news.cantech.net.au>
Source record: 33342
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On 12 Aug 2003 12:11:03 -0700, SNIPrf_man_frTHIS@yahoo.com (Frank Raffaeli) wrote:

>snef73@hotmail.com (Allan York) wrote in message news:<50bd7fef.0308011558.2af6cdc7@posting.google.com>...
>> Hi, I am looking for advice on how to integrate a PIC microchip with a
>> ham radio transciever. I will use this in a robot. I am looking for
>> 100 - 300 mile range. I have a ham radio license.
>>
>> Thanks for the help
>
>If you are in the U.S., review FCC rules under part 15.217 governing
>operation within the 160-190 kHz band (yes it's kHz). Reliable 100
>mile range is possible is some areas at limited information rates. I'm
>not sure if remote control is allowed.

It would want to be a fairly large robot to accommodate an efficient antenna system at that freq, and esp if Tx was contemplated.

1226. Re: SB-220 Capacitors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 01:50:57 UTC
From: k9sqg@aol.com
Message-ID: <20030812215057.14711.00001525@mb-m02.aol.com>
Source record: 33343

Try some of the surplus houses that sell Nichicon caps, they go for about $3-4 each , not like the $25 original style. Have to improvise mounting but that is quite easy.

1227. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 02:07:23 UTC
From: arm@helix.nih.gov
Message-ID: <v3h_a.23$Er.2970@mencken.net.nih.gov>
Source record: 33344
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Twice:
1) Working on a portable battery-operated 120vac source. (My own design). Got each hand on the 120vac while
wearing the device. Could not breath; could not yell for help. Saved myself by intentionally falling onto
the battery pack and luckly broke the pack apart.

2) Working on the HV of a 1KW transmitter. Power was off, but caught the 4KV from the filter capacitors.
Threw me across the room. Guess my heart was healthy enough to recover a normal beat.

AC is more dangerous for two reasons. It causes muscle to contract and not release, so you cannot let go,
and at 50 or 60Hz it is likely to fibrilate the heart. A single jolt of DC, if it does not damage too much
tissue, will tend to leave the heart in a (properly) synchronized state so it can resume a normal beat.

I can explain the physiology in detail if someone is interested.

Andy

Paul Burridge (redscar@waitrose.notformail.com) wrote:
:
: The question seems daft, but bear with me, gentlemen. Has anyone ever
: had an electric shock that they feel lucky to have survived?
:
: p.
: --
:
: "I believe history will be kind to me, since I intend
: to write it." - Winston Churchill

1228. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 02:14:33 UTC
From: arm@helix.nih.gov
Message-ID: <dah_a.24$Er.2979@mencken.net.nih.gov>
Source record: 33345
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I would agree except for RF. RF can punch a hole through tissue, leaving a burn through the path. If your
vital organ is in the path it gets cauterized. If you hit a key spot, like the AV node of the heart or
along the Bundle of His, you are in trouble.

Howard Henry Schlunder (howard_hs@yahoo.com) wrote:
: "K Wind" wrote in message
: news:AvMYa.63145$ib2.16684641@twister.neo.rr.com...
: > Would 1,500VDC with 6mA capability flowing through one arm and out the
: other
: > be considered lethal? At one time, I knew how much current was considered
: > lethal, but have forgotten.
:
: No. It is actually quite hard to kill yourself with electrical shocks.
: There are tons easier and more likely things to die from in everyday life.
:
: 60Hz AC is most dangerous in the range of 100 to 300 mA. Current in that
: range sometimes causes ventricular fibrillation, whereas currents above that
: usually cause the heart to temporarily contract and protect itself. Very
: high currents, however, can dissipate lots of power in your organs and cook
: them, leading to a painful death if nothing stops the electrocution for
: several minutes. High frequency AC (like many kilohertz and beyond) should
: be less dangerous since it will be bound by "skin effect" and not penetrate
: as far into your chest cavity. DC is considerably safer than 60Hz AC, and
: I've read some estimates saying you need 4 times as much current to die from
: DC shocks. I don't know if I believe that though; I suspect there are too
: few cases to draw significant statistical conclusions. As I understand it
: (and I may be wrong here), DC is safer than AC because it doesn't cause
: ventricular fibrillation, so death by these shocks occur from organ damage
: and falling off ladders and things.
:
: Howard Henry Schlunder
:
:
:
:
: -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
: http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
: -----== Over 80,000 Newsgroups - 16 Different Servers! =-----

1229. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 02:17:52 UTC
From: Richard Henry <rphenry@home.com>
Message-ID: <odh_a.14647$Ye.14291@fed1read02>
Source record: 33346
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Andrew R Mitz" <arm@helix.nih.gov> wrote in message
news:v3h_a.23$Er.2970@mencken.net.nih.gov...
> Twice:
> 1) Working on a portable battery-operated 120vac source. (My own design).
Got each hand on the 120vac while
> wearing the device. Could not breath; could not yell for help. Saved
myself by intentionally falling onto
> the battery pack and luckly broke the pack apart.
>
> 2) Working on the HV of a 1KW transmitter. Power was off, but caught the
4KV from the filter capacitors.
> Threw me across the room. Guess my heart was healthy enough to recover a
normal beat.
>
> AC is more dangerous for two reasons. It causes muscle to contract and
not release, so you cannot let go,
> and at 50 or 60Hz it is likely to fibrilate the heart. A single jolt of
DC, if it does not damage too much
> tissue, will tend to leave the heart in a (properly) synchronized state so
it can resume a normal beat.

Twisting the thread a little:

I worked with an engineer who was very proud of his floating high-voltage AC plasma display sustainer drive circuit. Since it was floating, you could touch any part and not get a shock (or upset the display, either). He showed my by touching the cases of a few of the power transistors in turn. Then he jerked his hand back and let out a yell.

Instant second-degree-burn blister.

1230. Re: Philips RF design manual - yes, it's free, no this is not spam :)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 04:06:55 UTC
From: David <pdr14@comcast.net>
Message-ID: <ch6cnQWuutDrJKSiXTWJkw@comcast.com>
Source record: 33247

Nice find. thanks for sharing that one

David KG2LI

1231. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 07:26:52 UTC
From: robin.pain@tesco.net
Message-ID: <bd24a397.0308122326.48507196@posting.google.com>
Source record: 33248
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>...
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.

I'm holding 'L' on UK mains right now and I can't feel a thing.

Cheers
Robin

1232. Re: Philips RF design manual - yes, it's free, no this is not spam :)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 07:47:03 UTC
From: Serge <poissondanlo@wanadoo.fr>
Message-ID: <3F39ECF7.5060303@wanadoo.fr>
Source record: 33249

hi,
idem,
Nice . many thanks
Serge ,F5JTM
South of France

1233. OT, but important -- Worm alert in today's New York Times

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 12:39:29 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <gcicnRl2qIGsrKeiXTWJig@comcast.com>
Source record: 33250

this link was in today's New York Times --

www.microsoft.com/security/incident/blast.asp

It details the ways in which you can avoid being hacked by this new bug.

I point it out since we have had a series of bugs relating to MSOffice functions here in recent days. The Atlanta Federal Reserve and Maryland DMV had to shut down operations due to the bug.

Jack

1234. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 12:40:10 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0308130440.67f93c68@posting.google.com>
Source record: 33251
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

budgie <budgie@nowhere.cantech.net.au> wrote in message
news:<3f398c3e.2224615@news.cantech.net.au>...
> On 12 Aug 2003 12:11:03 -0700, SNIPrf_man_frTHIS@yahoo.com (Frank
> Raffaeli) wrote:
>
> >snef73@hotmail.com (Allan York) wrote in message
news:<50bd7fef.0308011558.2af6cdc7@posting.google.com>...
> >> Hi, I am looking for advice on how to integrate a PIC microchip with a
> >> ham radio transciever. I will use this in a robot. I am looking for
> >> 100 - 300 mile range. I have a ham radio license.
> >>
> >> Thanks for the help
> >
> >If you are in the U.S., review FCC rules under part 15.217 governing
> >operation within the 160-190 kHz band (yes it's kHz). Reliable 100
> >mile range is possible is some areas at limited information rates. I'm
> >not sure if remote control is allowed.
>
> It would want to be a fairly large robot to accommodate an efficient
> antenna system at that freq, and esp if Tx was contemplated.

Indeed it would be a large Tx antenna; however, the receiver I built
in 1974 had a ferrite rod antenna, measuring about 3 inches long,
IIRC. We received a clear audio (AM) signal above the noise from in
Detroit, Michigan from Cleveland, Ohio. The antenna at the transmitter
was 48 feet vertical suspended from fishing line between two oaks. If
Tx from a robot were required, a VHF to Longwave relay link should do
the trick.

Frank Raffaeli
AOM Wireless
http://www.aomwireless.com/

1235. Re: Newbie questions about rf transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 13:20:19 UTC
From: "Dave, AA6YQ" <aa6yq@ambersoft.com>
Message-ID: <mWq_a.93623$Oz4.22640@rwcrnsc54>
Source record: 33252
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

To integrate a PIC controller with a transceiver, you would choose a transceiver that supports computer control. Most recent transceivers can be controlled via an asynchronous bit-serial protocol; some use RS232, and others use TTL that can be level-shifted to RS232. Generally, the protocol is described in the user manual. If you were choosing a transceiver solely on the basis of the control capability, you would look closely at the Icom 703 (or whatever the most recent model 706 is called -- MKIIG is it?) or perhaps the Yaesu 817/857 family. The Kenwood TS2000 provides full control using a clean protocol, but may be a physically a bit large for your application; I've never looked at the TS50's command set, and so can't comment on its applicability.

Obviously power, volume, and weight budgets will have an impact on your decision, as will your choice of frequencies.

73,

Dave, AA6YQ

"Frank Raffaeli" <SNIPrf_man_frTHIS@yahoo.com> wrote in message news:2c8119eb.0308121111.3aa48760@posting.google.com...
> snef73@hotmail.com (Allan York) wrote in message news:<50bd7fef.0308011558.2af6cdc7@posting.google.com>...
> > > Hi, I am looking for advice on how to integrate a PIC microchip with a
> > > ham radio transciever. I will use this in a robot. I am looking for
> > > 100 - 300 mile range. I have a ham radio license.
> > >
> > > Thanks for the help
> >
> > If you are in the U.S., review FCC rules under part 15.217 governing
> > operation within the 160-190 kHz band (yes it's kHz). Reliable 100
> > mile range is possible is some areas at limited information rates. I'm
> > not sure if remote control is allowed.
> >
> > Frank W. Raffaeli
> > AOM Wireless
> > http://www.aomwireless.com/

1236. Philips RF manual, appendix

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 13:33:01 UTC
From: markaren10@yahoo.com
Message-ID: <a430c59.0308130533.4e6e4a92@posting.google.com>
Source record: 33253

I finally printed the whole of the manual out and spotted this
document reference towards the end :

http://www.semiconductors.philips.com/acrobat/other/discretes/philips_rf_manual_3rd_ed_appendix.pdf

Does anyone have any links to similar documents they would like to
make available (I nearly said 'share', I have been in California way
too long).

Mark.

1237. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 15:30:11 UTC
From: Mike Gilmour <mike@tfjazz.freeserve.co.uk>
Message-ID: <bhdli7$7sn$1@newsg3.svr.pol.co.uk>
Source record: 33254
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I know you are you standing in dry wellies on a rubber mat? Ok what about
with your other hand? You've got the choice of N or E ;-)

<robin.pain@tesco.net> wrote in message
news:bd24a397.0308122326.48507196@posting.google.com...
> Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>...
> > The question seems daft, but bear with me, gentlemen. Has anyone ever
> > had an electric shock that they feel lucky to have survived?
> >
> > p.
>
> I'm holding 'L' on UK mains right now and I can't feel a thing.
>
> Cheers
> Robin

1238. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 18:02:15 UTC
From: Dave Holford <holford@sympatico.ca>
Message-ID: <3F3A7D27.C190CE@sympatico.ca>
Source record: 33256
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

scharkalvin wrote:
>
> >
> > Some of these stories are hair rasing... and I'm too much of a weenie to
> > stick my tongue on a 9V battery...
> >
>
> That's how we tested batteries when I was a kid. 'Course there was the
> dufus that tried it with a 90v B battery!

Better make that dufuses (dufusi?). When I was a kid I was tinkering
with a radio and unplugges the B battery connector to do something -
needing another hand I stuck it in my mouth. It was an 'interesting'
experience to say the least!

Dave

1239. Re: OT, but important -- Worm alert in today's New York Times

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 19:35:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vjl4ol1lk19dd6@corp.supernews.com>
Source record: 33257

I second that.

I've been having DSL trouble recently, and was doing some troubleshooting with my ISP. Since the normal DSL connection wasn't working anyway, I disabled my firewall to make it possible for the ISP to ping me. Later, having forgotten that my firewall was off, I connected to the web with a dialup connection. Less than 5 minutes into the session, I got a notice that my system was shutting down due to something relating to "RPC". When I rebooted the firewall loaded automatically and caught "msblast.exe" trying to contact the Internet.

So it took less than 5 minutes on a dialup connection without a firewall to get nabbed.

Msblast.exe, as it turns out, emails MS in an attempt to bog down its site and make it difficult or impossible for people to download the security patch MS has developed.

You'll find more good information, and a virus remover, at http://securityresponse.symantec.com/avcenter/venc/data/w32.blaster.worm.html.

I was able to download the MS patch in spite of its getting blasted.

Roy Lewallen

John Walton wrote:
> this link was in today's New York Times --
>
> www.microsoft.com/security/incident/blast.asp
>
> It details the ways in which you can avoid being hacked by this new bug.
>
> I point it out since we have had a series of bugs relating to MSOffice
> functions here in recent days. The Atlanta Federal Reserve and Maryland DMV
> had to shut down operations due to the bug.
>
> Jack
>
>

1240. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 19:59:45 UTC
From: Sparks <sparksw4eas@mindspring.com>
Message-ID: <3F3A98B1.2D65@mindspring.com>
Source record: 33255
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

UK's System is NOT a system that has a "Ground" Over Out Sparks W4EAS

1241. HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-13 23:21:39 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f3ac81f$0$23588$5a62ac22@freenews.iinet.net.au>
Source record: 33258

No doubt this is an easy question, but is there a way of interfacing to the web via HF SSB/data?
I want to be able to do this from a remote location portable/backpack with no mobile phone access and low power. The nearest infrastructure could be several hundred km away
I could use amateur bands or possibly a commercial solution if available.
What would be the data format and where would I get more info on this?

Thanks
Richard

1242. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 00:03:56 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <rsScnUZJCMEQT6eiXTWJiQ@ctc.net>
Source record: 33259

> No doubt this is an easy question, but is there a way of interfacing to
the
> web via HF SSB/data?
> I want to be able to do this from a remote location portable/backpack with
> no mobile phone access and low power. The nearest infrastructure could be
> several hundred km away
> I could use amateur bands or possibly a commercial solution if available.
> What would be the data format and where would I get more info on this?
>
> Thanks
> Richard
>
YOu can probably forget any amateur solution. I think 300 baud is the max
for the low bands and not much beter for most other bands. YOu might be
able to read your email if you do not get any spam before the trip is over.

1243. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 02:03:01 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vjlreprdi8dsa0@corp.supernews.com>
Source record: 33260

You can do e-mail via Pactor on HF. On the ham bands you need to screen the content and that pretty much leaves out web surfing - not to mention the slow data rates. I believe the e-mail is limited to the users you give access to so you don't have to worry about spam. This site will probably give you the information you need: http://www.airmail2000.com/

1244. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 03:21:01 UTC
From: Nocturnal1 <file13@hotmail.com>
Message-ID: <xeD_a.27198$vx3.7842563@kent.svc.tds.net>
Source record: 33261
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Wade Hassler" <wadeh@neti.saber.net> wrote in message
news:d44d2251.0308072152.7e60ef90@posting.google.com...
> Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>...
> > The question seems daft, but bear with me, gentlemen. Has anyone ever
> > had an electric shock that they feel lucky to have survived?
> >
> > p.
>
> 480 volt compost turner was activated while I had my hands inside.
> Threw me into a pile of (mostly) chicken manure.
> Wade H

A fate WORSE than death?

1245. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 04:07:24 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F3B0AC2.3CE9C5A6@clifto.com>
Source record: 33262

Mike Andrews wrote:
> Lee Leduc <leeleduc@netscape.com> wrote:
> > Sorry for the slow response but the Internet connection to the "other
> > side" is sooooooooo slow!
>
> > Yes, I have had a a fatal electric shock in the past.
>
> *SPLORFFFFFFFFFFFFFFFFFF*
>
> Now *where*, I ask you, _WHERE_ was the C&C on that?

Wrong newsgroup. :)

--
All relevant people are pertinent.
All rude people are impertinent.
Therefore, no rude people are relevant.
-- Solomon W. Golomb

1246. Interfacing TEA5757 Tuner using PC Parallel Port

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 04:50:44 UTC
From: thushi@ee.pdn.ac.lk
Message-ID: <31d7fb96.0308132050.5e8935a7@posting.google.com>
Source record: 33263
Cross-posted to: de.sci.electronics,sci.electronics,rec.radio.amateur.homebrew,sci.electronics.components

Hi,

Please let me know anyone interfaced TEA5757 using PC Parallel port.
Also pls. send me Source code if available.

Thank you,

Regards,

Thushi

1247. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 09:32:39 UTC
From: Malcolm Reeves <mreeves@fullcircuit.com>
Message-ID: <30lmjv03vfp4er3u2gr8i95peduv71rgnj@4ax.com>
Source record: 33264
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 13 Aug 2003 12:59:45 -0700, Sparks
<sparksw4eas@mindspring.com> wrote:

>UK's System is NOT a system that has a "Ground" Over Out Sparks W4EAS

Eh? Is this humour? UK household mains is 240V ac (235V ac now but the tolerance band includes 240V so it many places is stayed the same AFAIK). The lines are E (Earth, Green/yellow), Neutral (blue), Live (brown, fused). E and N are at same potential, as is metalwork in the house. L is 235V ac. So if you are holding L and it is on your house is wired wrong, or you are Mr Rubber man.

FYI (non UK'ers) the common arrangement is called PME, Protective Multiple Earth. The N line is bonded to earth (via the underground cabling AFAIR). N is thus at low potential near earth. At the company incoming fuse box the N line is split to E and N. The customer gets E, N, and L wires. The E terminal is bonded to all metal work, baths, plumbing etc. Hence you cannot get a shock from N to E. Switches tend to be single pole in the L as switching L and N would be dangerous if just N failed. You do get double pole so they must have a fail safe scheme for those. Fusing is only in the L for the same reason.

--

...malcolm

Malcolm Reeves BSc CEng MIEE MIRSE, Full Circuit Ltd, Chippenham, UK
(mreeves@fullcircuit.com, mreeves@fullcircuit.co.uk or mreeves@iee.org).
Design Service for Analogue/Digital H/W & S/W Railway Signalling and Power electronics. More details plus freeware, Win95/98 DUN and Pspice tips, see:

http://www.fullcircuit.com or http://www.fullcircuit.co.uk

NEW - Desktop ToDo/Reminder program (free)

1248. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 11:33:27 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F3B7387.4FC81772@ob-wan.com>
Source record: 33266

Richard Hosking wrote:
>
> No doubt this is an easy question, but is there a way of interfacing to the
> web via HF SSB/data?
> I want to be able to do this from a remote location portable/backpack with
> no mobile phone access and low power. The nearest infrastructure could be
> several hundred km away
> I could use amateur bands or possibly a commercial solution if available.
> What would be the data format and where would I get more info on this?

Richard,

If you knew the regs you'd know that this is illegal on the ham bands.
The only legit way is via a WiPoP which is short range and would require
infrastructure in your area of interest. Skip it.

Rob

1249. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 13:21:59 UTC
From: 5.d@free.fr
Message-ID: <7793e539.0308140521.78fff51a@posting.google.com>
Source record: 33265
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge <redscar@waitrose.notformail.com> wrote in message
news:<ro94jvg1a83lu5tonq6h3bft835g4ngg6t@4ax.com>...
> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>
> p.

When I was 14 I used to open an old tube TV,
then I put one hand on the high-voltage tube
that goes to the anode of the TV screen.
There are a few thousand volts here, and I
remember perfectly the two inches spark that went
to my hand before I actually touch the tube.

Fortunately the power is low, and the maximal current
shoud be roughly one mA, or else I wouldn't write it now !

1250. for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 15:47:55 UTC
From: Jayne Medley <kjm52@blomand.net>
Message-ID: <bhgb2s$ch58$1@news3.infoave.net>
Source record: 33267

I have a 813 amp project about 85% done and a plate tranfomer of 2600 volts at 1 amp to sale if anyone needs or would like a good project first class work so far on amp all parts to complete with 2-new 813 tubes

Sell for $325 + shipping or you pick up at 37110 going to hamfest if no one buy in next week or two

1251. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-14 23:39:46 UTC
From: Lukas Louw <louw1@att.net>
Message-ID: <65V_a.100741$0v4.6959968@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33268
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I've survived a few nasty ones, one that caused me to rip half the flesh of one finger to get loose, when some idiot electrician had reversed live and neutral in a audio/video studio installation that I was working on. Obviously none were fatal......

Lukas

> The question seems daft, but bear with me, gentlemen. Has anyone ever
> had an electric shock that they feel lucky to have survived?
>

1252. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 00:24:24 UTC
From: "Z.Z." <nobody@nowhere.com>
Message-ID: <Xns93D7B1126A3DCnobodynowhere@68.6.19.6>
Source record: 33269

Rob Judd wrote:
>
> If you knew the regs you'd know that this is illegal on the ham bands.
> ...

Really? Please quote the reg that makes it illegal.

1253. Re: OT, but important -- Worm alert in today's New York Times

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 02:03:49 UTC
From: George Kinzer <horseflygk@worldnet.att.net>
Message-ID: <9cX_a.99392$3o3.6901846@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33270

98SE rules.....

--

Those who want to be successful, will find a way,
those that don't, will find an excuse!

1254. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 03:19:15 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F3C5133.E368DC3B@ob-wan.com>
Source record: 33274

He said "interfacing to the web", pal. He did not specifically mention
passing email in a manner that doesn't contravene regulations.

See License Conditions Determination 1, 1997 Section 2 part 11.

Rob

Z.Z. wrote:
>
> Rob Judd wrote:
> >
> > If you knew the regs you'd know that this is illegal on the ham bands.
> > ...
>
> Really? Please quote the reg that makes it illegal.

1255. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 03:29:19 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F3C538F.EF8F0FBE@ob-wan.com>
Source record: 33275

But of course, if you're in Tucson this doesn't apply. :)

There are FCC regs forbidding it too, but there are evidently loopholes
in the US. None here in Australia though, which is where the question
originated.

Rob

Z.Z. wrote:
>
> Rob Judd wrote:
> >
> > If you knew the regs you'd know that this is illegal on the ham bands.
> > ...
>
> Really? Please quote the reg that makes it illegal.

1256. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 04:09:43 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0308142009.50f90d2a@posting.google.com>
Source record: 33271

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:<3f3ac81f$0$23588$5a62ac22@freenews.iinet.net.au>...

> No doubt this is an easy question, but is there a way of interfacing to the

> web via HF SSB/data?

> I want to be able to do this from a remote location portable/backpack with

> no mobile phone access and low power. The nearest infrastructure could be

> several hundred km away

> I could use amateur bands or possibly a commercial solution if available.

> What would be the data format and where would I get more info on this?

This shoulds like a job for a satellite. If worst comes
to worst, plug a modem in to a satellite phone and dial
up your ISP...

The first UoSATs were for exactly this sort of application:
take a briefcase-sized station in to the field and send
chitchat back to home base by satellite, completely
independent of terrestrial infrastructure, which may not
exist anyway.

We have satellite Internet here in Canada. It isn't cheap.

Laura Halliday VE7LDH ï¿½ ï¿½ "Que les nuages soient notre
Grid: CN89mg ï¿½ ï¿½ ï¿½ ï¿½ ï¿½ ï¿½ ï¿½ ï¿½ ï¿½ ï¿½pied a terre..."
ICBM: 49 16.05 N 122 56.92 W ï¿½ ï¿½ ï¿½ ï¿½- Hospital/Shafte

1257. Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 06:26:47 UTC
From: "Harry (SM0VPO)" <john.smith@micro$oft.com>
Message-ID: <bhhu7h$3sb$1@newstree.wise.edt.ericsson.se>
Source record: 33272
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

Hi all,
I am having a spot of bother with prescaler chips. Basically I need to find one at the right price and availability. US$5 each is reasonable, but where from? Is there one available that is not obsolete?

I live in Sweden and my local component shop is ELFA (Swedens answer to RS). They don't sell ANY digital divider that operates above 50MHz, except for the 74F163 and I cannot come up with a reliable interface circuit to couple an oscillator into it at over 100MHz.

I found the MB501 (MC12022, SP8704) but it is obsolete and cannot find a reliable source. I bought a couple, but that source dried up. All I need is a divider chip that will accept a small signal up to 150MHz, is available, cheap(ish) and will divide down to under 10MHz so that I can use CMOS to process a synthesiser. A parallel-load synthesiser chip with in-built 150MHz prescaler would do.

I have used "Teleport" to download over 50,000 pdf datasheets without any luck. I have gone through most of them, but it takes a fair bit of time. If anyone has a helpful suggestion I would appreciate it.

BR from Harry - SM0VPO

http://w1.859.telia.com/~u85920178/
harryvpo (at) hotmail (dot) com

1258. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 06:53:34 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f3c8389$0$23589$5a62ac22@freenews.iinet.net.au>
Source record: 33273

The problems with a satellite solution are cost, weight and power. I want to be able to carry the whole thing backpack for several hundred km and for it to operate on battery power. There is a commercial HF SSB station in Sydney for marine radio - it looks like I would be using this if I was in the eastern states of Australia (ultimately I want to do an extended trek along the Vic/NSW alpine trail). This is mainly remote mountainous country with occasional 4WD tracks and roads and very few settlements. I have loked at the SSB radio options - the best seems to be the SCS transceiver, but Rx current is still> 100mA.
I would probably use a PalmPilot as the computer part with an interface to this. Here in WA there doesnt seem to be any options (we are 3000km from the eastern seaboard). All in all a big project!

Richard

Laura Halliday <marsgal42@hotmail.com> wrote in message
news:d42b5a72.0308142009.50f90d2a@posting.google.com...
> "Richard Hosking" <richardh@iinet.net.au> wrote in message
news:<3f3ac81f$0$23588$5a62ac22@freenews.iinet.net.au>...
>
> > No doubt this is an easy question, but is there a way of interfacing to
the
>
> > web via HF SSB/data?
>
> > I want to be able to do this from a remote location portable/backpack
with
>
> > no mobile phone access and low power. The nearest infrastructure could
be
>
> > several hundred km away
>
> > I could use amateur bands or possibly a commercial solution if
available.
>
> > What would be the data format and where would I get more info on this?
>
>
> This shoulds like a job for a satellite. If worst comes
> to worst, plug a modem in to a satellite phone and dial
> up your ISP...
>
> The first UoSATs were for exactly this sort of application:
> take a briefcase-sized station in to the field and send

> chitchat back to home base by satellite, completely
> independent of terrestrial infrastructure, which may not
> exist anyway.
>
> We have satellite Internet here in Canada. It isn't cheap.
>
> Laura Halliday VE7LDH "Que les nuages soient notre
> Grid: CN89mg pied a terre..."
> ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

1259. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 07:25:46 UTC
From: Roger Conroy <rogerconroy@nospam.hotmail.com>
Message-ID: <bhi21gsqu1@ctb-nnrp2.saix.net>
Source record: 33276

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f3ac81f$0$23588$5a62ac22@freenews.iinet.net.au...
> No doubt this is an easy question, but is there a way of interfacing to
the
> web via HF SSB/data?
> I want to be able to do this from a remote location portable/backpack with
> no mobile phone access and low power. The nearest infrastructure could be
> several hundred km away
> I could use amateur bands or possibly a commercial solution if available.
> What would be the data format and where would I get more info on this?
>
> Thanks
> Richard
>
>

I'm aware of a service that provides e-mail on commercial HF frequencies to
safari camps in Botswana from a base in Johannesburg in South Africa. AFAIK
they use Pactor. Many of these camps are several hundred miles from the
nearest phone line.
(My cousin worked in some of the camps)

73 Roger ZR3RC

1260. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 07:45:07 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bhi326$tttq$1@ID-134747.news.uni-berlin.de>
Source record: 33277

Have you considered adding a solar cell or two the station. I am using a much smaller radio, but a 15 watt cell has me battery independent. A 1.4 watt cell maintained enough charge on the gel-cell for me to operate field day weekend.

--
73 es cul

wb3fup
a Salty Bear

"Richard Hosking" <richardh@iinet.net.au> wrote in message news:3f3c8389$0$23589$5a62ac22@freenews.iinet.net.au...
> The problems with a satellite solution are cost, weight and power. I want to
> be able to carry the whole thing backpack for several hundred km and for it
> to operate on battery power. There is a commercial HF SSB station in Sydney
> for marine radio - it looks like I would be using this if I was in the
> eastern states of Australia (ultimately I want to do an extended trek along
> the Vic/NSW alpine trail). This is mainly remote mountainous country with
> occasional 4WD tracks and roads and very few settlements. I have loked at
> the SSB radio options - the best seems to be the SCS transceiver, but Rx
> current is still> 100mA.
> I would probably use a PalmPilot as the computer part with an interface to
> this. Here in WA there doesnt seem to be any options (we are 3000km from the
> eastern seaboard). All in all a big project!
>
> Richard
>
> Laura Halliday <marsgal42@hotmail.com> wrote in message
> news:d42b5a72.0308142009.50f90d2a@posting.google.com...
> > "Richard Hosking" <richardh@iinet.net.au> wrote in message
> news:<3f3ac81f$0$23588$5a62ac22@freenews.iinet.net.au>...
> >
> > > No doubt this is an easy question, but is there a way of interfacing to
> the
> > >
> > > web via HF SSB/data?
> >

> > > I want to be able to do this from a remote location portable/backpack
> with
> >
> > > no mobile phone access and low power. The nearest infrastructure
could
> be
> >
> > > several hundred km away
> >
> > > I could use amateur bands or possibly a commercial solution if
> available.
> >
> > > What would be the data format and where would I get more info on
this?
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> >
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> > to worst, plug a modem in to a satellite phone and dial
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> > The first UoSATs were for exactly this sort of application:
> > take a briefcase-sized station in to the field and send
> > chitchat back to home base by satellite, completely
> > independent of terrestrial infrastructure, which may not
> > exist anyway.
> >
> > We have satellite Internet here in Canada. It isn't cheap.
> >
> > Laura Halliday VE7LDH "Que les nuages soient notre
> > Grid: CN89mg pied a terre..."
> > ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte
>
>

1261. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 09:36:53 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000006c.00351182@btinternet.com>
Source record: 33278
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

Hi,

Mouser have some NEC pre-scalers (3GHz max) for $2.92 a throw.

Cheers - Joe

1262. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 09:58:43 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <1mbpjv4htq8jff6svmuu5v2pemp2lq0i7j@4ax.com>
Source record: 33279
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

In <bhhu7h$3sb$1@newstree.wise.edt.ericsson.se>, "Harry \(SM0VPO\)"
<john.smith@micro$oft.com> wrote:

>Hi all,
>I am having a spot of bother with prescaler chips. Basically I need to find
>one at the right price and availability. US$5 each is reasonable, but where
>from? Is there one available that is not obsolete?
>
>I live in Sweden and my local component shop is ELFA (Swedens answer to RS).
>They don't sell ANY digital divider that operates above 50MHz, except for
>the 74F163 and I cannot come up with a reliable interface circuit to couple
>an oscillator into it at over 100MHz.
>
>I found the MB501 (MC12022, SP8704) but it is obsolete and cannot find a
>reliable source. I bought a couple, but that source dried up. All I need is
>a divider chip that will accept a small signal up to 150MHz, is available,
>cheap(ish) and will divide down to under 10MHz so that I can use CMOS to
>process a synthesiser. A parallel-load synthesiser chip with in-built 150MHz
>prescaler would do.
>
>I have used "Teleport" to download over 50,000 pdf datasheets without any
>luck. I have gone through most of them, but it takes a fair bit of time. If
>anyone has a helpful suggestion I would appreciate it.
>
>BR from Harry - SM0VPO
>
>http://w1.859.telia.com/~u85920178/
>harryvpo (at) hotmail (dot) com
>

Man, if THIS ain't a trip -- a well-known, over-rated internet homebrew tech
asking for help for a simple prescaler. Hey Harry, don't you know that the basic
freshman-lab-grade Class B or C amplifier is nothing more than a divide-by-2
counter? If you have a bunch of 2N2222's, 2N2907's, or any transistor with an Ft
above your high-freq limit, you have a divide-by-(n x 2) counter. Any advanced
homebrewer should know that stuff cause it's basic theory.

And for you to post such a question in alt.radio.pirate.... that's pretty
pathetic, Harry.

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

1263. ** FLEA at MIT ** Sunday August 17th Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 11:32:28 UTC
From: w1gsl@mit.edu
Message-ID: <3f3cc4cc$0$3935$b45e6eb0@senator-bedfellow.mit.edu>
Source record: 33280
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors

This coming Sunday....

+++ Now even more Buyers Parking !!!
Thanks to TKT we have use of their new parking lot
across Albany St from the SWAPFEST !!!

!! ** More Buyers PARKING is available ** for details see
http://web.mit.edu/w1gsl/Public/flyer

*** !!!! In our Traditional GARAGE and the adjacent lot !!!! ****
so come rain or shine or super heat the Flea is on !!!

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
Sunday August 17th 2003
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >2000 cars!

Buyers admission is $5 (you get $1 off if
you're lucky enough to have a copy of our ad)
and sellers spaces are $20 for the first and
$15 for each additional at the gate.

The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
time starting at 7AM.

*** Attention Sellers ***
Prepaid vendors.. Season Pass or monthly,
will be admitted FIRST.
Separate lines will form prior to gate opening
for prepaid and nonprepaid vendors

!! RAIN or SHINE !! Have no fear of rain, a covered
well illuminated tailgate area is available for all
sellers (6'8" clearance).

Talk-in: 145.23- (PL 88.5) W1BOS/R and
W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ************

<<<<<<<<<<<<<<<<<<<<<<< cut here >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

Mail the coupon below by the 5th of the month to be a Prepaid Vendor.

FLEA at MIT 2003 Rates

SELLERS

This year each vendor must have a Cambridge Vendor License.
We will do all the paperwork to get the one day Cambridge licenses.
To keep the spaces affordable we are discounting your first space.
To use your spaces the named vendor MUST be present.
Rates include one admission per space.

Advance $17 First space - includes $10 Cambridge Vendor License
$12 Additional Spaces
Must be received by the 5th of the month.

Gate Admission $20 First Space - includes $10 Cambridge Vendor License
$15 Additional Spaces
Admission is after the prepaid vendors

Early Bird Buyer -Admission after the prepaid vendor line is admitted. ~ 7:15AM
** You may not sell. **
$15 per person at the gate.

****************************** cut here ******************************

FLEA at MIT 2003 Advance Space Application

____April ____May ____June ____ July ____Aug ___Sept ____Oct
@ $17 for the first each month + $12 each additional

Name _____ Call _____ $ Included_____

Address _____ Phone _____ Make Check to
The MIT Radio Society
City _____ State _____ Zip _____ PO Box 397082
Cambridge MA 02139
E-mail _____

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

1264. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 12:50:04 UTC
From: blackm00@cam.org
Message-ID: <6447bcd3.0308150450.163260b8@posting.google.com>
Source record: 33281
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

"Harry \(SM0VPO\)" <john.smith@micro$oft.com> wrote in message
news:<bhhu7h$3sb$1@newstree.wise.edt.ericsson.se>...
> Hi all,
> I am having a spot of bother with prescaler chips. Basically I need to find
> one at the right price and availability. US$5 each is reasonable, but where
> from? Is there one available that is not obsolete?
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> I live in Sweden and my local component shop is ELFA (Swedens answer to RS).
> They don't sell ANY digital divider that operates above 50MHz, except for
> the 74F163 and I cannot come up with a reliable interface circuit to couple
> an oscillator into it at over 100MHz.
>
> I found the MB501 (MC12022, SP8704) but it is obsolete and cannot find a
> reliable source. I bought a couple, but that source dried up. All I need is
> a divider chip that will accept a small signal up to 150MHz, is available,
> cheap(ish) and will divide down to under 10MHz so that I can use CMOS to
> process a synthesiser. A parallel-load synthesiser chip with in-built 150MHz
> prescaler would do.
>
> I have used "Teleport" to download over 50,000 pdf datasheets without any
> luck. I have gone through most of them, but it takes a fair bit of time. If
> anyone has a helpful suggestion I would appreciate it.
>
> BR from Harry - SM0VPO
>
> http://w1.859.telia.com/~u85920178/
> harryvpo (at) hotmail (dot) com

If you can live with a larger and binary division, there would be
a prescaler that likely does work to that frequency limit in any
digitally tuned FM broadcast radio. I have not looked up the
upper frequency limit on these, but of course their needed range
isn't much lower than your upper limit. I don't have a specific
part number, I'm not even sure how much variety of ICs are used
in these applications, but just about any scrap digitally tuned
radio would offer up something. And if you need to find something
commonly available but not rely on scrounging, then open one
up and find the NTE replacement for the prescaler.

Michael VE2BVW

1265. Valve equivalent or spec for Mullard YL1321

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 13:47:04 UTC
From: steve H <steve@cpstelecomspam.co.uk>
Message-ID: <bhio8o$2e7$1@titan.btinternet.com>
Source record: 33282
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.homebrew,uk.radio.amateur

Hi,

Can anyone find the spec or equivalent for a mullard YL1321, looks like the same pinout as the
4cx250/350 family but conduction cooled. The main concern is the heater voltage, usually 6.3 or
26.5. I have tried the usual google etc and its not in any of my data books.

Thanks,

Steve H.

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.509 / Virus Database: 306 - Release Date: 12/08/03

1266. Archer Wireless Oscillator - info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 15:34:20 UTC
From: Nocturnal1 <file13@hotmail.com>
Message-ID: <047%a.525$Ng.123219@kent.svc.tds.net>
Source record: 33283

I found an Archer "Wireless Oscillator" in my parts box. It was sold by Radio Shack some years back, part number 277-237. I would like a datasheet and schematics on it's use. I can't find anything using Google. Hopefully, this will be the item I need to create a wireless AM broadcaster so I can use it as a baby monitor or listen to my MP3's while out working in the garden. (At least I assume that that is what this is used for.) It has 6 pins on the bottom, 3 on each end.

I would appreciate any information anyone can provide on this item.

Ultimately, I'd like to be able to broadcast old time recordings to actively display an old AM radio I am restoring.
~Tom

1267. New Website ON4JU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 15:40:56 UTC
From: Patrick <on1oe@amsat.org>
Message-ID: <3f3cff0a$0$309$ba620e4c@reader1.news.skynet.be>
Source record: 33284

Hello OM,
New Website from ON4JU
www.on4ju.tk

Thanks for your visite.

'73s
Pat ON4JU
E-mail on4ju@busmail.net

1268. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 16:27:30 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <bhj1lh$t7n$2@sparta.btinternet.com>
Source record: 33285
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

"Harry (SM0VPO)" <john.smith@micro$oft.com> wrote in message
news:bhhu7h$3sb$1@newstree.wise.edt.ericsson.se...
> Hi all,
> I am having a spot of bother with prescaler chips. Basically I need to
find
> one at the right price and availability. US$5 each is reasonable, but
where
> from? Is there one available that is not obsolete?
>
> I live in Sweden and my local component shop is ELFA (Swedens answer to
RS).
> They don't sell ANY digital divider that operates above 50MHz, except for
> the 74F163 and I cannot come up with a reliable interface circuit to
couple
> an oscillator into it at over 100MHz.

I'd be inclined to use a CPLD. The Xilinx XC9536 would be good to over 150
MHz and a suitable synchronous counter is quite trivial.

73, Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

1269. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 17:48:17 UTC
From: John <abuse@global.freeserve.co.uk>
Message-ID: <bhjd43ltd1@newsg2.svr.pol.co.uk>
Source record: 33286
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.0000006c.00351182@btinternet.com...
> Hi,
>
> Mouser have some NEC pre-scalers (3GHz max) for $2.92 a throw.

Any idea of the NEC part number ?

Thanks

1270. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 19:50:54 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F3D399E.F2ABAA4B@ob-wan.com>
Source record: 33287

Laura Halliday wrote:
>
> "Richard Hosking" <richardh@iinet.net.au> wrote in message
news:<3f3ac81f$0$23588$5a62ac22@freenews.iinet.net.au>...
>
> > No doubt this is an easy question, but is there a way of interfacing to the
>
> > web via HF SSB/data?
>
> > I want to be able to do this from a remote location portable/backpack with
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> > no mobile phone access and low power. The nearest infrastructure could be
>
> > several hundred km away
>
> > I could use amateur bands or possibly a commercial solution if available.
>
> > What would be the data format and where would I get more info on this?
>
> This shoulds like a job for a satellite. If worst comes
> to worst, plug a modem in to a satellite phone and dial
> up your ISP...
>
> The first UoSATs were for exactly this sort of application:
> take a briefcase-sized station in to the field and send
> chitchat back to home base by satellite, completely
> independent of terrestrial infrastructure, which may not
> exist anyway.
>
> We have satellite Internet here in Canada. It isn't cheap.

Laura,

We can only get a sat downlink here easily. The uplink is almost always
a dialup.

Rob

1271. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-15 22:16:19 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000006d.00d8d99d@btinternet.com>
Source record: 33288
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

Hi,

They are listed at -

http://www.mouser.com/catalog/615/217.pdf

and NEC have a data sheet on-line if you do a quick Google.

I should point out that they are really only simple dividers
with none of the front-end bits necessary to make a complete
prescaler. I was thinking of using one with an old Racal 1991 VHF
counter that has the built-in maths capability required to enable
a non-decade pre-division.

Cheers - Joe

1272. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 00:57:23 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F3D8173.4050006@bellsouth.net>
Source record: 33289
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Fri, 08 Aug 2003 03:29:47 GMT, Eric Immel <EI@no.spam.for.me>
> wrote:
>
>
>>Paul, are you asking if anyone has been killed, then revived?
>
>
> That's pretty close to what I'm getting at. What I *am* actually get
> at is that theoretical physicists are coming around to the rather
> extraordinary view that one cannot from one's own perspective be
> killed by any sudden and dramatic life event. No matter how bad the
> shock, you will always 'come around' to find that you've survived. The
> tricky bit is that you'll probably have found yourself in a different
> reality to the one you left. In the one you've left, observers will
> see your cold, dead, smoking body lying sparko on the ground. Your
> relatives will grieve, your obituary will be written. But *you* won't
> know anything of that. You'll just believe you've had a lucky escape;
> you'll go home and tell your friends and family all about it and years
> later maybe you'll tell others via the Internet. Sounds nuts?
> Incredible as it may seem, the majority of physicists currently
> working in this field now believe this to be the case! And we're
> talking world-class theoreticians here, not just the kooks who post to
> alt.sci.theories.
>
> For further info, try Googling for the following:
> Many Worlds theory
> Max Tegel
> Quantum suicide experiment
> Quantum Theory of Imortality
> David Deutsche
> Schroedinger's Cat
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

Does this mean that I died on the operating table during my
open heart surgery last year, and awoke in a different reality
where I am still living?

1273. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 01:03:58 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F3D82FE.3050701@bellsouth.net>
Source record: 33290
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Malcolm Reeves wrote:
> On Sun, 10 Aug 2003 21:03:48 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>
>>I've also read that Edison created and promoted the electric
>>chair, which was run from AC, to dramatize the danger of AC over DC. He
>>had a big investment in DC distribution systems and equipment, while
>>Westinghouse was promoting AC power distribution.
>
>
> Didn't Edison try to get execution by electric chair "Westinghousing"
> too, or is that a rumour.
>
> BTW, on the subject of anti-static that measures open, some of these
> are one-sided. That is, some bags are metal film coated on the
> inside, so across the outside they will read open.
>
>

Early electric chairs WERE AC, but they tended to fry you rather than
electrocute. But at high frequency AC isn't as dangerous as DC.
Tesla used to demonstrate passing a million volts through his body to
light gas tubes, but he used high frequency current (in the khz range) to
do it.

1274. Source for 100 mfd 500 volt electrolytic capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 02:16:13 UTC
From: BJ <rajohngm@worldnet.att.net>
Message-ID: <Ntg%a.100684$3o3.6994508@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33291

Can anyone provide me with a source for 100 mf 500 volt electrolytic
capacitors?
Thanks,
Bob AA8X

1275. Re: Source for 100 mfd 500 volt electrolytic capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 03:02:46 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <q9h%a.152248$o%2.65636@sccrnsc02>
Source record: 33292

Bob -

All kinds ..... radial or axial ?

http://www.thetubestore.com/capsbytype.html

http://shop.store.yahoo.com/triodeel/elcap300to60.html

http://www.vacuumtube.com/capacito.htm

Call Mouser for specific items over 450 volt rating in catalog
http://www.mouser.com/catalog/615/384.pdf

Repair ?
http://www.nmr.mgh.harvard.edu/~reese/electrolytics/

Greg
--
DO NOT use Reply.
Only reply through ARRL forwarding service to W9GB

"BJ" <rajohngm@worldnet.att.net> wrote in message
news:Ntg%a.100684$3o3.6994508@bgtnsc05-news.ops.worldnet.att.net...
> Can anyone provide me with a source for 100 mf 500 volt electrolytic
> capacitors?
> Thanks,
> Bob AA8X
>
>

1276. Re: Source for 100 mfd 500 volt electrolytic capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 03:16:43 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bhk9np$n4l@library1.airnews.net>
Source record: 33293

"BJ" <rajohngm@worldnet.att.net> wrote in message
news:Ntg%a.100684$3o3.6994508@bgtnsc05-news.ops.worldnet.att.net...
> Can anyone provide me with a source for 100 mf 500 volt electrolytic
> capacitors?

Talk to any pro music store that works on tube guitar amps. That kind of
cap is real common for power supply filter capacitors.

1277. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 04:59:28 UTC
From: don@manx.misty.com
Message-ID: <slrnbjrehf.87e.don@manx.misty.com>
Source record: 33294
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <3F3D82FE.3050701@bellsouth.net>, scharkalvin wrote:
>Malcolm Reeves wrote:
>> On Sun, 10 Aug 2003 Roy Lewallen <w7el@eznec.com> wrote:
>>
>>>I've also read that Edison created and promoted the electric
>>>chair, which was run from AC, to dramatize the danger of AC over DC. He
>>>had a big investment in DC distribution systems and equipment, while
>>>Westinghouse was promoting AC power distribution.
>>
>> Didn't Edison try to get execution by electric chair "Westinghousing"
>> too, or is that a rumour.
>
>Early electric chairs WERE AC, but they tended to fry you rather than
>electrocute.

Electric chairs, early and semi-modern and modern, use/used AC because AC electrocutes more than DC does (at least if the AC frequency is in the power-line, lower-audio or upper-"subsonic" frequency range). (AC frequencies of radio frequencies or high audio frequencies were safer.)

This business of electric chairs frying rather than electrocuting has a grain of truth - electric chairs often have enough voltage and current to cook vital organs in case "more-true electrocution" does not occur.

Electrocution in a typical case is most likely with AC (secondarily pulsating DC) of power line or lower-audio or nearly-audio-subaudio frequency and with shock path involving the head or a limb so as to involve the brain or the heart or both. Worst case usually involves ventricular fibrillation, a deadly disturbance in heart rhythm where electrical cause is "typically" 100-1,000 mA of low frequency AC or pulsating DC through the torso.
Electrocution is unreliable enough that electric chairs require "backup" mechanisms of killing. As in either cooking vital organs or paralyzing breating long enough to deprive the brain of oxygen long enough to disable restarting of breathing when the shock is stopped. I insist that survival of shocks that are not far from bad-case is equally unreliable!

>Tesla used to demonstrate passing a million volts through his body to
>light gas tubes, but he used high frequency current (in the khz range) to
>do it.

Tesla-related AC survival involved high frequencies that are not as bad as either lower frequency AC or unsteady DC! High enough frequency AC is less-electrocuting than DC can be given even slowest accidental

application/removal rates!
Horror stories by horrifically-burned high-voltage-DC survivors come mainly from those who lived to tell a horrific tale rather than had a closed-casket funeral because the current was DC rather than power-line-frequency AC.

- Don Klipstein (don@misty.com)

1278. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 06:25:29 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f3dce75$0$23597$5a62ac22@freenews.iinet.net.au>
Source record: 33295

I have thought about using one of the modern SM PLL chips such as the National LMX2326 which can be progammed to give any division over a wide range (you do need a controller though to drive it) - you can access the main divider output directly and ignore the phase divider. These are widely available and pretty cheap. I would think you could do one one these "dead bug" with care, though they are SSOP. Of course if you are doing a PLL, why not use the whole chip?

Richard

Harry (SM0VPO) <john.smith@micro$oft.com> wrote in message news:bhhu7h$3sb$1@newstree.wise.edt.ericsson.se...
> Hi all,
> I am having a spot of bother with prescaler chips. Basically I need to find
> one at the right price and availability. US$5 each is reasonable, but where
> from? Is there one available that is not obsolete?
>
> I live in Sweden and my local component shop is ELFA (Swedens answer to RS).
> They don't sell ANY digital divider that operates above 50MHz, except for
> the 74F163 and I cannot come up with a reliable interface circuit to couple
> an oscillator into it at over 100MHz.
>
> I found the MB501 (MC12022, SP8704) but it is obsolete and cannot find a
> reliable source. I bought a couple, but that source dried up. All I need is
> a divider chip that will accept a small signal up to 150MHz, is available,
> cheap(ish) and will divide down to under 10MHz so that I can use CMOS to
> process a synthesiser. A parallel-load synthesiser chip with in-built 150MHz
> prescaler would do.
>
> I have used "Teleport" to download over 50,000 pdf datasheets without any
> luck. I have gone through most of them, but it takes a fair bit of time. If
> anyone has a helpful suggestion I would appreciate it.
>
> BR from Harry - SM0VPO
>
> http://w1.859.telia.com/~u85920178/
> harryvpo (at) hotmail (dot) com
>

>

1279. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 07:26:03 UTC
From: Mike Burch <mburch46@mchsi.com>
Message-ID: <3F3DDC7D.37D7DA99@mchsi.com>
Source record: 33296
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Oh ok, that's where that annoying hair came from. Chick's don't seem
to like it. :-)

1280. Re: Valve equivalent or spec for Mullard YL1321

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 08:33:01 UTC
From: Steve <no-one@home.here>
Message-ID: <3f3e130c$1@news.greennet.net>
Source record: 33197
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.homebrew,uk.radio.amateur

steve H <steve@cpstelecomspam.co.uk> wrote in message
news:bhio8o$2e7$1@titan.btinternet.com...
> Hi,
>
> Can anyone find the spec or equivalent for a mullard YL1321, looks like
the same pinout as the
> 4cx250/350 family but conduction cooled. The main concern is the heater
voltage, usually 6.3 or
> 26.5. I have tried the usual google etc and its not in any of my data
books.
Put 6.0 (not 6.3)V on the heater pins and see if it draws the right sort of
current - if it's a higher voltage version, you won't do any harm. I don't
know of any variants that ran at lower voltage.

Steve

1281. Pse help Ident / Equiv. for FET

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 10:17:41 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f3e0464.609947330@news.freeserve.net>
Source record: 33198

Can anyone identify an equivalent for an FET marked ST72A ?
Its a TO92 (2n3904 style) case. And thats all I know !
any help appreciated.
atb Mike W , G8NXD

1282. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 10:54:11 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <070sjvc19e7vughio8qjqbfcs6pmtlrsmg@4ax.com>
Source record: 33199
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 15 Aug 2003 20:57:23 -0400, scharkalvin <wa2mze@bellsouth.net>
wrote:

>Does this mean that I died on the operating table during my
>open heart surgery last year, and awoke in a different reality
>where I am still living?

Did the surgeons tell you they'd lost you for a while there? If so,
you might have been revived in that same reality in the usual way, or
else if such efforts failed, you'd then 'come round' in one of the
other remaining universes in which you didn't die, in an example the
so-called 'weak anthropic principle.'
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1283. Parting-out a Heathkit SB-221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 13:59:20 UTC
From: Argus <x67@earthlink.net>
Message-ID: <YMq%a.25415$vo2.11380@newsread1.news.atl.earthlink.net>
Source record: 33200

All parts from a working unit.

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=coldwarri
or1&include=0&since=-1&sort=3&rows=50

1284. Help me Identidy this 'ol WE tube pse!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 14:03:37 UTC
From: rlucch2098@aol.com
Message-ID: <20030816100337.10944.00000138@mb-m14.aol.com>
Source record: 33201

Hi All;
Can anyone tell me what this tube is or used for?
I've seen it before but forget now :-)
Please e-mail me directly @
rlucch2098@aol.com
Pics>>
http://www.myradioroom.com/oddwetube1.jpg
http://www.myradioroom.com/oddwetube2.jpg
Tnx & 73.....Rich WA2RQY

1285. Re: Help me Identidy this 'ol WE tube pse!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 14:49:06 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbjsh31.5dj.bit-bucket@localhost.config.com>
Source record: 33202

On 16 Aug 2003 14:03:37 GMT, RLucch2098 hath writ:

> Can anyone tell me what this tube is or used for?
> http://www.myradioroom.com/oddwetube1.jpg
> http://www.myradioroom.com/oddwetube2.jpg

Looks like a (low power) klystron to me.

The puppy is nice. A ruler would've been better.

73
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

1286. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 16:08:39 UTC
From: Harry Lippitz <john.smith@micro$oft.com>
Message-ID: <bGs%a.24391$dP1.53951@newsc.telia.net>
Source record: 33203
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

Frank Gilliland <sparky@NOSPAMaimcomm.net> wrote
> Man, if THIS ain't a trip -- a well-known, over-rated internet homebrew
tech
> asking for help for a simple prescaler.

And why not? I am the first to admit lack of experience any a field. You should not be afraid to ask, either. You learn a lot more than you do when you simply site there and ridicule people.

> ... over-rated ...

??? See what I mean ??? Superfluous words conveying no meaning, other than displaying emotions that one would hide in public to avoid embarrasment.

> Hey Harry, don't you know that the basic
> freshman-lab-grade Class B or C amplifier is nothing more than a
divide-by-2
> counter? If you have a bunch of 2N2222's, 2N2907's, or any transistor with
an Ft
> above your high-freq limit, you have a divide-by-(n x 2) counter. Any
advanced
> homebrewer should know that stuff cause it's basic theory.

Not available in Sweden, just the usual 300MHz unity-gain (BC547, 557, etc), and the circuit stops operating at about 100MHz when the gain/pcb has become useless. I need RF transistors that are not available. ELFA only have no RF small signal devices.

> And for you to post such a question in alt.radio.pirate.... that's pretty
> pathetic, Harry.

I was a pirate myself, LONG before I became an amateur. I have a lot of respect for the knowledge and experience of some of these so-called "pirates". I wonder how just many "pirates" you have spoken to on the HF bands? Certainly more than 0 and you were not even aware of it.

Very best regards from Harry
(Writing from home this time)
harryvpo (at) hotmail (dot) com

1287. Re: Help me Identidy this 'ol WE tube pse!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 16:41:16 UTC
From: Lynn Coffelt <coffelt2@comcast.net>
Message-ID: <M8t%a.158326$YN5.102147@sccrnsc01>
Source record: 33204

Jonesy is correct. Actually, I'm not familiar with this exact model klystron, but have worked with a lot of very similar ones used as the local oscillator for marine radar receivers. The base pin arrangement, which is an obvious "octal" base scheme variation includes one extra long pin. You can see it in the photographs. That pin is the klystron oscillator's output. It is actually a radiating "probe", sort of an antenna that protrudes right into a microwave "cavity". The 2K25 or RK25 was a common WWII surplus item that Ham experimenters used as an "X" band RF source. It's output frequency was a little higher than 9ghz if memory serves me right, and could directly feed a microwave "horn" antenna for transmission. It is tuned in two ways. Coarse tuning was done by turning a square headed screw on the "grasshopper", the outboard metal junk hanging on the side of the metal envelope. Fine tuning was by adjusting the voltage on the top cap. Cathode?? Oh, yeah, the tool used to coarse tune this little hummer must be insulated. Lethal (or nearly lethal, in my case) voltage is right on that blasted square headed screw.
Lynn, W7LTQ

1288. Problems with www.qsl.net...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 16:59:32 UTC
From: Rightrik <arararara@inwind.it>
Message-ID: <bhlntr$qo7p$1@ID-164697.news.uni-berlin.de>
Source record: 33205

Hello, i have an account on www.qsl.net, but infortunately i've lost my ftp access password... So i've tried to register again, i've tried to contact the webmaster using various email accounts, i've tried to donate money (receiving a "thank you" answer, but no reply to my questions)...

What can i do to have again a valid ftp password ?

Thanks,
Riccardo IK5WQO

1289. Re: Help me Identidy this 'ol WE tube pse!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-16 17:08:15 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bhloe1$pseg$1@ID-134747.news.uni-berlin.de>
Source record: 33206

And if memory serves me correctly it is negative voltage with respect to the cathode. Feedback necessary to sustain oscillation if accomplished by running electrons back and forth through the tube to place in phase shocks to the resonate cavity in the tube.

--
73 es cul

wb3fup
a Salty Bear

"Lynn Coffelt" <coffelt2@comcast.net> wrote in message news:M8t%a.158326$YN5.102147@sccrnsc01...
> Jonesy is correct. Actually, I'm not familiar with this exact model
> klystron, but have worked with a lot of very similar ones used as the local
> oscillator for marine radar receivers. The base pin arrangement, which is an
> obvious "octal" base scheme variation includes one extra long pin. You can
> see it in the photographs. That pin is the klystron oscillator's output. It
> is actually a radiating "probe", sort of an antenna that protrudes right
> into a microwave "cavity". The 2K25 or RK25 was a common WWII surplus item
> that Ham experimenters used as an "X" band RF source. It's output frequency
> was a little higher than 9ghz if memory serves me right, and could directly
> feed a microwave "horn" antenna for transmission. It is tuned in two ways.
> Coarse tuning was done by turning a square headed screw on the
> "grasshopper", the outboard metal junk hanging on the side of the metal
> envelope. Fine tuning was by adjusting the voltage on the top cap. Cathode??
> Oh, yeah, the tool used to coarse tune this little hummer must be insulated.
> Lethal (or nearly lethal, in my case) voltage is right on that blasted
> square headed screw.
> Lynn, W7LTQ
>
>

1290. Re: Source for 100 mfd 500 volt electrolytic capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 00:12:35 UTC
From: BJ <rajohngm@worldnet.att.net>
Message-ID: <TLz%a.103019$0v4.7158084@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33207

Thanks Greg. I have found what I need on one of the sites you suggested.
Bob- AA8X

"G.Beat" <now9spamgb@spam.comcast.net> wrote in message
news:q9h%a.152248$o%2.65636@sccrnsc02...
> Bob -
>
> All kinds ..... radial or axial ?
>
> http://www.thetubestore.com/capsbytype.html
>
> http://shop.store.yahoo.com/triodeel/elcap300to60.html
>
> http://www.vacuumtube.com/capacito.htm
>
> Call Mouser for specific items over 450 volt rating in catalog
> http://www.mouser.com/catalog/615/384.pdf
>
> Repair ?
> http://www.nmr.mgh.harvard.edu/~reese/electrolytics/
>
>
> Greg
> --
> DO NOT use Reply.
> Only reply through ARRL forwarding service to W9GB
>
> "BJ" <rajohngm@worldnet.att.net> wrote in message
> news:Ntg%a.100684$3o3.6994508@bgtnsc05-news.ops.worldnet.att.net...
> > Can anyone provide me with a source for 100 mf 500 volt electrolytic
> > capacitors?
> > Thanks,
> > Bob AA8X
> >
> >
>
>

1291. Re: Pse help Ident / Equiv. for FET

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 00:14:24 UTC
From: James <jimbo@nospam.com>
Message-ID: <3F3EC8DF.ACE83C94@nospam.com>
Source record: 33208

hi mike,

can you tell us what the application is, equipment brand and model ?

73 jim

Mike wrote:

> Can anyone identify an equivalent for an FET marked ST72A ?
> Its a TO92 (2n3904 style) case. And thats all I know !
> any help appreciated.
> atb Mike W , G8NXD

1292. Re: Pse help Ident / Equiv. for FET

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 00:34:00 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f3eccd9.48845969@news.freeserve.net>
Source record: 33209

On Sun, 17 Aug 2003 00:14:24 GMT, James <jimbo@nospam.com> wrote:

>hi mike,
>
>can you tell us what the application is, equipment brand and model ?
>
Sadly no, I have a bag of 50 of the things and I'm wondering what I
can use them for. I do know that they ar'nt from ST (the company) or
at least there is no mention of them on their site.

1293. Re: Pse help Ident / Equiv. for FET

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 02:09:37 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <BtB%a.101782$3o3.7094836@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33210

"Mike W" <mike@corn2.freeserve.co.uk> wrote in message
news:3f3eccd9.48845969@news.freeserve.net...
> On Sun, 17 Aug 2003 00:14:24 GMT, James <jimbo@nospam.com> wrote:
>
> >hi mike,
> >
> >can you tell us what the application is, equipment brand and model ?
> >
> Sadly no, I have a bag of 50 of the things and I'm wondering what I
> can use them for. I do know that they ar'nt from ST (the company) or
> at least there is no mention of them on their site.

Out of curiosity, how do you know that they're FETs?? They could easily be
BJT's SCRs, TRIACS, or just about any other type of semiconductor that has
been produced in that package.
Cheers!@!
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Time is what keeps everything from happening all at once.

1294. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 02:22:56 UTC
From: scharkalvin <wa2mze@bellsouth.net>
Message-ID: <3F3EE700.2050904@bellsouth.net>
Source record: 33211
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Fri, 15 Aug 2003 20:57:23 -0400, scharkalvin <wa2mze@bellsouth.net>
> wrote:
>
>
>>Does this mean that I died on the operating table during my
>>open heart surgery last year, and awoke in a different reality
>>where I am still living?
>
>
> Did the surgeons tell you they'd lost you for a while there? If so,
> you might have been revived in that same reality in the usual way, or
> else if such efforts failed, you'd then 'come round' in one of the
> other remaining universes in which you didn't die, in an example the
> so-called 'weak anthropic principle.'
> --
>
> "I believe history will be kind to me, since I intend
> to write it." - Winston Churchill

My surgery was actually 'text book', but my recovery was a little rocky. My lungs filled with fluid and I was moved back into intensive care a day after being put in a normal recovery room after the surgery. I was on 100% O2 for a day or so, after they inserted a needle in my back and drained the fluid (about a liter or two) I was much better. I was seeing things because of the drugs I was on though. When ever I closed my eyes I felt like I was floating in a crypt and I saw gargoyles on the walls with red eyes. They gave me something to help me relax and then the vision changed....I was now floating in a toy work shop (north pole?) surrounded by dolls and wooden toys and model trains. The visions disappeared when I was taken off the O2.

1295. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 02:45:17 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061088608.144489@auth2.dns.griffin.net.uk>
Source record: 33212

what frequency steps are you looking for harry????
if its for the broadcast band then the philips range of tsa5511/12/14 are
cheap and have upper operating range of 1300mhz, only trouble with them is
50khz steps..pic codes available on the net...otherwise the mc 145170 is a
good choice, operates up to 170mhz..but is serial controlled as well....
g0zen simon
"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f3dce75$0$23597$5a62ac22@freenews.iinet.net.au...
> I have thought about using one of the modern SM PLL chips such as the
> National LMX2326 which can be progammed to give any division over a wide
> range (you do need a controller though to drive it) - you can access the
> main divider output directly and ignore the phase divider. These are
widely
> available and pretty cheap. I would think you could do one one these "dead
> bug" with care, though they are SSOP. Of course if you are doing a PLL,
why
> not use the whole chip?
>
> Richard
>
> Harry (SM0VPO) <john.smith@micro$oft.com> wrote in message
> news:bhhu7h$3sb$1@newstree.wise.edt.ericsson.se...
> > Hi all,
> > I am having a spot of bother with prescaler chips. Basically I need to
> find
> > one at the right price and availability. US$5 each is reasonable, but
> where
> > from? Is there one available that is not obsolete?
> >
> > I live in Sweden and my local component shop is ELFA (Swedens answer to
> RS).
> > They don't sell ANY digital divider that operates above 50MHz, except
for
> > the 74F163 and I cannot come up with a reliable interface circuit to
> couple
> > an oscillator into it at over 100MHz.
> >
> > I found the MB501 (MC12022, SP8704) but it is obsolete and cannot find a
> > reliable source. I bought a couple, but that source dried up. All I need
> is
> > a divider chip that will accept a small signal up to 150MHz, is
available,
> > cheap(ish) and will divide down to under 10MHz so that I can use CMOS to
> > process a synthesiser. A parallel-load synthesiser chip with in-built

> 150MHz
> > prescaler would do.
> >
> > I have used "Teleport" to download over 50,000 pdf datasheets without
any
> > luck. I have gone through most of them, but it takes a fair bit of time.
> If
> > anyone has a helpful suggestion I would appreciate it.
> >
> > BR from Harry - SM0VPO
> >
> > http://w1.859.telia.com/~u85920178/
> > harryvpo (at) hotmail (dot) com
> >
> >
>
>

1296. RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 02:54:19 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061089149.732348@auth2.dns.griffin.net.uk>
Source record: 33213

thanks for info peoples.....

2x12v computer psu is interesting but takes up too much space....
now i have more info i will try using the parts from a computer psu but with modified/own stepdown transformer...going this way as it will be cheap..ie ex psu costs 3gbp so if i kill it then so what!!

I assume the transformer will be similar just with twice (ish) the amount of windings on the sec.and that i will have to add some R in the feedback crt so that the pwm chip still sees 2.5v(ish) and prehaps remove the scr overvoltage protection..OR i will make it unregulated.

will let you know in due course case someone out there is interested.

simon g0zen

1297. Re: Help me Identidy this 'ol WE tube pse!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 03:21:33 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F3EF747.207C2660@ieee.org>
Source record: 33214

"WB3FUP (Mike Hall)" wrote:

> And if memory serves me correctly it is negative voltage with respect to
> the cathode. Feedback necessary to sustain oscillation if accomplished by
> running electrons back and forth through the tube to place in phase shocks
> to the resonate cavity in the tube.
>
> --
> 73 es cul
>
> wb3fup
> a Salty Bear
>
> "Lynn Coffelt" <coffelt2@comcast.net> wrote in message
> news:M8t%a.158326$YN5.102147@sccrnsc01...
> > Jonesy is correct. Actually, I'm not familiar with this exact model
> > klystron, but have worked with a lot of very similar ones used as the
> local
> > oscillator for marine radar receivers. The base pin arrangement, which is
> an
> > obvious "octal" base scheme variation includes one extra long pin. You
> can
> > see it in the photographs. That pin is the klystron oscillator's output.
> It
> > is actually a radiating "probe", sort of an antenna that protrudes right
> > into a microwave "cavity". The 2K25 or RK25 was a common WWII surplus
> item
> > that Ham experimenters used as an "X" band RF source. It's output
> frequency
> > was a little higher than 9ghz if memory serves me right, and could
> directly
> > feed a microwave "horn" antenna for transmission. It is tuned in two
> ways.
> > Coarse tuning was done by turning a square headed screw on the
> > "grasshopper", the outboard metal junk hanging on the side of the metal
> > envelope. Fine tuning was by adjusting the voltage on the top cap.
> Cathode??
> > Oh, yeah, the tool used to coarse tune this little hummer must be
> insulated.
> > Lethal (or nearly lethal, in my case) voltage is right on that blasted
> > square headed screw.
> > Lynn, W7LTQ
> >
> >

Most applications (not Hams) grounded the tube shell and ran about minus 250
-300
volt on the filament / cathode and a variable minus 75 to 150 on the repeller
(cap). the
repeller voltage was reference to the cathode so it ran minus 325 to 450 volts
reference
to ground.

I have a couple of these in my junk box and used one many years back

Bill K7NOM

1298. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 05:05:54 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f3f0c94.1196409@news.cantech.net.au>
Source record: 33215

On Sun, 17 Aug 2003 03:54:19 +0100, "zindazenda" <zen@lineisp.co.uk>
wrote:

>thanks for info peoples.....
>
>2x12v computer psu is interesting but takes up too much space....
>now i have more info i will try using the parts from a computer psu but with
>modified/own stepdown transformer...going this way as it will be cheap..ie
>ex psu costs 3gbp so if i kill it then so what!!
>
>I assume the transformer will be similar just with twice (ish) the amount of
>windings on the sec.and that i will have to add some R in the feedback crt
>so that the pwm chip still sees 2.5v(ish) and prehaps remove the scr
>overvoltage protection..OR i will make it unregulated.

Find out which winding is used for feedback/regulation, and leave it
alone - or consider replacing it with lighter gauge wire to obtain
more core cross-section for your 28V winding.

Also, if an AT type, usually the +5V winding requires a base load.

You can remove the -5v and -12V windings.

>will let you know in due course case someone out there is interested.
>
>simon g0zen
>
>

1299. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 05:08:45 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <280ujvsf92vjfb0uvukldqai9qbmi4oqrd@4ax.com>
Source record: 33216

In <bGs%a.24391$dP1.53951@newsc.telia.net>, "Harry Lippitz"
<john.smith@micro$oft.com> wrote:

>
>Frank Gilliland <sparky@NOSPAMaimcomm.net> wrote
>> Man, if THIS ain't a trip -- a well-known, over-rated internet homebrew
>tech
>> asking for help for a simple prescaler.
>
>And why not? I am the first to admit lack of experience any a field. You
>should not be afraid to ask, either. You learn a lot more than you do when
>you simply site there and ridicule people.

My point was that the art of homebrewing loses something when it's reduced to just plugging in a chip. Seems like everyone is ignoring how the circuits work and taking the 'black-box' approach instead. For example, the MAX038 is a chip that is a ready-made 0-20 MHz function generator with sweep, variable duty cycle, frequency modulation, and a phase discriminator. I'm sure that sounds cool to some, but if all you need is a 100 kHz square wave, why not learn how to build a square-wave oscillator with one or two transistors? And if you want a function generator, where's the fun in just hooking up power to a chip? That's not homebrewing, at least not in my book.

Do you need a prescaler that's fast enough to get the freq down to chip-speed? Try a simple flip-flop. Two transistors, that's all. There are probably a few dozen schematics on the net and dozens more at the public library (you do have public libraries in Sweden, don't you?).

>> ... over-rated ...
>
>??? See what I mean ??? Superfluous words conveying no meaning, other than
>displaying emotions that one would hide in public to avoid embarrasment.

Who's hiding? If I met you at a bar up there in Lapland and you asked the same question I'd give you the same answer.

>> Hey Harry, don't you know that the basic
>> freshman-lab-grade Class B or C amplifier is nothing more than a
>divide-by-2
>> counter? If you have a bunch of 2N2222's, 2N2907's, or any transistor with
>an Ft
>> above your high-freq limit, you have a divide-by-(n x 2) counter. Any
>advanced
>> homebrewer should know that stuff cause it's basic theory.
>
>Not available in Sweden, just the usual 300MHz unity-gain (BC547, 557, etc),

>and the circuit stops operating at about 100MHz when the gain/pcb has become
>useless. I need RF transistors that are not available. ELFA only have no RF
>small signal devices.

They don't have VHF or UHF in Sweden? Scrap a few FM radios and I'm sure you can find some MPSA10's and/or their equivalent. Regardless, an astable multivibrator doesn't need much gain to work. And when it's built with discrete components it's about the best prescaler you can have -- takes up about as much space as a chip, uses less power, costs a lot less, and is more flexible in terms of the power supply and input signal levels. Since you probably only need a stage or two to get the freq down to the input speed of a ripple counter, a simple flip-flop is almost the ideal circuit.

>> And for you to post such a question in alt.radio.pirate.... that's pretty
>> pathetic, Harry.
>
>I was a pirate myself, LONG before I became an amateur. I have a lot of
>respect for the knowledge and experience of some of these so-called
>"pirates". I wonder how just many "pirates" you have spoken to on the HF
>bands? Certainly more than 0 and you were not even aware of it.

None. Never been a ham, never been a pirate, and I don't plan to become either in the near future. But you might hear me around 8 or 162 kHz this winter.....

>Very best regards from Harry
>(Writing from home this time)
>harryvpo (at) hotmail (dot) com
>

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

1300. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 07:23:40 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <b4I8hOC81yP$EAN8@ifwtech.co.uk>
Source record: 33219

budgie wrote:
>On Sun, 17 Aug 2003 03:54:19 +0100, "zindazenda" <zen@lineisp.co.uk>
>wrote:
>
>>thanks for info peoples.....
>>
>>2x12v computer psu is interesting but takes up too much space....
>>now i have more info i will try using the parts from a computer psu but with
>>modified/own stepdown transformer...going this way as it will be cheap..ie
>>ex psu costs 3gbp so if i kill it then so what!!
>>
>>I assume the transformer will be similar just with twice (ish) the amount of
>>windings on the sec.and that i will have to add some R in the feedback crt
>>so that the pwm chip still sees 2.5v(ish) and prehaps remove the scr
>>overvoltage protection..OR i will make it unregulated.
>
>Find out which winding is used for feedback/regulation, and leave it
>alone - or consider replacing it with lighter gauge wire to obtain
>more core cross-section for your 28V winding.
>
Now that's a good idea!

>Also, if an AT type, usually the +5V winding requires a base load.
>
But it's less than 1A so the new wire could be quite thin, and the rest
of the core window is all yours to play in... thanks mate, that's set me
thinking...

Simon, there's also an interesting Australian radio club site that has
lots of in-depth information on modifying computer PSUs (sorry, I
thought I'd saved the URL, but can't find it - can anyone post the URL
please?).

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1301. Re: Pse help Ident / Equiv. for FET

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 07:37:03 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f3f3031.74281487@news.freeserve.net>
Source record: 33217

On Sun, 17 Aug 2003 02:09:37 GMT, "Tweetldee" <dgmason99@att99.net>
wrote:

>"Mike W" <mike@corn2.freeserve.co.uk> wrote in message
>news:3f3eccd9.48845969@news.freeserve.net...
>> On Sun, 17 Aug 2003 00:14:24 GMT, James <jimbo@nospam.com> wrote:
>>
>> >hi mike,
>> >
>> >can you tell us what the application is, equipment brand and model ?
>> >
>> Sadly no, I have a bag of 50 of the things and I'm wondering what I
>> can use them for. I do know that they ar'nt from ST (the company) or
>> at least there is no mention of them on their site.
>
>Out of curiosity, how do you know that they're FETs?? They could easily be
>BJT's SCRs, TRIACS, or just about any other type of semiconductor that has
>been produced in that package.
>
Well, you may have a point there ;-)
Seriously though, I bought them from someone who knows they are FET's,
but has no data for them.

1302. spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 07:40:31 UTC
From: payam79b@yahoo.com
Message-ID: <1e2005ff.0308162340.b316efe@posting.google.com>
Source record: 33218

Hi,I am student & curiously want to build a practical ,high frequency spectrum analyzer , I have searched a lot for a one such : GBPPR 0 - 1000 MHz Spectrum Analyzer,
A Spectrum Analyzer for the Radio Amateur By Wes Hayward, W7ZOI, and Terry White, K7TAU & some others ï¿½, according that I live in iran I have some restrictions a bout some parts that they use in their circuits , but I think may poor mans spectrum analyzer is a good chaos because always I can find tv tuner as mixer , I think about four times I have emailed to MURRAY BARLOWE, WA2PZO
(radioguy@hoflink.com) the owner of home page of poormans sa on www.science-workshop.com (Updated 2/26/2003) but he doesn't answare ! has anyone buy recently from it ? does any one see the book or CD of "BUILD YOUR SPECTRUM ANALYZER " THAT IS SELLED ON HIS HOMEPAGE?
I DON'T WANT TO BUY THE KIT , I WANT TO BUY THE book or CD & according to the circuits & the parts I can find here make it,so does that book indicate circuits in detail or only say how do the kits should be connected together ? if so where can I found the circuit of it ?
Any help would be most appreciated.
Payam
Can you email me for reply instead of answering on group ?
payam79b@yahoo.com
thanks

1303. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 08:47:26 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <yf9GosHeE0P$EAKt@ifwtech.co.uk>
Source record: 33220

Earlier, I wrote:
>
>Simon, there's also an interesting Australian radio club site that has
>lots of in-depth information on modifying computer PSUs (sorry, I
>thought I'd saved the URL, but can't find it - can anyone post the URL
>please?).
>
I can't find that site right now (so if anyone knows the one I mean,
please do post the URL) but I did find another, also in Australia,
which also has the right technical level:

http://www.acs.comcen.com.au/atxps.html

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1304. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 11:40:43 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <m7oujvk55kk1r1dmm06td7for1jvchintv@4ax.com>
Source record: 33221
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 16 Aug 2003 22:22:56 -0400, scharkalvin <wa2mze@bellsouth.net>
wrote:

>My surgery was actually 'text book', but my recovery was a little
>rocky. My lungs filled with fluid and I was moved back into
>intensive care a day after being put in a normal recovery room after
>the surgery. I was on 100% O2 for a day or so, after they inserted a
>needle in my back and drained the fluid (about a liter or two) I was
>much better. I was seeing things because of the drugs I was on though.
>When ever I closed my eyes I felt like I was floating in a crypt and I saw
>gargoyles on the walls with red eyes. They gave me something to help
>me relax and then the vision changed....I was now floating in a toy work
>shop (north pole?) surrounded by dolls and wooden toys and model trains.
>The visions disappeared when I was taken off the O2.

Interesting. Most people who undergo NDEs report a heavenly experience
that often changes their outlook on life everafter. However, there are
a *small* proportion of NDEs where the subjects report a truly hellish
experience very much worse than you have described. Anyway, that's not
what I was getting at, of course.
I should also point out that the theoretical physicists have not thus
far extended the Quantum Theory of Immortality to encompass anything
beyond *instant* death; the orginal example by Tegal in his Quantum
Suicide Experiment was that of being shot in the head. I don't see any
reason why it should not be so extended to more protracted deaths, and
thinking among those involved in formulating this line of argument is
heading that way, but I'm no quantum pysicist so anyone curious should
follow up the leads I gave earlier in the thread and read up for
themselves.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1305. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 20:18:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vjvopa1ln2ih25@corp.supernews.com>
Source record: 33222
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> Interesting. Most people who undergo NDEs report a heavenly experience
> that often changes their outlook on life everafter. However, there are
> a *small* proportion of NDEs where the subjects report a truly hellish
> experience very much worse than you have described. . .

Harris poll results reported in the July/August issue of _Skeptical Inquirer_ reveal that 84% of Americans believe in survival of the soul after death. 82% believe there's a heaven, and 63% expect to go there. But while 69% believe in hell, only 1% expect to go there. Wonder if the "small" proportion happens to be about 1%. . . and wonder if it's the same ones.

Roy Lewallen, W7EL

1306. freq counter schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 22:15:09 UTC
From: Alfred Lorona <w6wqc@dslextreme.com>
Message-ID: <bhouq8$1ndc4$1@ID-49117.news.uni-berlin.de>
Source record: 33223

Does anyone have a schematic for a Ramsey CT-125 frequency counter? Mine crashed and I'd like to revive it.

Thanks. AL

1307. How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 22:17:36 UTC
From: "Bruce W.1" <bw@NoDirectMail.com>
Message-ID: <3F3FFF00.6EB8E115@NoDirectMail.com>
Source record: 33224
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

I'm trying to find a way to measure the capacity of single -- mainly AA -- batteries. Some of my battery packs don't last as long as they should because of mismatches in cell capacity.

I've got a good assortment of electronic equipment, variable power supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS charger/discharger. But this doesn't let you do single cells.

I can come up with some -- not so great -- ways to measure capacity, like discharging thru a resistor while monitoring voltage. This would allow me to at least match batteries somewhat but not really measure true capacity. For true capacity I need a constant current device, and that's where I'm stumped.

This could be electronic, if it's inexpensive and I can get the parts at Radio Shack. But I'm thinking more along the lines of a mechanical device to drain the battery in a constant current fashion. An electric motor would just slow down, so that wouln't work. What type of mechanical device pulls a constant current regardless of input voltage?

Does anyone have any suggestions on how to do this?

Thanks for your help.

1308. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 22:30:04 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <y9KdnYSs7r8On92iXTWJjg@ctc.net>
Source record: 33225
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

"Bruce W.1" <bw@NoDirectMail.com> wrote in message
news:3F3FFF00.6EB8E115@NoDirectMail.com...
> I'm trying to find a way to measure the capacity of single -- mainly AA
> -- batteries. Some of my battery packs don't last as long as they
> should because of mismatches in cell capacity.
>
> I've got a good assortment of electronic equipment, variable power
> supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
> charger/discharger. But this doesn't let you do single cells.
>
> I can come up with some -- not so great -- ways to measure capacity,
> like discharging thru a resistor while monitoring voltage. This would
> allow me to at least match batteries somewhat but not really measure
> true capacity. For true capacity I need a constant current device, and
> that's where I'm stumped.
>
> This could be electronic, if it's inexpensive and I can get the parts at
> Radio Shack. But I'm thinking more along the lines of a mechanical
> device to drain the battery in a constant current fashion. An electric
> motor would just slow down, so that wouln't work. What type of
> mechanical device pulls a constant current regardless of input voltage?
>
> Does anyone have any suggestions on how to do this?

You can use a 3 terminal voltage regulator and a resistor or two. They can
be wired for a constant current generator instead of constant voltage.

1309. Re: freq counter schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 22:50:56 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bhp0sg$p4d$1@freenet9.carleton.ca>
Source record: 33226

"Alfred Lorona" (w6wqc@dslextreme.com) writes:
> Does anyone have a schematic for a Ramsey CT-125 frequency counter? Mine
> crashed and I'd like to revive it.
>
> Thanks. AL
>
>
Open it up, and see what's in side. It will likely be one of two routes.
Either it's going to have a lot of TTL, a decade counter/latch/decoder
for each digit (and possibly 7490/7475/7447), and a divider chain made
up of a string of decade counters. Or it's going to have a large IC that
does all or most of the work, something like the Intersil 7208.

If it's the first case, you can look up any schematic from 20 to 30
years ago, and get the basic wiring. There may be small changes
but it will be fairly constant. Or pull out a TTL databook, and you
will get the functions of the pins. The real variation will be on
the input circuity, ie the analog stuff before it's converted
to TTL, and the reset circuitry.

If it's a large IC inside, then find the datasheet and again
you will have most of the schematic. There will be much less variation
in this case, since the wiring is pretty fixed.

Once you have this basic information, then you can trace to find out
what's not working. Figure out the time base, and make sure it's
outputing properly. Maybe in either case, the analog circuitry is
at fault (after all, it faces an uncontrolled environment, when it's
hooked up to outside circuitry), you can always feed its output
with a TTL oscillator in the HF range, in effect inject a signal,
and if the counter reads out the right frequency, you know where
the problem lies.

Michael VE2BVW

1310. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 23:15:20 UTC
From: "John D. Adamson" <josttech@comcast.net>
Message-ID: <c0U%a.171866$o%2.76661@sccrnsc02>
Source record: 33227
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Put an AMP meter across the battery. A "AA" should be good
for about 1.2 amps or so. Make sure the multi meter is in
the 10 amp position before you do this!

Good luck, John w5cgu

Bruce W.1 wrote:
> I'm trying to find a way to measure the capacity of single -- mainly AA
> -- batteries. Some of my battery packs don't last as long as they
> should because of mismatches in cell capacity.
>
> I've got a good assortment of electronic equipment, variable power
> supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
> charger/discharger. But this doesn't let you do single cells.
>
> I can come up with some -- not so great -- ways to measure capacity,
> like discharging thru a resistor while monitoring voltage. This would
> allow me to at least match batteries somewhat but not really measure
> true capacity. For true capacity I need a constant current device, and
> that's where I'm stumped.
>
> This could be electronic, if it's inexpensive and I can get the parts at
> Radio Shack. But I'm thinking more along the lines of a mechanical
> device to drain the battery in a constant current fashion. An electric
> motor would just slow down, so that wouln't work. What type of
> mechanical device pulls a constant current regardless of input voltage?
>
> Does anyone have any suggestions on how to do this?
>
> Thanks for your help.

1311. BK 650 Tube tester cal procedures

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-17 23:24:03 UTC
From: Tracy Fort <ke4odd@cox.net>
Message-ID: <8j30kv4eomr459lprl7kso5e8na686bo9p@4ax.com>
Source record: 33228

does anyone have these? I sure could use a copy...

Tracy

1312. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 00:59:05 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f4024a6.1382474@news.cantech.net.au>
Source record: 33229
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

On Sun, 17 Aug 2003 18:30:04 -0400, "Ralph Mowery" <rmowery@ctc.net>
wrote:

>
>"Bruce W.1" <bw@NoDirectMail.com> wrote in message
>news:3F3FFF00.6EB8E115@NoDirectMail.com...
>> I'm trying to find a way to measure the capacity of single -- mainly AA
>> -- batteries. Some of my battery packs don't last as long as they
>> should because of mismatches in cell capacity.
>>
>> I've got a good assortment of electronic equipment, variable power
>> supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
>> charger/discharger. But this doesn't let you do single cells.
>>
>> I can come up with some -- not so great -- ways to measure capacity,
>> like discharging thru a resistor while monitoring voltage. This would
>> allow me to at least match batteries somewhat but not really measure
>> true capacity. For true capacity I need a constant current device, and
>> that's where I'm stumped.
>>
>> This could be electronic, if it's inexpensive and I can get the parts at
>> Radio Shack. But I'm thinking more along the lines of a mechanical
>> device to drain the battery in a constant current fashion. An electric
>> motor would just slow down, so that wouln't work. What type of
>> mechanical device pulls a constant current regardless of input voltage?
>>
>> Does anyone have any suggestions on how to do this?
>
>You can use a 3 terminal voltage regulator and a resistor or two. They can
>be wired for a constant current generator instead of constant voltage.

That was going to be my suggestion, for a split second. Then I
realised the Vin-Vout differential wouldn't let this work on a single
AA.

1313. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 01:05:33 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f4024e3.1444084@news.cantech.net.au>
Source record: 33230
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

On Sun, 17 Aug 2003 18:17:36 -0400, "Bruce W.1" <bw@NoDirectMail.com>
wrote:

>I'm trying to find a way to measure the capacity of single -- mainly AA
>-- batteries. Some of my battery packs don't last as long as they
>should because of mismatches in cell capacity.
>
>I've got a good assortment of electronic equipment, variable power
>supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
>charger/discharger. But this doesn't let you do single cells.
>
>I can come up with some -- not so great -- ways to measure capacity,
>like discharging thru a resistor while monitoring voltage. This would
>allow me to at least match batteries somewhat but not really measure
>true capacity. For true capacity I need a constant current device, and
>that's where I'm stumped.

You don't need a constant current sink to determine "true" capacity.
If your load resistor is suitable rated and reasonably low tempco,
then monitoring the voltage tells you the current to a fair degree of
accuracy, so you can even work out how many coulombs are extracted
before a chosen end voltage is reached.

Besides, how many loads in your assorted appliances are constant
current?

We do discharge testing (as part of evaluating Li-Ion charging
systems) using precision logging equipment monitoring voltage while
discharging into resistive loads of known characteristics. The only
limit is the accuracy you require, and in your application a couple of
percent is probably the spec.

>This could be electronic, if it's inexpensive and I can get the parts at
>Radio Shack. But I'm thinking more along the lines of a mechanical
>device to drain the battery in a constant current fashion. An electric
>motor would just slow down, so that wouln't work. What type of
>mechanical device pulls a constant current regardless of input voltage?
>
>Does anyone have any suggestions on how to do this?
>
>Thanks for your help.

1314. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 02:10:15 UTC
From: "Bruce W.1" <bw@NoDirectMail.com>
Message-ID: <3F403587.7B70615@NoDirectMail.com>
Source record: 33231
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

budgie wrote:
>
> On Sun, 17 Aug 2003 18:17:36 -0400, "Bruce W.1" <bw@NoDirectMail.com>
> wrote:
>
> >I'm trying to find a way to measure the capacity of single -- mainly AA
> >-- batteries. Some of my battery packs don't last as long as they
> >should because of mismatches in cell capacity.
> >
> >I've got a good assortment of electronic equipment, variable power
> >supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
> >charger/discharger. But this doesn't let you do single cells.
> >
> >I can come up with some -- not so great -- ways to measure capacity,
> >like discharging thru a resistor while monitoring voltage. This would
> >allow me to at least match batteries somewhat but not really measure
> >true capacity. For true capacity I need a constant current device, and
> >that's where I'm stumped.
>
> You don't need a constant current sink to determine "true" capacity.
> If your load resistor is suitable rated and reasonably low tempco,
> then monitoring the voltage tells you the current to a fair degree of
> accuracy, so you can even work out how many coulombs are extracted
> before a chosen end voltage is reached.
>
> Besides, how many loads in your assorted appliances are constant
> current?
>
> We do discharge testing (as part of evaluating Li-Ion charging
> systems) using precision logging equipment monitoring voltage while
> discharging into resistive loads of known characteristics. The only
> limit is the accuracy you require, and in your application a couple of
> percent is probably the spec.
>
==========

I could monitor and log the voltage across a fixed resistance, draw a
curve, calculate the area... This would be a real pain in the rear for
the number of batteries I want to test. So I'd really like to find a
simple constant current device.

This Radio Shack digital multimeter does voltage logging on a PC:
http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F008
%5F002%5F000&product%5Fid=22%2D812

The details on the software are vague. Does anyone have one of these?

Here's a cool device that would do the job, and then some. But I'd like to keep it just a bit simpler:
http://www.yoredale.uklinux.net/electronics/capacity1cell.htm

1315. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 03:33:54 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F404903.4F33D4BB@earthlink.net>
Source record: 33232

Hans Summers wrote:
>
> Someone else thought the series LC from the driver transistor's emiter to
> ground might be a "colour killer" and putting a notch in the frequency
> response of the driver at about the same frequency my 320 pixels are at
> (4MHz). I tried shorting the L altogether and there was no visible
> difference on the display. That same person also mentioned gamma of the
> tube, but I don't know much about that. I would find it hard to believe that
> the tube itself was the limitation here, it must be the video driver.
>
> Interestingly the fading at the top of the screen dissappears when the
> "brightness" control is turned up, but that makes the bulging noise floor
> worse and also dims thin vertical lines even more. Arrgh.
>
> 73
>
> Hans G0UPL

The video amp in most small B&W TV sets barely have a 2 MHz
bandwidth. look into a wideband op amp, or use a video hybrid amp from
a junk low resolution VGA monitor. National Semiconductor made some and
the data sheets should be available, online.
--

Michael A. Terrell
Central Florida

1316. Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 04:11:14 UTC
From: "Bruce W.1" <bw@NoDirectMail.com>
Message-ID: <3F4051E2.64CD6570@NoDirectMail.com>
Source record: 33233
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Please see previous thread.

I'm trying to match AA battery capacities so they can be used together in battery packs and I think created a low-tech way to do this. I'd like to hear more informed opinions.

This would apply to NiCads and NiMh but it should work with lithium-ions too.

Take all your batteries of the same type and charge them all in parallel to the same voltage. Then one at a time remove them from the float voltage and attach them to a fixed size resistor (say 6 ohms) for a fixed period of time (say 3 hours) then measure their voltage. Well matched batteries should have similar voltages.

Does this wash?

The only thing I wonder about is the full charge state voltage. Say I'm doing Ni-Cads which usually top-out around 1.65 volts (where they experience a voltage drop), and I set the float voltage for the bunch at 1.5 volts. Would the maximum voltage of each cell make a difference here?

Thanks for your help.

1317. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 04:37:48 UTC
From: dplatt@radagast.org
Message-ID: <vk0m0si3ut9mea@corp.supernews.com>
Source record: 33234
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

In article <3F3FFF00.6EB8E115@NoDirectMail.com>,
Bruce W.1 <bw@NoDirectMail.com> wrote:

>I can come up with some -- not so great -- ways to measure capacity,
>like discharging thru a resistor while monitoring voltage. This would
>allow me to at least match batteries somewhat but not really measure
>true capacity. For true capacity I need a constant current device, and
>that's where I'm stumped.
>
>This could be electronic, if it's inexpensive and I can get the parts at
>Radio Shack.

One possibility is an LM317 voltage regulator, wired up with one
resistor between Vout and Vadj to create a current source (see the
data sheet).

Another possibility is a JFET, with source and gate shorted together.

Problem with both of these approaches is, they probably need several
volts of "headroom" before they begin acting as "stiff"
constant-current sources. If you're hoping to run an individual
1.2-volt cell down to, say, 1.0 volts to measure its useful capacity,
neither of these will work.

One thing you could do is simply discharge through a fixed resistor,
measure the voltage periodically, and use Ohm's Law to calculate the
current being discharged at each measurement time.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1318. Re: Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 04:52:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk0mroti0dnrda@corp.supernews.com>
Source record: 33235
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

What's really important for matching in a battery pack is that the cells have very close to the same capacity. If one has lower capacity than the others, the others will reverse charge it after it discharges. This further reduces its capacity, making it go flat even sooner the next time. The absolute cell voltage at any point in the discharge process is unimportant.

Unfortunately, you can't discern the remaining capacity of a NiCd or NiMH cell by looking at the cell voltage. The only way to accomplish the matching is to discharge each cell until its energy is essentially completely gone (i.e., to 1.0 volt at moderate drains), and select cells on the basis of how long they take to get there. Ideally, the discharge rate would be about the same as in the device you intend to use the battery for. But in practice, the capacity of NiCd and NiMH cells isn't a very strong function of the load current, so you've got quite a bit of leeway.

Many years ago I made up a discharger for this purpose. It's basically an adjustable constant current load with an adjustable voltage comparator. When the voltage reaches the comparison voltage, it disconnects the load. An old analog electric clock is used to record the time -- the comparator also removes power from the clock. Initially set at 12:00, it directly reads the time it took for the cell to discharge to the specified voltage level. These days it would make a lot more sense to use an A/D converter computer board and/or a microcomputer chip of some sort.

Roy Lewallen, W7EL

Bruce W.1 wrote:
> Please see previous thread.
>
> I'm trying to match AA battery capacities so they can be used together
> in battery packs and I think created a low-tech way to do this. I'd
> like to hear more informed opinions.
>
> This would apply to NiCads and NiMh but it should work with lithium-ions
> too.
>
> Take all your batteries of the same type and charge them all in parallel
> to the same voltage. Then one at a time remove them from the float
> voltage and attach them to a fixed size resistor (say 6 ohms) for a
> fixed period of time (say 3 hours) then measure their voltage. Well
> matched batteries should have similar voltages.

>
> Does this wash?
>
> The only thing I wonder about is the full charge state voltage. Say I'm
> doing Ni-Cads which usually top-out around 1.65 volts (where they
> experience a voltage drop), and I set the float voltage for the bunch at
> 1.5 volts. Would the maximum voltage of each cell make a difference
> here?
>
> Thanks for your help.

1319. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 05:54:50 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bhppfg$35$1@newstree.wise.edt.ericsson.se>
Source record: 33236
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.0000006c.00351182@btinternet.com...
> Hi,
> Mouser have some NEC pre-scalers (3GHz max) for $2.92 a throw.
> Cheers - Joe

Hi Joe,
Many thanks for the information. You have been a great help; exactly what I was alooking for. I keep having trouble buying this sort of specialised RF component.

Mant thanks again for your help. BR Harry

1320. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 06:07:20 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bhpq6u$i5$1@newstree.wise.edt.ericsson.se>
Source record: 33237

"zindazenda" <zen@lineisp.co.uk> wrote in message
news:1061088608.144489@auth2.dns.griffin.net.uk...
> what frequency steps are you looking for harry????
> if its for the broadcast band then the philips range of tsa5511/12/14 are
> cheap and have upper operating range of 1300mhz, only trouble with them is
> 50khz steps..pic codes available on the net...otherwise the mc 145170 is a
> good choice, operates up to 170mhz..but is serial controlled as well....
> g0zen simon

Hi Simon,
My main frequency of interest is the 145MHz band. Frequency steps of 12.5KHz would be great, but 10K, 6.25K or 5K would all be of interest. I do have one project for the FM band, but that is low priority and I still need to do some work on the IF filter. Using TDA7000 as 21MHz IF stage where sensitivity is excellent, but input needs to be "clean".

I have been using the MB501 (SA701, MC12022, SP8704) but they are dual modulus. In my present application I am only interested in generating stable signals without modulation, so simple is good. Adjusting the reference freq is also an option. I know I could just buy a synth chip with internal prescaler, but again, choice is limited if I want parallel load and not a complete SMD project. One small SMD is Ok, but not the whole project.

As stated, the basic problem is getting a chip that is available, cheap and is likely to be available next year. The MB501 (SA701, MC12022, SP8704) is now classed as "obsolete" and one of my sources has also dried up. By the way, the TDA7000 is also obsolete and is soon to be joining the ZN414/5/6 and TCM3105 chips in the depths of obscurity.

BR Harry - SM0VPO

1321. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 06:22:14 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bhpr2s$106$1@newstree.wise.edt.ericsson.se>
Source record: 33238

> My point was that the art of homebrewing loses something when it's reduced
to
> just plugging in a chip. Seems like everyone is ignoring how the circuits
work
> and taking the 'black-box' approach instead.

I can agree with you, but only up to a point, but do you never think that "them there chips" can possibly be used as a tool? A component? A lot depends upon where you draw that line between what you call homebrew and black-box. Do you not think that an Operational Amplifier, like the UA741, is a component? or would you rather use a slack-handfull of transistors every time you need an Operational amplifier. I personally put the prescaler chip in the same category as the OpAmp.

> ... where's the fun in just hooking up power to a chip? That's
> not homebrewing, at least not in my book.

I get a great kick out of using CMOS and TTL chips. For example, one CD4007 can be used to build a complete superhet receiver. If I want a VHF synthesiser then I have absolutely no hesitation to using a couple of CD4000 chips and a prescaler. Logic, to me, is also homebrew. As I said before, it all depends upon where you draw the line.

> Try a simple flip-flop. Two transistors, that's all. There are probably a
few
> dozen schematics on the net and dozens more at the public library (you do
have
> public libraries in Sweden, don't you?).

I didn't have to search for a circuit, but using simple transistors I have a circuit that is stable, but only up to about 95MHz. Here in Sweden, the ONLY non-power RF transistor I can find in Sweden is the 2N2369 (NPN) and it is that transistor that has increased the operating freq. of my stage to 96MHz. I have also tried just a simple schmitt trigger circuit and again, about 100MHz is the top limit for conventional transistors.

Anyway, I am still having fun on the workbench and I will continue to do so. When I don't I will probably join all the others who are sick of radio and homebrew and get on the Internet. Prabably even subscribe to a hamradio newsgroup, such as "rec.radio.amateur.homebrew" and maybe even communicate with othere without the QRM.

Best regards - Harry (SM0VPO)

(If it feels good - do it!)

1322. Re: Source for 100 mfd 500 volt electrolytic capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 06:22:56 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bhpr47$10f$1@newstree.wise.edt.ericsson.se>
Source record: 33239

http://www.tubesandmore.com

> Can anyone provide me with a source for 100 mf 500 volt electrolytic
> capacitors?
> Thanks,
> Bob AA8X

1323. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 07:05:43 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <das0kvo2t4isbvjds0b8qs99g0hc7n96cm@4ax.com>
Source record: 33241
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

On Sun, 17 Aug 2003 22:10:15 -0400, "Bruce W.1" <bw@NoDirectMail.com>
wrote:

>I could monitor and log the voltage across a fixed resistance, draw a
>curve, calculate the area... This would be a real pain in the rear for
>the number of batteries I want to test.

How about using a storage scope to plot the discharge curves and a
computer program to work out the areas under the curves?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1324. Valve/Tube Tester on U.K. Ebay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 07:54:31 UTC
From: Theo <theodore.twyler@ntlworld.com>
Message-ID: <ZC%%a.49$cQ4.36048@newsfep2-gui.server.ntli.net>
Source record: 33240

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3041680126

Thanks for looking.

1325. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 09:00:38 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <ai4c3FE2WJQ$EAka@ifwtech.co.uk>
Source record: 33243

Frank Gilliland wrote:
>My point was that the art of homebrewing loses something when it's
>reduced to just plugging in a chip. Seems like everyone is ignoring how
>the circuits work and taking the 'black-box' approach instead.
[...]
> where's the fun in just hooking up power to a chip? That's not
>homebrewing, at least not in my book.

Fair enough - only you can decide what you enjoy. When you post to the group, we know where you're coming from, so we can interpret accordingly.

But only I can decide what I enjoy, only Harry what he enjoys, and so on for every individual. Amateur radio and electronics is about doing what each of us personally likes, not what we "should" or "must".

You are entitled to your own opinions about other people's preferences, Frank, but it's disrespectful to post them here as personal criticisms (and it doesn't encourage the rest of us to respect you).

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1326. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 09:19:22 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <on51kvkbd4k3r69sbq0nio4jk75jtgknqj@4ax.com>
Source record: 33242

In <bhpr2s$106$1@newstree.wise.edt.ericsson.se>, "Harry - SM0VPO"
<john.smith@micro$oft.com> wrote:

>> My point was that the art of homebrewing loses something when it's reduced
>to
>> just plugging in a chip. Seems like everyone is ignoring how the circuits
>work
>> and taking the 'black-box' approach instead.
>
>I can agree with you, but only up to a point, but do you never think that
>"them there chips" can possibly be used as a tool? A component? A lot
>depends upon where you draw that line between what you call homebrew and
>black-box. Do you not think that an Operational Amplifier, like the UA741,
>is a component? or would you rather use a slack-handfull of transistors
>every time you need an Operational amplifier. I personally put the prescaler
>chip in the same category as the OpAmp.

When was the last time you saw a home-brew OP-amp? How many people that use the chips even know what an OP-amp is? Did you know that you can build an OP-amp with tubes? Did you know that you can build a prescaler with tubes? OK, so maybe that's not what you are looking for. But it sure defines "homebrew" better than a few chips thrown together on a proto-board....

After all, who's "brewing" this stuff -- you? or some semiconductor manufacturer?

<snip>
>I didn't have to search for a circuit, but using simple transistors I have a
>circuit that is stable, but only up to about 95MHz. Here in Sweden, the ONLY
>non-power RF transistor....

Why do you need a power transistor for a prescaler?

> I can find in Sweden is the 2N2369 (NPN) and it is
>that transistor that has increased the operating freq. of my stage to 96MHz.
>I have also tried just a simple schmitt trigger circuit and again, about
>100MHz is the top limit for conventional transistors.

Must be the latitude. For the sake of this discussion, I put whipped up a flip-flop that can do 240 MHz using 2N4401's. It took me about half an hour. You don't need to saturate those puppies, you just need a little gain.

>Anyway, I am still having fun on the workbench and I will continue to do so.
>When I don't I will probably join all the others who are sick of radio and
>homebrew and get on the Internet. Prabably even subscribe to a hamradio
>newsgroup, such as "rec.radio.amateur.homebrew" and maybe even communicate
>with othere without the QRM.

....yawn....

>Best regards - Harry (SM0VPO)
>
>(If it feels good - do it!)

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

1327. Re: Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 09:59:37 UTC
From: Bill <lbj@congress.com>
Message-ID: <bhq82n$21afs$1@ID-175813.news.uni-berlin.de>
Source record: 33244
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Many years ago someone associated with NASA figured out that the
life expectancy of nicads (series or parallel use) could be increased
significantly by matching the internal impedances. The recharge/charge
life did not just double, but went up by a factor of ten (approx).
I think this was published in the some NASA Tech journal. It used to
be published about 10 times a year, it might still be.

Bill Cook

Roy Lewallen wrote:
> What's really important for matching in a battery pack is that the cells
> have very close to the same capacity. If one has lower capacity than the
> others, the others will reverse charge it after it discharges. This
> further reduces its capacity, making it go flat even sooner the next
> time. The absolute cell voltage at any point in the discharge process is
> unimportant.
>
> Unfortunately, you can't discern the remaining capacity of a NiCd or
> NiMH cell by looking at the cell voltage. The only way to accomplish the
> matching is to discharge each cell until its energy is essentially
> completely gone (i.e., to 1.0 volt at moderate drains), and select cells
> on the basis of how long they take to get there. Ideally, the discharge
> rate would be about the same as in the device you intend to use the
> battery for. But in practice, the capacity of NiCd and NiMH cells isn't
> a very strong function of the load current, so you've got quite a bit of
> leeway.
>
> Many years ago I made up a discharger for this purpose. It's basically
> an adjustable constant current load with an adjustable voltage
> comparator. When the voltage reaches the comparison voltage, it
> disconnects the load. An old analog electric clock is used to record the
> time -- the comparator also removes power from the clock. Initially set
> at 12:00, it directly reads the time it took for the cell to discharge
> to the specified voltage level. These days it would make a lot more
> sense to use an A/D converter computer board and/or a microcomputer chip
> of some sort.
>
> Roy Lewallen, W7EL
>
> Bruce W.1 wrote:
>
>> Please see previous thread.
>>
>> I'm trying to match AA battery capacities so they can be used together

>> in battery packs and I think created a low-tech way to do this. I'd
>> like to hear more informed opinions.
>>
>> This would apply to NiCads and NiMh but it should work with lithium-ions
>> too.
>>
>> Take all your batteries of the same type and charge them all in parallel
>> to the same voltage. Then one at a time remove them from the float
>> voltage and attach them to a fixed size resistor (say 6 ohms) for a
>> fixed period of time (say 3 hours) then measure their voltage. Well
>> matched batteries should have similar voltages.
>>
>> Does this wash?
>>
>> The only thing I wonder about is the full charge state voltage. Say I'm
>> doing Ni-Cads which usually top-out around 1.65 volts (where they
>> experience a voltage drop), and I set the float voltage for the bunch at
>> 1.5 volts. Would the maximum voltage of each cell make a difference
>> here?
>>
>> Thanks for your help.
>
>

1328. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 10:08:03 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <2t81kvc3s8gipurbl95199h475kcqrrbh3@4ax.com>
Source record: 33245

In <ai4c3FE2WJQ$EAka@ifwtech.co.uk>, "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
wrote:

>Frank Gilliland wrote:
>>My point was that the art of homebrewing loses something when it's
>>reduced to just plugging in a chip. Seems like everyone is ignoring how
>>the circuits work and taking the 'black-box' approach instead.
>[...]
>> where's the fun in just hooking up power to a chip? That's not
>>homebrewing, at least not in my book.
>
>Fair enough - only you can decide what you enjoy. When you post to the
>group, we know where you're coming from, so we can interpret
>accordingly.
>
>But only I can decide what I enjoy, only Harry what he enjoys, and so on
>for every individual. Amateur radio and electronics is about doing what
>each of us personally likes, not what we "should" or "must".
>
>You are entitled to your own opinions about other people's preferences,
>Frank, but it's disrespectful to post them here as personal criticisms
>(and it doesn't encourage the rest of us to respect you).

Let me ask you a simple question: Suppose someone buys an SP-600, mounts some
chrome knobs, spray-paints his name on the front panel, then posts on the
newsgroup saying, "Hey, look what I built!" Would you call that "homebrew"?

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

1329. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 10:11:44 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <fJ10b.138$TK4.105827@newsfep1-win.server.ntli.net>
Source record: 33246

> I've got a good assortment of electronic equipment, variable power
> supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
> charger/discharger. But this doesn't let you do single cells.
==========
Suggest you read the MAHA-C777PLUS User's Manual.

Chapter 2 (page 3) :
* Supports a wide voltage range from 1.2V to 14.4 V (1 to 12 cells) for NiMH
&NiCD and from 3.6 V to 14.4V (1 to 4 cells) for Lithium Ion battery packs.

Frank GM0CSZ / KN6WH

1330. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 11:45:48 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <4BekfQAsxLQ$EAjP@ifwtech.co.uk>
Source record: 33147

Frank Gilliland wrote:
>>You are entitled to your own opinions about other people's preferences,
>>Frank, but it's disrespectful to post them here as personal criticisms
>>(and it doesn't encourage the rest of us to respect you).
>
>Let me ask you a simple question: Suppose someone buys an SP-600,
>mounts some chrome knobs, spray-paints his name on the front panel,
>then posts on the newsgroup saying, "Hey, look what I built!" Would you
>call that "homebrew"?

I honestly don't share that compulsion to classify other people's
projects as either "homebrew" or not.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1331. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 12:14:06 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F40C2EF.A808CB0E@earthlink.net>
Source record: 33148

Frank Gilliland wrote:

>
> My point was that the art of homebrewing loses something when it's reduced to
> just plugging in a chip. Seems like everyone is ignoring how the circuits work
> and taking the 'black-box' approach instead. For example, the MAX038 is a chip
> that is a ready-made 0-20 MHz function generator with sweep, variable duty
> cycle, frequency modulation, and a phase discriminator. I'm sure that sounds
> cool to some, but if all you need is a 100 kHz square wave, why not learn how to
> build a square-wave oscillator with one or two transistors? And if you want a
> function generator, where's the fun in just hooking up power to a chip? That's
> not homebrewing, at least not in my book.

I guess you wind your own capacitors, and collect lamp black to make your own resistors? there are tradeoffs in any project. Sure you could build a 50 pound toy that uses 200 watts to do a simple project, or do the same job in a handheld device that runs for weeks off a couple AA cells.

Homebrewing is using what you can get to build what you want, as well as to meet the desired specifications. I started working with used parts in the '60s, but over the years I have moved on to more advanced projects. My biggest project to date, was building CH 58 TV in Destin, Florida with mostly defective and damaged 30 to forty year old broadcast equipment. It was a real challenge finding, or making replacement parts fore the RCA TTU-25B transmitter, and other old equipment. it was more of a restoration and homebrew project than it was meeting the deadline on the FCC construction permit. I ended up working as an engineering tech at L-3Com/Microdyne working on $80,000 telemetry receivers, and still design projects at home.

I am working on some kits to allow people to build some test equipment they can't afford new, and don't need the performance of brand new Agilent or Tektronix equipment. It is cheaper to use "Chips", rather than discrete parts in a lot of circuits, and they design works better, too. Homebrewing should be used to learn something, and if you want to remain at the lowest level, enjoy yourself, but don't ridicule others who want to learn newer methods.
--

Michael A. Terrell
Central Florida

1332. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 12:27:05 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bhqgmq$22p5o$1@ID-61331.news.uni-berlin.de>
Source record: 33149

[...]
>
> > I can find in Sweden is the 2N2369 (NPN) and it is
> >that transistor that has increased the operating freq. of my stage to
96MHz.
> >I have also tried just a simple schmitt trigger circuit and again, about
> >100MHz is the top limit for conventional transistors.
>
> Must be the latitude. For the sake of this discussion, I put whipped up a
> flip-flop that can do 240 MHz using 2N4401's. It took me about half an
hour. You
> don't need to saturate those puppies, you just need a little gain.

Sorry, that isn't homebrew. You didn't build your own transistors, you used a prepackaged 2N4401. Where's the fun in that, it was mass produced in some factory in the far east. You don't say, but I also suspect you cheated by not fabricating your own capacitors with kitchen foil, nor resistors with bits of carbon rod.

The question of where you draw the line has to be answered by each homebrewer according to preference.

Here's a nice page with nice home-built components including a triode valve (tube): http://home.earthlink.net/~lenyr/vt-vac.htm

Hans G0UPL
http://www.HansSummers.com

1333. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 12:40:29 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f40c7c0.6185151@news.cantech.net.au>
Source record: 33150
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

On Sun, 17 Aug 2003 22:10:15 -0400, "Bruce W.1" <bw@NoDirectMail.com>
wrote:

>budgie wrote:
>>
>> On Sun, 17 Aug 2003 18:17:36 -0400, "Bruce W.1" <bw@NoDirectMail.com>
>> wrote:
>>
>> >I'm trying to find a way to measure the capacity of single -- mainly AA
>> >-- batteries. Some of my battery packs don't last as long as they
>> >should because of mismatches in cell capacity.
>> >
>> >I've got a good assortment of electronic equipment, variable power
>> >supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
>> >charger/discharger. But this doesn't let you do single cells.
>> >
>> >I can come up with some -- not so great -- ways to measure capacity,
>> >like discharging thru a resistor while monitoring voltage. This would
>> >allow me to at least match batteries somewhat but not really measure
>> >true capacity. For true capacity I need a constant current device, and
>> >that's where I'm stumped.
>>
>> You don't need a constant current sink to determine "true" capacity.
>> If your load resistor is suitable rated and reasonably low tempco,
>> then monitoring the voltage tells you the current to a fair degree of
>> accuracy, so you can even work out how many coulombs are extracted
>> before a chosen end voltage is reached.
>>
>> Besides, how many loads in your assorted appliances are constant
>> current?
>>
>> We do discharge testing (as part of evaluating Li-Ion charging
>> systems) using precision logging equipment monitoring voltage while
>> discharging into resistive loads of known characteristics. The only
>> limit is the accuracy you require, and in your application a couple of
>> percent is probably the spec.
>>
>===
>
>I could monitor and log the voltage across a fixed resistance, draw a
>curve, calculate the area... This would be a real pain in the rear for
>the number of batteries I want to test. So I'd really like to find a
>simple constant current device.

As I alluded to in my previous, I suspect you will find simple
constant current and 1v5 are relatively mutually exclusive unless you
want to go to low voltage op amps and roll your own.

I don't know what you are using to post your n/g messages, but I use a
PC. They DO have other capabilities besides internet connectivity.
It takes but a few lines of code - even in humble QBasic - to log the
voltages at set intervals, calculate current, and do time integration
to obtain joule or coulomb figures. Having a constant current device
as your load won't make this task any easier in reality.

>This Radio Shack digital multimeter does voltage logging on a PC:
>http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F008%5F002%5F000&product%5Fid=22%2D812
>The details on the software are vague. Does anyone have one of these?

The average "affordable" RS-232 equipped multimeter seems to
invariably have a poor overall accuracy spec. This won't affect
repeatability or the validity of comparisons, but does obviously
impact on absolute numbers you obtain.

>Here's a cool device that would do the job, and then some. But I'd like
>to keep it just a bit simpler:
>http://www.yoredale.uklinux.net/electronics/capacity1cell.htm

1334. Re: freq counter schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 13:51:42 UTC
From: "C.L." <FFSTA17@ACCESS995.COM>
Message-ID: <_R40b.152$Zr2.6512@iad-read.news.verio.net>
Source record: 33151

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:bhp0sg$p4d$1@freenet9.carleton.ca...
> "Alfred Lorona" (w6wqc@dslextreme.com) writes:
> > Does anyone have a schematic for a Ramsey CT-125 frequency counter? Mine
> > crashed and I'd like to revive it.
> >
> > Thanks. AL
> >
> >
> Open it up, and see what's in side. It will likely be one of two routes.
> Either it's going to have a lot of TTL, a decade counter/latch/decoder
> for each digit (and possibly 7490/7475/7447), and a divider chain made
> up of a string of decade counters. Or it's going to have a large IC that
> does all or most of the work, something like the Intersil 7208.
>
> If it's the first case, you can look up any schematic from 20 to 30
> years ago, and get the basic wiring. There may be small changes
> but it will be fairly constant. Or pull out a TTL databook, and you
> will get the functions of the pins. The real variation will be on
> the input circuity, ie the analog stuff before it's converted
> to TTL, and the reset circuitry.
>
> If it's a large IC inside, then find the datasheet and again
> you will have most of the schematic. There will be much less variation
> in this case, since the wiring is pretty fixed.
>
> Once you have this basic information, then you can trace to find out
> what's not working. Figure out the time base, and make sure it's
> outputing properly. Maybe in either case, the analog circuitry is
> at fault (after all, it faces an uncontrolled environment, when it's
> hooked up to outside circuitry), you can always feed its output
> with a TTL oscillator in the HF range, in effect inject a signal,
> and if the counter reads out the right frequency, you know where
> the problem lies.
>
> Michael VE2BVW
>

Of course you could always contact "RAMSEY" to get the information straight
from them! I'm sure they have it on hand. They are online! C.L.

1335. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 14:18:04 UTC
From: no.spam@no.spam
Message-ID: <3f40ddb3.23150774@news.lin.foa.se>
Source record: 33152
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

Harry,
have a look at the following page:
http://www.xs4all.nl/~barendh/Indexeng.htm
He seem to stock several old Plessey prescalers, and it should keep
you going for a while.

I guess eventually these chips WILL be nowhere to be found within a
few years time but that is evolution....

One non-obsolete chip-source would be Peregrine,
http://www.peregrine-semi.com/prd_pll.html
they have some neat parallell programmed IC's that runs to over 3 GHz.
They are an improved Qualcomm Q3036 which can be found as surplus
And there is several more interesting IC, not only PLL and prescalers
but complete PLL with internal EPROM which keeps the serial programmed
data even if one shut off the power. Great for that miniaturized
project!!

GL
-Lasse SM5GLC
On Fri, 15 Aug 2003 08:26:47 +0200, "Harry \(SM0VPO\)"
<john.smith@micro$oft.com> wrote:

1336. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 14:24:47 UTC
From: no.spam@no.spam
Message-ID: <3f40e139.24052889@news.lin.foa.se>
Source record: 33153
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

http://www.peregrine-semi.com/prd_prescaler.html

:2 , :4 or :8 DC to 1GHz

Buy online, price seems to be less than $3

-Lasse SM5GLC

1337. Re: Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 14:59:57 UTC
From: "Bruce W.1" <bw@NoDirectMail.com>
Message-ID: <3F40E9ED.CA7BD0B1@NoDirectMail.com>
Source record: 33154
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Roy Lewallen wrote:
>
> What's really important for matching in a battery pack is that the cells
> have very close to the same capacity. If one has lower capacity than the
> others, the others will reverse charge it after it discharges. This
> further reduces its capacity, making it go flat even sooner the next
> time. The absolute cell voltage at any point in the discharge process is
> unimportant.
>
> Unfortunately, you can't discern the remaining capacity of a NiCd or
> NiMH cell by looking at the cell voltage. The only way to accomplish the
> matching is to discharge each cell until its energy is essentially
> completely gone (i.e., to 1.0 volt at moderate drains), and select cells
> on the basis of how long they take to get there. Ideally, the discharge
> rate would be about the same as in the device you intend to use the
> battery for. But in practice, the capacity of NiCd and NiMH cells isn't
> a very strong function of the load current, so you've got quite a bit of
> leeway.
>
> Many years ago I made up a discharger for this purpose. It's basically
> an adjustable constant current load with an adjustable voltage
> comparator. When the voltage reaches the comparison voltage, it
> disconnects the load. An old analog electric clock is used to record the
> time -- the comparator also removes power from the clock. Initially set
> a_pag:00, it directly reads the time it took for the cell to discharge
> to the specified voltage level. These days it would make a lot more
> sense to use an A/D converter computer board and/or a microcomputer chip
> of some sort.
>
> Roy Lewallen, W7EL
>
==========

Seems the RC car community matches batteries based on a number of
criteria like capacity, internal resistance, and average voltage. The
websites I found on this don't give specifics.

Buying a $200 pieces of test equipment to measure all this is slight
overkill. I think I came up with a way. What to you think of this?

Charge all the batteries in parallel to the same voltage, say 1.5
volts. Then partially discharge them all in series. At this point
quickly measure the voltage of each cell while still under load.
Matched cells would have the same voltage.

1338. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 15:28:55 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bhqrbn$c75$1@freenet9.carleton.ca>
Source record: 33155

"Harry - SM0VPO" (john.smith@micro$oft.com) writes:
>
> As stated, the basic problem is getting a chip that is available, cheap and
> is likely to be available next year. The MB501 (SA701, MC12022, SP8704) is
> now classed as "obsolete" and one of my sources has also dried up. By the
> way, the TDA7000 is also obsolete and is soon to be joining the ZN414/5/6
> and TCM3105 chips in the depths of obscurity.
>
> BR Harry - SM0VPO
>
>
Do they have really cheap FM broadcast band only pocket radios over there,
that tune with one button (and have a second button to reset to the bottom of
the band)?

They're everywhere here, and I've seen them for as low as $1.99 Canadian.
Curious, I bought one at that price. No cermic filter, so it's using
an oddball scheme. My first thought was that it was a TDA7000; as I
mentioned a couple of weeks ago, the number on the IC was barely visible.
So I looked up the TDA7000 on the web (it was easier than digging out
the paper datasheet), and clearly it was not a match. But Signetics
had pointers to a couple of other similar ICs, ie converting down to
70KHz where active filters can be used, and that frequency locked loop
scheme. One of them was a match, if I'm remembering a 7088.

I don't know how the specs generally compare with the TDA7000, but
this IC has the logic in place for the two button tuning scheme.
Obviously these are being put into products (I always wondered if
the TDA7000 actually was put into commercial products), and hence there
is an available source. Maybe not as IC, but the cheap radio is there.
The IC is surface mount, but it's already soldered to a circuit board.
Change the required parts, and you've got the radio or IF strip.

Michael VE2BVW

1339. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 15:48:32 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bhqsgg$f0k$1@freenet9.carleton.ca>
Source record: 33156

Frank Gilliland (sparky@NOSPAMaimcomm.net) writes:
>
> Let me ask you a simple question: Suppose someone buys an SP-600, mounts some
> chrome knobs, spray-paints his name on the front panel, then posts on the
> newsgroup saying, "Hey, look what I built!" Would you call that "homebrew"?
>
I think there's a vast difference between that scenario, and building with
ICs. In your example, they are mere cosmetic work. But when building with
an IC, you will have to actually build something around it in order to
get something useful.

I am a bit surprised that you hold this opinion this late in the game.
Clearly, it was not an uncommon opinon thirty or so years ago, when
people would write to the magazines and complain about so many ICs
being used, and about how the internal diagram of the IC was not shown.
A lot of that could be discounted as a transitional reaction, that
since ICs were new people were reacting to the newness rather than
an absolute reaction to ICs being "cheating".

At least thirty years on, it's hard to imagine that there are people
who haven't adapted.

As others have pointed out, one can go down through a spiral to an
absolute level of "homebrew", but everything would be pretty bulky then.
Of course, early hams built their capacitors and all that, but it
was more necessity than some hard core belief. Once you could get
commercially available components, then they were used unless
a) someone was curious about making a capacitor or b) what was
exactly needed wasn't available.

There are some borderline parts. It hardly makes sense to buy
a commercially made coil if you can wind one yourself, but that's
not because everyone should be making everything, but because if
someone isn't winding, they may not realize it is a simple thing,
and winding will save money.

What ICs have done is allow for a level of complexity that wasn't
available before them. Sure, there were PLLs described in the ham
magazines using tubes, but they were as complicated as a simple superhet
receiver. I can remember seeing tube based synthesizers, using multiple
crystals mixed together, and they were more complicated than a full
blown transmitter.

If you want to build up a whole synthesizer from transistors, it's
going to be terribly bulky. I suspect few will go to that trouble,
and instead making something simple but which won't give the performance

of a synthesizer. There is so much that can be built nowadays that virtually nobody would consider building in the tube era.

So I dismiss your hardcore view on this.

On the other hand, there is validty in constantly thinking through whether something should be done with transistors or ICs. One shouldn't build with ICs for the sake of building with them; if two transistors out of a scrap VCR and some other components from it flash an LED perfectly well, then what's the point of using an expensive and hard to get IC that exists only to flash LEDs? If you don't lose anything in performance, and only a little space, then you might as well use readily available scrap transistors to build an IF strip, than spend money and time buying an IC via mail order. If two transistors will supply a suitable prescaler for Harry's project, then it likely is a good choice, because it's easier to find transistors than prescaler ICs.

But these are design decisions, not some rhetoric about how everything must be made from scratch. Any time something is designed, it's important not just to look at the way to do it, but at other alternatives, because people often do get blocked by looking down only one path.

For instance, as I write this it occured to me that it might be easier for Harry to mix the VCO signal down to a frequency where the average logic IC can work. You don't have to find a prescaler, and the design's frequency steps won't be limited by the division of that prescaler. There are various mixer schemes that will result in the needed frequency. There may be reasons for not doing it this way, but it may not even be explored because Harry hasn't given this alternative any thought.

Michael VE2BVW

1340. Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 16:00:04 UTC
From: Dick <dick@langwang.demon.co.uk>
Message-ID: <cng7zzDEgPQ$Ew00@langwang.demon.co.uk>
Source record: 33157

I'm trying to get a hold of a tool that will undo grub screws
securing the front panel knobs on my venerable BC221, can anyone suggest
where I can get a hold of one, a modern equivalent and/or something that
can be modified to do the job ??
Although all BC221s were provided with the tool (stored in a
clip beside the spare valves) I've never seen one and can only guess
that it must be something like a very small Phillips screwdriver head
but with a parallel rather than tapered tip. It must also be less than
3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
steel rod and that was too big, don't think my eyesight is up to hand
filing the cruciform tip in any smaller dia rod, hence a request for
help !!
My BC221 is still furkling along after 63+ years (& only c/s -
There, I've said it !!) out of calibration) but I think I should at
least try & smarten up the case with a good clean and a bit of fresh
paint. Who knows, it's probably got more chance of making the century
than I have.
Thanks
--
Dick
GM0MNL

1341. Re: Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 16:15:10 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <gEKdnTJZnvMNZt2iXTWJhw@comcast.com>
Source record: 33158
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Why charge them in parallel? Having them all charge the same in the real world should be part of the matching. In fact, if you start out with all batteries in the same state, and charge them in series, you can quickly pick out oddball by measuring the charging voltage across each cell.

Tam/WB2TT
"Bruce W.1" <bw@NoDirectMail.com> wrote in message
news:3F4051E2.64CD6570@NoDirectMail.com...
> Please see previous thread.
>
> I'm trying to match AA battery capacities so they can be used together
> in battery packs and I think created a low-tech way to do this. I'd
> like to hear more informed opinions.
>
> This would apply to NiCads and NiMh but it should work with lithium-ions
> too.
>
> Take all your batteries of the same type and charge them all in parallel
> to the same voltage. Then one at a time remove them from the float
> voltage and attach them to a fixed size resistor (say 6 ohms) for a
> fixed period of time (say 3 hours) then measure their voltage. Well
> matched batteries should have similar voltages.
>
> Does this wash?
>
> The only thing I wonder about is the full charge state voltage. Say I'm
> doing Ni-Cads which usually top-out around 1.65 volts (where they
> experience a voltage drop), and I set the float voltage for the bunch at
> 1.5 volts. Would the maximum voltage of each cell make a difference
> here?
>
> Thanks for your help.

1342. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 16:16:17 UTC
From: Bob Stein <w6nbi@earthlink.net>
Message-ID: <3F40FBD1.9040900@earthlink.net>
Source record: 33159

Dick wrote:
> I'm trying to get a hold of a tool that will undo grub screws
> securing the front panel knobs on my venerable BC221, can anyone suggest
> where I can get a hold of one, a modern equivalent and/or something that
> can be modified to do the job ??
> Although all BC221s were provided with the tool (stored in a
> clip beside the spare valves) I've never seen one and can only guess
> that it must be something like a very small Phillips screwdriver head
> but with a parallel rather than tapered tip. It must also be less than
> 3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
> steel rod and that was too big, don't think my eyesight is up to hand
> filing the cruciform tip in any smaller dia rod, hence a request for
> help !!
> My BC221 is still furkling along after 63+ years (& only c/s -
> There, I've said it !!) out of calibration) but I think I should at
> least try & smarten up the case with a good clean and a bit of fresh
> paint. Who knows, it's probably got more chance of making the century
> than I have.
> Thanks

It has been many years since I had a BC-221, but I seem to think that a Bristol wrench was needed to remove the knobs. No bets, however.

Bob, W6NBI

1343. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 16:22:07 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f40fcda.8196855@news.freeserve.net>
Source record: 33160

On Mon, 18 Aug 2003 17:00:04 +0100, Dick <dick@langwang.demon.co.uk>
wrote:

> I'm trying to get a hold of a tool that will undo grub screws
>securing the front panel knobs on my venerable BC221, can anyone suggest
>where I can get a hold of one, a modern equivalent and/or something that
>can be modified to do the job ??
> Although all BC221s were provided with the tool (stored in a
>clip beside the spare valves) I've never seen one and can only guess
>that it must be something like a very small Phillips screwdriver head
>but with a parallel rather than tapered tip. It must also be less than
>3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
>steel rod and that was too big, don't think my eyesight is up to hand
>filing the cruciform tip in any smaller dia rod, hence a request for
>help !!
> My BC221 is still furkling along after 63+ years (& only c/s -
>There, I've said it !!) out of calibration) but I think I should at
>least try & smarten up the case with a good clean and a bit of fresh
>paint. Who knows, it's probably got more chance of making the century
>than I have.
> Thanks
Dick, I think they are "Allen Key" or "Hex Key" grub screws but I
won't bet on it though.
hth Mike W, G8NXD

1344. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 16:36:08 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bhr2q8$c3k$1@bob.news.rcn.net>
Source record: 33162

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:bhqsgg$f0k$1@freenet9.carleton.ca...

> But when building with
> an IC, you will have to actually build something around it in order to
> get something useful.
SNIP
> thirty or so years ago, when
> people would write to the magazines and complain about so many ICs
> being used, and about how the internal diagram of the IC was not shown.
> A lot of that could be discounted as a transitional reaction, that
> since ICs were new people were reacting to the newness rather than
> an absolute reaction to ICs being "cheating".

Over 30 years ago I homebrewed a PDP-8 work-alike computer. It was based on the PDP-8 instruction set. I've never seen PDP-8 electrical or detailed logic diagrams. I used ICs, but none more complex than a 4-bit adder. The 7400-series was then too expensive for me, so I used a cheaper compatible Signetic series in most cases. My choice to use ICs was based on a desire to finish the project within a reasonable time - which I did. There would have been too many parts going all-discrete. Of course discrete transistors were used as lamp drivers, to drive the core memory select lines, and in the voltage regulators.

> At least thirty years on, it's hard to imagine that there are people
> who haven't adapted.

Even using simple digital ICs, you have to know a little about the internals of the family to avoid pitfalls - and to interface to other families. Analog ICs require more understanding.

SNIP

> On the other hand, there is validity in constantly thinking through
whether
> something should be done with transistors or ICs.

Or with a $2 microcomputer. IMO, evaluating the trade-off between hardware and software is just as important. Where should one draw the line?

My hobby RF experience has mostly been limited to VHF frequency converters.

OTOH I assembled the first FM-stereo broadcast station in the Washington DC area, WHFS 102.3 MHz. The "components" were rather large: an HH Scott stereo generator, an RCA "iron fireman" FM exciter, and a 1 kW power power amplifier that had seen service a number of other places. I built a frequency-multiplier / IPA between the exciter and the 4-400 finals, and the

power supplies including that for the finals. I built the stereo audio console for the station; my memory is a little hazy after 40 years, but I think the console used some audio ICs.

SNIP

> But these are design decisions, not some rhetoric about how everything
> must be made from scratch. Any time something is designed, it's important
> not just to look at the way to do it, but at other alternatives, because
> people often do get blocked by looking down only one path.

As someone else said, engineering is making what you want from the parts that are available.

73 de bob w3otc

1345. Re: Problems with www.qsl.net...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 17:17:37 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19aaaa0a86ba16b1989680@news-central.giganews.com>
Source record: 33161

In article <bhlntr$qo7p$1@ID-164697.news.uni-berlin.de>,
arararara@inwind.it says...
> Hello, i have an account on www.qsl.net, but infortunately i've lost my
> ftp access password... So i've tried to register again, i've tried to
> contact the webmaster using various email accounts, i've tried to donate
> money (receiving a "thank you" answer, but no reply to my questions)...
>
> What can i do to have again a valid ftp password ?
>
> Thanks,
> Riccardo IK5WQO
>

Have you tried Al Waller at k3tkj@qsl.net?

-- jm

---

http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1346. FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 17:40:52 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f410caa.12245640@news.freeserve.net>
Source record: 33163

Hi Folks, I'm trying to locate the URL of the site containing the
following files
ft707.max
maxview.exe

Its the FT707 operating manual in compressed form readable only ,
afik, by the maxview program.

I've located a copy, but not the site I'm looking for, at
http://www.qsl.net/aa1do/
but its redirected to a timed out site.

I know I found it once, but I forgot to bookmark it.
Does anyone know where these file are to be found?.
Many thanks, Mike W

1347. Re: Problems with www.qsl.net...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 17:42:51 UTC
From: Rightrik <arararara@inwind.it>
Message-ID: <bhr36p$2d6m8$1@ID-164697.news.uni-berlin.de>
Source record: 33164

>
> Have you tried Al Waller at k3tkj@qsl.net?
>
I have tried a lot of times, using all my accounts (i was thinking about some strange filtering on my email address!!!), i've tried
using ICQ, i've tried to register again times and times...
Yesterday i wrote and sent him a paper letter asking for the famous/infamous ftp password...

Riccardo IK5WQO

1348. FS: Old Radio Books

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 17:44:06 UTC
From: oldbooks78@aol.com
Message-ID: <20030818134406.21601.00000234@mb-m01.aol.com>
Source record: 33165

I currently have for sale the following old radio-related books. Postage is $2.50 for the first book and $1 for each additional item (Media Mail within the US, at cost elsewhere). The books are:

Worldwide Publications "White's Radio Log, Vol. I, Number I" Worldwide Publications, c1982. The 136 page softbound book is in good+ condition, clean with no page tears or pen marks. Not dated, but looks to be from the early 1980's. A directory of North American AM, FM, and TV stations including world-wide shortwave stations. Available for $3.

American Radio Relay League "The A.R.R.L. Antenna Book" American Radio Relay League, 1960. Nineth edition. The 320+ page softbound book is in good condition. The covers show some wear from previous use, there are a few bent page tips, and there is a previous owners address label inside the front cover. A good solid reading copy of this informative text on radio antenna technology. Available for $4.

Federal Telephone and Radio Corporation "Reference Data for Radio Engineers, 2nd edition" Federal Telephone and Radio Corporation, 1946. Second edition. The 322+ page hardbound book is in about very good condition, clean with no page tears or pen marks except for a previous owners name stamp inside the covers. Green cloth covers. A nice early radio reference text. Available for $7.

Federal Telephone and Radio Corporation "Reference Data for Radio Engineers, 1st edition" Federal Telephone and Radio Corporation, 1943. First edition, second printing. The 200 page hardbound book is in good+ condition, clean with no page tears or pen marks except for a previous owners name inside the front cover. The pages are a bit wavey along the bottom edge, possibly from minor moisture exposure. Otherwise very nice. Green cloth covers over flexible boards. A nice early radio reference text. Available for $10.

Everitt, William Littell "Communication Engineering" McGraw-Hill, 1937. The 727 page hardbound book is in about very good condition. Clean with no page tears or pen marks except for a previous owners name and address inside the front cover, and a few passages underlined in pencil. A nice early text on the science of the radio. Available for $9.

Jordan, Edward C.; Paul H. Neilson; William Carl Osterbrock; Fred H. Pumphrey; Lynne C. Smeby "Fundamentals of Radio" Prentice-Hall, 1945. Twelth printing. The 400 page hardbound book is in very good condition, clean with no page tears or pen marks. A nice early text on radio design and principles of operation, including a few fold-out schematics. Available for $9.

Terman, Frederick Emmons "Fundamentals of Radio" McGraw-Hill, 1938. First edition, seventh printing. The 458 page hardbound book is in about very good condition, clean with no page tears or pen marks except for a previous owners

name and address inside the front cover which has been marked out. A nice early radio reference text. Available for $9.

Institute of Radio Engineers "1933 Report of the Standards Committee of The Institute of Radio Engineers" Institute of Radio Engineers, 1933. The 225 page softbound book is in good+ condition, clean with no page tears or pen marks except for a previous owners name on the front cover. Some wear to the spine paper, but not too bad. Page tips in rear lower corner bent outwards somewhat. A neat look at standards development for the radio in the early 1930's. Available for $8.

Measurements Development Laboratory of the Sperry Gyroscope Company "Microwave Transmission Design Data" Sperry Gyroscope Company, 1944. Publication No. 23-80. The 215 page hardbound book is in very good condition, clean with no page tears or pen marks, and a strong binding. Originally issued during WWII as a "confidential" document. Chapter topics include General formulae for concentric lines; Attenuation in concentric lines; Reflections and impedance matching; General formulae for wave guides; Attenuation in wave guides; Reflections and impedance matching in wave guides; Wave guide tees and bends; Wave guides filled with dielectric material; Dielectric material: Cavity resonators; and Measurement techniques. A neat early book on ultra-high frequency radio waves. Available for $8.

US War Department "Technical Manual - Radio Fundamentals, TM 11-455" U.S. GPO, 1941. The 140 page softbound book is in fine condition, fresh and clean inside and out except for a previous owners name on the front cover. A nice WWII vintage radio manual. Available for $8.

Morecroft, John H. "Elements of Radio Communication" John Wiley & Sons, 1929. The 269 page hardbound book is in good+ condition. There is a previous owners name inside the front and rear covers, and light pencil marks/notes on many of the pages. Dust jacket has extensive tape reinforcement along the edges. A nice early text on the radio. Available for $10.

If interested in any of the above, please email to "Oldbooks78@aol.com" to reserve. Thanks.

Dave

1349. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 18:00:43 UTC
From: dougmc@frenzy.com
Message-ID: <fv80b.172267$TJ.10243344@twister.austin.rr.com>
Source record: 33166
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

In article <3F3FFF00.6EB8E115@NoDirectMail.com>,
Bruce W.1 <bw@NoDirectMail.com> wrote:

| I'm trying to find a way to measure the capacity of single -- mainly AA
| -- batteries. Some of my battery packs don't last as long as they
| should because of mismatches in cell capacity.

Well, if you don't mind spending some money --

http://www2.towerhobbies.com/cgi-bin/wti0001p?&I=LXCJG7&P=7

This is a great charger. Not only does it do a great job with my R/C
plane batteries, but it does my ham batteries too. It can charge or
discharge 1-24 cells, and can do NiCd, NiMH, Li-Ion, Li-Poly or lead
acid bateries.

For one battery, you just charge the battery, then set it to discharge
at perhaps 1/4 C, and tell it to cut off at 0.9 volts. Once done,
you'll know exactly what capacity it has.

As another poster mentioned, the R/C communities know all about
batteries. Read their stuff on it, you'll learn a lot. :)

Oh, if you do use a charger like this to charge a battery, be sure to
make sure you've got a direct path to the battery itself -- trying to
push 1 A through a charge circuit that lights up a LED and such is a
great way to let out the magic smoke -- even through the battery can
handle it no problem.

If this is too much for you, there are other alternatives, but few are
so flexible for this `little' money.

--
Doug McLaren, dougmc@frenzy.com
`You're all clear now, kid. Now blow this thing so we can all go home.'

1350. Re: Spectrum Analyser CRT drive problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 18:01:05 UTC
From: Hector Peraza <peraza@uia.ua.ac.be>
Message-ID: <3f411461@news.uia.ac.be>
Source record: 33167

Hans Summers <Hans.Summers@tudor.com> wrote:

: Naturally the type of display this tube is now being subjected to is very
: different to a TV picture. There seem to be some problems with the video
: drive circuits, see pictures at the bottom of the above web page. The
: graticule fades out in the top eighth of the screen.

That looks like a video DC-restoration problem. Try mixing your TTL video signal with the composite sync signal in order to obtain a more TV-like video signal. Note that the video amplifier is AC-coupled to the picture tube and DC-restoration is done in that case by the CRT itself, the cathode and grid electrodes work like a diode that clamps the video signal to the sync level (no sync pulses = no proper DC-restoration, brightness will fluctuate with video contents). The time constant of the RC coupling to the CRT should be high enough (in your case it is).

: Also see the "noise floor" photo which shows significant horizontal "bulge".

That could be due to poor HV regulation (check by reducing the brightness, if the image looks OK when you have just a faint image, then the problem is the HV). That's is a problem of using a normal TV for digital signals, and there is not much that can be done, other than redesigning the whole horizontal sweep circuitry (needing perhaps a different flyback). Check in any case the DC supply to the horiz output for fluctuations. Computer monitors are much better in that respect.

: Also there is a resolution problem - one spectrum analyser sweep consists of
: 640 measurements, and I have a complicated interpolation circuit which
: "joins the dots" i.e. draws lines between the individual measurements, and
: also reduces the horizontal resolution to 320 pixels which I hoped would be
: displayable on the monitor. Problem is I can only get 160 horizontal pixels
: to display reliably - at 320 pixels a vertical line is very faint or
: invisible (depending on how much white there was in the preceeding
: microsecond or so's worth of scan line.

That's a bandwidth problem in the video amplifier. You may begin by removing the audio IF trap (the L-C connected to the emitter of the video amplifier), but I don't think that would help that much. Try using a higher frequency transistor for the video amplifier, you should choose one with low b-c capacitance, a cascode amplifier will do a better job since it does not suffer from Miller effect problems (you might need a bit higher voltage supply for the amplifier, though). A small inductance in series with the 8K2 resistor in the collector ("peaking coil") should improve high-frequency response by compensating for the CRT input capacitance.

Hope that helps a bit.

Regards,
Hector.

1351. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 19:11:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk296fiv7n3321@corp.supernews.com>
Source record: 33168
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

budgie wrote:
>
> As I alluded to in my previous, I suspect you will find simple
> constant current and 1v5 are relatively mutually exclusive unless you
> want to go to low voltage op amps and roll your own.
> . . .

It's not difficult. I use an supply to power an op amp which senses the current across a small resistor and drives a power FET. It does fine down to less than one volt. In fact, it was actually designed to use as a constant current source for charging a NiCd battery from a solar panel, and it does double duty as a constant current load for testing battery and cell capacity.

Roy Lewallen, W7EL

1352. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 19:13:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk29ag6gik6ga8@corp.supernews.com>
Source record: 33169
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Doug McLaren wrote:
> . . .
> As another poster mentioned, the R/C communities know all about
> batteries. Read their stuff on it, you'll learn a lot. :)

But be aware that the way they're using batteries is very different from the way you're likely to. So some of the characteristics important to them might not be important to you, and vice versa.

Roy Lewallen, W7EL

1353. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 19:25:17 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000070.007bddb2@btinternet.com>
Source record: 33170

Hi,

You are correct Bob, according to the SCR-221 technical manual (TM-11-300) there should be two Bristol wrenches (#6 & #8) in the spares kit. I have just tried the one I have on an old wreck of a BC221-T and it fits but don't know whether it is a #6 or a #8. It is just under a 1/10" across the flutes.

I believe that during WWII there was a specially employed lady, complete with tattoos presumably, whose task it was to tighten the set-screws on all military equipment. She did such a good job that nobody except a certain candidate for the governorship of California has since been able to move them.

Cheers - Joe

1354. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 19:51:36 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <rAudnQYuqMTRs9yiU-KYvw@comcast.com>
Source record: 33171
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Bruce,

Here is a crude way to do unattended tests. There are any number of cheap battery powered clocks that run off 1 or 2 AA cells; you would use external power instead. Put one of these in parallel with your load, and see how long the clock runs. You could add an opamp to set the trip point to a particular voltage. Use an opamp whose common mode range includes the negative rail.

Tam/WB2TT
"Bruce W.1" <bw@NoDirectMail.com> wrote in message
news:3F3FFF00.6EB8E115@NoDirectMail.com...
> I'm trying to find a way to measure the capacity of single -- mainly AA
> -- batteries. Some of my battery packs don't last as long as they
> should because of mismatches in cell capacity.
>
> I've got a good assortment of electronic equipment, variable power
> supplies, high power resistors, etc. I've even got a Maha MH-C777PLUS
> charger/discharger. But this doesn't let you do single cells.
>
> I can come up with some -- not so great -- ways to measure capacity,
> like discharging thru a resistor while monitoring voltage. This would
> allow me to at least match batteries somewhat but not really measure
> true capacity. For true capacity I need a constant current device, and
> that's where I'm stumped.
>
> This could be electronic, if it's inexpensive and I can get the parts at
> Radio Shack. But I'm thinking more along the lines of a mechanical
> device to drain the battery in a constant current fashion. An electric
> motor would just slow down, so that wouln't work. What type of
> mechanical device pulls a constant current regardless of input voltage?
>
> Does anyone have any suggestions on how to do this?
>
> Thanks for your help.

1355. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 20:03:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk2c8al02kco95@corp.supernews.com>
Source record: 33172
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

That's a great idea.

It wouldn't really be important to trip at a particular voltage if you're interested in finding out the capacity, provided that the clock will run at one volt (which any device designed to run from an alkaline cell certainly should)(*). There's very little energy left when a NiCd or NiMH cell reaches one volt, and the cell voltage will drop from there to the point where the clock shuts off in a very short time compared to the total discharge time.

Roy Lewallen, W7EL

(*)Unlike NiCd and NiMH cells, an alkaline cell still has a subtantial amount of energy left when the cell voltage is one volt, assuming a low or moderate load. Well designed devices running from alkaline cells should operate down to about 0.9 volt per cell at low or moderate drain, or about 0.8 volt at heavy drain, in order to extract nearly all the cell's energy. Ideally, a NiCd or NiMH powered device should disconnect from the battery at one volt/cell to prevent reverse charging of a weak cell. Even that isn't sure-fire if there are more than about 5 cells in series, and if one is considerbly weaker than the others.

Tarmo Tammaru wrote:
> Bruce,
>
> Here is a crude way to do unattended tests. There are any number of cheap
> battery powered clocks that run off 1 or 2 AA cells; you would use external
> power instead. Put one of these in parallel with your load, and see how long
> the clock runs. You could add an opamp to set the trip point to a particular
> voltage. Use an opamp whose common mode range includes the negative rail.
>
> Tam/WB2TT

1356. Re: FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 20:04:17 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f41310b.21564104@news.freeserve.net>
Source record: 33173

Thanks everyone who responded. Sorted ;-)
atb Mike W
--
On Mon, 18 Aug 2003 17:40:52 GMT, mike@corn2.freeserve.co.uk (Mike W)
wrote:

>Hi Folks, I'm trying to locate the URL of the site containing the
>following files
>ft707.max
>maxview.exe
>
>Its the FT707 operating manual in compressed form readable only ,
>afik, by the maxview program.
>
>I've located a copy, but not the site I'm looking for, at
>http://www.qsl.net/aa1do/
>but its redirected to a timed out site.
>
>I know I found it once, but I forgot to bookmark it.
>Does anyone know where these file are to be found?.
>Many thanks, Mike W

1357. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 20:04:54 UTC
From: troglodite@aol.com
Message-ID: <20030818160454.21977.00000606@mb-m07.aol.com>
Source record: 33174

> I believe that during WWII there was a specially employed
>lady, complete with tattoos presumably, whose task it was to
>tighten the set-screws on all military equipment. She did such a
>good job that nobody except a certain candidate for the
>governorship of California has since been able to move them.

As one who converted a lot of WWII surplus gear for Amateur Radio use, I often hoped the guy who invented Glyptol got sealed in his coffin with the stuff.

Doug Moore

1358. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 20:45:29 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <ele2kvcbnok9cd755g080sk7687r3c7mkn@4ax.com>
Source record: 33175

In <bhqgmq$22p5o$1@ID-61331.news.uni-berlin.de>, "Hans Summers"
<Hans.Summers@Tudor.Com> wrote:

<snip>
>Here's a nice page with nice home-built components including a triode valve
>(tube): http://home.earthlink.net/~lenyr/vt-vac.htm

COOL!!!

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 100,000 Newsgroups - 19 Different Servers! =-----

1359. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 20:52:44 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <2XWdnQiWU_wCodyiU-KYvw@comcast.com>
Source record: 33176
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Popular Photography tested AA alk batteries by repeatedly firing off the flash until the recharge time became 10 seconds, or something like that.

Tam/WB2TT

1360. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 21:59:46 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <2qe2kv09v0kgmc38aliduof8n0fscikopt@4ax.com>
Source record: 33177

In <bhqsgg$f0k$1@freenet9.carleton.ca>, et472@FreeNet.Carleton.CA (Michael Black) wrote:

>Frank Gilliland (sparky@NOSPAMaimcomm.net) writes:
>>
>> Let me ask you a simple question: Suppose someone buys an SP-600, mounts some
>> chrome knobs, spray-paints his name on the front panel, then posts on the
>> newsgroup saying, "Hey, look what I built!" Would you call that "homebrew"?
>>
>I think there's a vast difference between that scenario, and building with
>ICs. In your example, they are mere cosmetic work. But when building with
>an IC, you will have to actually build something around it in order to
>get something useful.
>
>I am a bit surprised that you hold this opinion this late in the game.
>Clearly, it was not an uncommon opinon thirty or so years ago, when
>people would write to the magazines and complain about so many ICs
>being used, and about how the internal diagram of the IC was not shown.
>A lot of that could be discounted as a transitional reaction, that
>since ICs were new people were reacting to the newness rather than
>an absolute reaction to ICs being "cheating".
>
>At least thirty years on, it's hard to imagine that there are people
>who haven't adapted.

Adapted? Yes. I have built countless devices around IC's of just about every shape and size. But I didn't design or build the -circuits- (i.e, the amps, the oscillators, the comparators, the negative impedance converters -- the network of active and passive components that make the device do what it does), I just followed the instructions provided with the chip and connected the dots.

>As others have pointed out, one can go down through a spiral to an
>absolute level of "homebrew", but everything would be pretty bulky then.
>Of course, early hams built their capacitors and all that, but it
>was more necessity than some hard core belief. Once you could get
>commercially available components, then they were used unless
>a) someone was curious about making a capacitor or b) what was
>exactly needed wasn't available.

The "level" of construction is the issue. It's one thing to homebrew the components, but another to homebrew the circuits. I understand what you and everyone else is saying, that "homebrew" can include the use of pre-packaged circuits as components, that it's just a different "level" of construction. Some might even think that building something from a kit is homebrew. I don't. Somebody else "brewed" the circuit -- the kit-builder simply assembles the

components (connects the dots).

>There are some borderline parts. It hardly makes sense to buy
>a commercially made coil if you can wind one yourself, but that's
>not because everyone should be making everything, but because if
>someone isn't winding, they may not realize it is a simple thing,
>and winding will save money.
>
>What ICs have done is allow for a level of complexity that wasn't
>available before them. Sure, there were PLLs described in the ham
>magazines using tubes, but they were as complicated as a simple superhet
>receiver. I can remember seeing tube based synthesizers, using multiple
>crystals mixed together, and they were more complicated than a full
>blown transmitter.

Superhets aren't that complicated, and neither is crystal mixing. Regardless,
crystal mixing can get expensive.

>If you want to build up a whole synthesizer from transistors, it's
>going to be terribly bulky. I suspect few will go to that trouble,
>and instead making something simple but which won't give the performance
>of a synthesizer.

Not true. Try linearizing a VCO and using a stepped voltage divider, then
beating the output against an OCXO for drift correction. It's an old method, but
it still works great. And it's a lot less complicated and expensive than using
multi-bit comparators, parallel ripple counters, a parallel-to-serial converter
(because there are very few parallel PLL chips anymore), BCD rotory switches or
a decimal-to-binary converter, phase detectors, prescalers, etc. And notice that
you still need that pesky reference oscillator!

> There is so much that can be built nowadays that virtually
>nobody would consider building in the tube era.

I agree. But I didn't say that every homebrew project must be built with tubes.

>So I dismiss your hardcore view on this.
>
>On the other hand, there is validty in constantly thinking through whether
>something should be done with transistors or ICs. One shouldn't build
>with ICs for the sake of building with them; if two transistors out of
>a scrap VCR and some other components from it flash an LED perfectly
>well, then what's the point of using an expensive and hard to get
>IC that exists only to flash LEDs?

You're getting close....

> If you don't lose anything in performance,
>and only a little space, then you might as well use readily available scrap
>transistors to build an IF strip, than spend money and time buying an
>IC via mail order. If two transistors will supply a suitable prescaler
>for Harry's project, then it likely is a good choice, because it's
>easier to find transistors than prescaler ICs.

That was my point initially.

>But these are design decisions, not some rhetoric about how everything
>must be made from scratch. Any time something is designed, it's important
>not just to look at the way to do it, but at other alternatives, because
>people often do get blocked by looking down only one path.

And that, too, is a very good point. Notice that it works both ways -- I see a lot of homebrewers getting stuck in an 'IC rut'.

>For instance, as I write this it occured to me that it might be
>easier for Harry to mix the VCO signal down to a frequency where
>the average logic IC can work. You don't have to find a prescaler,
>and the design's frequency steps won't be limited by the division of
>that prescaler. There are various mixer schemes that will result
>in the needed frequency. There may be reasons for not doing it this
>way, but it may not even be explored because Harry hasn't given this
>alternative any thought.

And the synth will be more accurate than using a prescaler, even a dual-modulus prescaler. But I made the mistake of assuming that he knew the difference between the two methods and had chosen the prescaler over down-conversion for reasons unmentioned.

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1361. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 22:04:15 UTC
From: Bibby <m.bibby@comcast.net>
Message-ID: <z3c0b.183660$YN5.135802@sccrnsc01>
Source record: 33178

Dick, as others have said, these probably need Bristol wrenches. I bought some a few months back from JONWIENER@aol.com

Good luck,

Malcolm, W1/GW3NJY

"Dick" <dick@langwang.demon.co.uk> wrote in message news:cng7zzDEgPQ$Ew00@langwang.demon.co.uk...
> I'm trying to get a hold of a tool that will undo grub screws
> securing the front panel knobs on my venerable BC221, can anyone suggest
> where I can get a hold of one, a modern equivalent and/or something that
> can be modified to do the job ??
> Although all BC221s were provided with the tool (stored in a
> clip beside the spare valves) I've never seen one and can only guess
> that it must be something like a very small Phillips screwdriver head
> but with a parallel rather than tapered tip. It must also be less than
> 3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
> steel rod and that was too big, don't think my eyesight is up to hand
> filing the cruciform tip in any smaller dia rod, hence a request for
> help !!
> My BC221 is still furkling along after 63+ years (& only c/s -
> There, I've said it !!) out of calibration) but I think I should at
> least try & smarten up the case with a good clean and a bit of fresh
> paint. Who knows, it's probably got more chance of making the century
> than I have.
> Thanks
> --
> Dick
> GM0MNL

1362. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 22:06:07 UTC
From: Bibby <m.bibby@comcast.net>
Message-ID: <j5c0b.184378$uu5.35228@sccrnsc04>
Source record: 33179

Correction, that should have been WEINER not WIENER!

Malcolm

"Dick" <dick@langwang.demon.co.uk> wrote in message
news:cng7zzDEgPQ$Ew00@langwang.demon.co.uk...
> I'm trying to get a hold of a tool that will undo grub screws
> securing the front panel knobs on my venerable BC221, can anyone suggest
> where I can get a hold of one, a modern equivalent and/or something that
> can be modified to do the job ??
> Although all BC221s were provided with the tool (stored in a
> clip beside the spare valves) I've never seen one and can only guess
> that it must be something like a very small Phillips screwdriver head
> but with a parallel rather than tapered tip. It must also be less than
> 3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
> steel rod and that was too big, don't think my eyesight is up to hand
> filing the cruciform tip in any smaller dia rod, hence a request for
> help !!
> My BC221 is still furkling along after 63+ years (& only c/s -
> There, I've said it !!) out of calibration) but I think I should at
> least try & smarten up the case with a good clean and a bit of fresh
> paint. Who knows, it's probably got more chance of making the century
> than I have.
> Thanks
> --
> Dick
> GM0MNL

1363. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 22:11:18 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <1oSdnceRKKNg0tyiU-KYgw@ctc.net>
Source record: 33180

> You are correct Bob, according to the SCR-221 technical manual
> (TM-11-300) there should be two Bristol wrenches (#6 & #8) in the
> spares kit. I have just tried the one I have on an old wreck of a
> BC221-T and it fits but don't know whether it is a #6 or a #8. It
> is just under a 1/10" across the flutes.
>
> I believe that during WWII there was a specially employed
> lady, complete with tattoos presumably, whose task it was to
> tighten the set-screws on all military equipment. She did such a
> good job that nobody except a certain candidate for the
> governorship of California has since been able to move them.
>
>

I have seen the wrenches on e-bay from time to time.

To remove the screws after ordering a bowflex machine and working out with it for 6 months, heat them and the "glue" will release and you will be able to turn them.

1364. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 22:14:06 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <p6j2kvsgaushknrhmjdk2hrjm8ubf96jc8@4ax.com>
Source record: 33181

In <3F40C2EF.A808CB0E@earthlink.net>, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

<snip>
>... Homebrewing should be used to learn something,

I couldn't agree more.

> and if you want to
>remain at the lowest level, enjoy yourself, but don't ridicule others
>who want to learn newer methods.

Which is the 'lower' level:

a) connecting the dots

b) learning and using the circuit concepts of a high-frequency bi-stable
multivibrator to build a flip-flop suitable for use as a prescaler

...?

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1365. 102-E Western Electric Tube info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 22:49:57 UTC
From: Jim Rayburn <kc4bqk@insightbb.com>
Message-ID: <pKc0b.184607$uu5.33564@sccrnsc04>
Source record: 33182

Looking for info on the Western Electric 102-E tube. Can find for the -F and -L. Is this tube a rare and collectable tube or is it a very common tube? Thanks for your help.
Jim
KC4BQK

1366. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 23:07:49 UTC
From: Gary Morton <gary@alma.demon.co.uk>
Message-ID: <9%c0b.906$iq1.8295460@news-text.cableinet.net>
Source record: 33183

Frank Gilliland wrote:

...snipped....
>
>
> Must be the latitude. For the sake of this discussion, I put whipped up a
> flip-flop that can do 240 MHz using 2N4401's. It took me about half an hour. You
> don't need to saturate those puppies, you just need a little gain.
>
>
...snipped...

OK Frank, I'm interested to see a picture and a schematic of your circuit. Do you have web pages like Harry's?

I can't help but think that you have been more than a little rough on Harry, someone who obviously does "homebrew" his stuff. I wish I had the time patience and ability to construct more stuff that actually worked myself ;-). Perhaps I'm lazy but I'll choose a suitable IC over a descrete solution 9 times out of ten. I'm not sure why you have a downer on using IC's.

I sympathise with Harry's difficulty in getting hold of parts in Sweden as it is getting difficult to find (hobbiest) RF parts in the UK.

The hobby of radio and electronics construction is dying in the UK, so we should be happy if some people build only kits, otherwise the kit suppliers will go out of business too.

regards...

--Gary

1367. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 23:30:53 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F416441.A845821B@ieee.org>
Source record: 33184

Mike W wrote:

> On Mon, 18 Aug 2003 17:00:04 +0100, Dick <dick@langwang.demon.co.uk>
> wrote:
>
> > I'm trying to get a hold of a tool that will undo grub screws
> >securing the front panel knobs on my venerable BC221, can anyone suggest
> >where I can get a hold of one, a modern equivalent and/or something that
> >can be modified to do the job ??
> > Although all BC221s were provided with the tool (stored in a
> >clip beside the spare valves) I've never seen one and can only guess
> >that it must be something like a very small Phillips screwdriver head
> >but with a parallel rather than tapered tip. It must also be less than
> >3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
> >steel rod and that was too big, don't think my eyesight is up to hand
> >filing the cruciform tip in any smaller dia rod, hence a request for
> >help !!
> > My BC221 is still furkling along after 63+ years (& only c/s -
> >There, I've said it !!) out of calibration) but I think I should at
> >least try & smarten up the case with a good clean and a bit of fresh
> >paint. Who knows, it's probably got more chance of making the century
> >than I have.
> > Thanks
> Dick, I think they are "Allen Key" or "Hex Key" grub screws but I
> won't bet on it though.
> hth Mike W, G8NXD

I vote for the Bristol answer. I think I have a couple here but it would
probably take a "crime scene" investigation to find them. I have a couple of
BC221
and the newer version with a CRT.

Bill K7NOM

1368. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-18 23:44:30 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061250562.688843@auth2.dns.griffin.net.uk>
Source record: 33185

ok i have a pc psu or two now and have attempted to strip the transformer
but theres no way to take them apart without damaging the ferrite as they
seem to be glued!!so i am ordering some new un wound ones from rs...but the
primary winding appears to be in 2 parts..one half on top(the outer winding)
and the other on the bottom (inner.)i assume i will have to duplicate this??
which makes winding the secondary a pain as its in the middle, and i am sure
i wont get it right the first time,meaning stripping the primary down a few
times..your thoughts??
also total winding of secondary 4+3+3+4 to give 12v..8+8 for 28v???5v 12v
not needed...

will let you know what happens..

g0zen simon
"Ian White, 3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:yf9GosHeE0P$EAKt@ifwtech.co.uk...
> Earlier, I wrote:
> >
> >Simon, there's also an interesting Australian radio club site that has
> >lots of in-depth information on modifying computer PSUs (sorry, I
> >thought I'd saved the URL, but can't find it - can anyone post the URL
> >please?).
> >
> I can't find that site right now (so if anyone knows the one I mean,
> please do post the URL) but I did find another, also in Australia,
> which also has the right technical level:
>
> http://www.acs.comcen.com.au/atxps.html
>
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

1369. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 00:04:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk2qcu7tuohn5b@corp.supernews.com>
Source record: 33186

You might check inside the instrument. A Bristol wrench was often
included in military gear under a clip someplace.

I don't have a Bristol wrench for comparison any more, but I recall
their cross sectional shape as resembling modern Torx drivers. It would
probably take an unusually long one, and if it didn't fit well there'd
be a danger of chewing the screw so it'd never come out. Might be worth
investigating, though.

Roy Lewallen, W7EL

Bill Janssen wrote:
>
> I vote for the Bristol answer. I think I have a couple here but it would
> probably take a "crime scene" investigation to find them. I have a couple of
> BC221
> and the newer version with a CRT.
>
> Bill K7NOM
>
>

1370. re 28v switcher

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 01:25:48 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061256641.436887@auth2.dns.griffin.net.uk>
Source record: 33187

ok i have a pc psu or two now and have attempted to strip the transformer
but theres no way to take them apart without damaging the ferrite as they
seem to be glued!!so i am ordering some new un wound ones from
rs...hopefully the same..
the
primary winding appears to be in 2 parts..one half on top(the outer winding)
and the other on the bottom (inner.)i assume i will have to duplicate this??
which makes winding the secondary a pain as its in the middle, and i am sure
i wont get it right the first time,meaning stripping the primary down a few
times..your thoughts??
also total winding of secondary 4+3+3+4 to give 12v..8+8 for 28v???5v 12v
not needed...

will let you know what happens..

g0zen simon

1371. How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 01:39:28 UTC
From: "Bruce W.1" <bw@NoDirectMail.com>
Message-ID: <3F417FD0.A74AA6AE@NoDirectMail.com>
Source record: 33188

Say for a NiCad or NiMH battery, how is battery capacity calculated?
Say I put a resistor across the battery and measured the voltage
periodically. Is it the area of the curve above 1.1 volts, 0.9 volts,
or what?

Thanks for your help.

1372. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 02:04:09 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F41857D.ACAE291D@earthlink.net>
Source record: 33189

Frank Gilliland wrote:
>
> In <3F40C2EF.A808CB0E@earthlink.net>, "Michael A. Terrell"
> <mike.terrell@earthlink.net> wrote:
>
> <snip>
> >... Homebrewing should be used to learn something,
>
> I couldn't agree more.
>
> > and if you want to
> >remain at the lowest level, enjoy yourself, but don't ridicule others
> >who want to learn newer methods.
>
> Which is the 'lower' level:
>
> a) connecting the dots
>
> b) learning and using the circuit concepts of a high-frequency bi-stable
> multivibrator to build a flip-flop suitable for use as a prescaler
>
> ...?

The lower level is trying to force someone to do it your way.

By working with ICs, you learn how to work with complex circuits.
Your two transistor FF is a text book circuit anyone can copy. Build a
low phase noise PLL synthesized signal source for a commercial radio
that operates over three band segments and has a level output, along
with low spurs and low power consumption, then tell me how to do it with
discrete components.

After almost 40 years of both homebrewing and commercial design I
have learned the simple tricks when I was a kid, and I want to keep
learning. On the other hand if you can't learn you can just keep on
building the same things, over and over. The last design I was involved
in was a dual receiver microwave (P, UL, LL, bands) telemetry system
that was DSP based, with FIR filters in both of the the IF and video
filters. The radio had millions of transistors in the hundreds of
I.C.s, and only a couple discrete transistors used in simple gain
stages. The schematics fill 35 size "E" pages, and the test and
alignment data is almost 1000 pages.

Like I have said before, "Do what you want, but don't tell someone
else who to design and build their projects."

--

Michael A. Terrell
Central Florida

1373. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 02:07:19 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F41863C.4B2D54DF@earthlink.net>
Source record: 33190

Joe McElvenney wrote:
>
> Hi,
>
> You are correct Bob, according to the SCR-221 technical manual
> (TM-11-300) there should be two Bristol wrenches (#6 & #8) in the
> spares kit. I have just tried the one I have on an old wreck of a
> BC221-T and it fits but don't know whether it is a #6 or a #8. It
> is just under a 1/10" across the flutes.
>
> I believe that during WWII there was a specially employed
> lady, complete with tattoos presumably, whose task it was to
> tighten the set-screws on all military equipment. She did such a
> good job that nobody except a certain candidate for the
> governorship of California has since been able to move them.
>
>
> Cheers - Joe
>

I put a drop of "Breakfree" in the hole and wait a couple days to
remove tight screws.
--

Michael A. Terrell
Central Florida

1374. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 04:01:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk38836qd066e3@corp.supernews.com>
Source record: 33191

You can measure it either in watt-hours or in ampere-hours. The first is the true energy delivered, and would be the area under a voltage-vs-time graph at constant discharge current. If current isn't constant, you would have to measure the voltage and current at each time interval to be rigorous, plot the product of V and I vs time, and integrate that function.

However, capacity of NiCd and NiMH cells is just about always specified in ampere-hours, or milliampere-hours, since the discharge voltage is fairly constant anyway. That can be measured by simply discharging the battery at constant current and multiplying by the discharge time. If the current isn't constant during discharge and you wanted to be accurate, you'd have to measure the current at various time intervals, plot that against time, and integrate the result. Of course, a simple rectangular or triangular integration would be simple to do even with a spreadsheet, or a very simple program in the language of your choice, and would be entirely adequate for the job.

But because a NiCd or NiMH cell voltage stays pretty constant between 1.2 and 1.25 volts during the majority of the discharge period, you could also discharge it with a resistor, then estimate the average current by assuming a voltage midway between those values, and simply multiply by the discharge time. That would be close enough for most purposes.

1.0 volts is the usually specified cutoff for NiCd and NiMH cells. When the cell voltage reaches that value, there's very little energy left, so the voltage falls very rapidly beyond that. There's actually very little energy left at 1.1 volts with a normal cell, but one suffering from voltage depression (the so-called "memory" effect that's cured by discharge to 1.0 volt) can deliver quite a bit of energy at 1.1 volt.

Roy Lewallen, W7EL

Bruce W.1 wrote:
> Say for a NiCad or NiMH battery, how is battery capacity calculated?
> Say I put a resistor across the battery and measured the voltage
> periodically. Is it the area of the curve above 1.1 volts, 0.9 volts,
> or what?
>
> Thanks for your help.

1375. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 04:28:47 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <qk93kv4hdfqn7mrsa4c57p7kri894705pa@4ax.com>
Source record: 33192

In <3F41857D.ACAE291D@earthlink.net>, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

<snip>
> The lower level is trying to force someone to do it your way.

I can think of a lower level -- saying that I'm trying to "force" anybody to do
anything simply by expressing my opinions.

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1376. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 04:47:34 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <di63kv43c0p9spplkfdnkaiu78s8jv6mvk@4ax.com>
Source record: 33193

On Mon, 18 Aug 2003 02:19:22 -0700 Frank Gilliland
<sparky@NOSPAMaimcomm.net> wrote:

>When was the last time you saw a home-brew OP-amp? How many people that use the
>chips even know what an OP-amp is? Did you know that you can build an OP-amp
>with tubes? Did you know that you can build a prescaler with tubes?

I actually built a vacuum tube op-amp in high school. We had a student
teacher who urged me to do this, but I had no idea what I was up to. I
just thought I had this really high gain amp that I couldn't get to do
anything.

It was years before I actually got taught about op-amps and I'm
ashamed to admit that it took another couple of decades to recall the
high school incident and remember that the student teacher was trying
to tell me that I needed to add other components around the op-amp to
make it useful. I'm afraid I just didn't get it at the time. I
couldn't imagine why anyone would want to cut down the gain of this
really "cool" amplifier....

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

1377. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 05:48:55 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <st93kv8qsvfn3opttiasp5gj07djhbql07@4ax.com>
Source record: 33194

In <9%c0b.906$iq1.8295460@news-text.cableinet.net>, Gary Morton
<gary@alma.demon.co.uk> wrote:

>Frank Gilliland wrote:
>
>...snipped....
>>
>>
>> Must be the latitude. For the sake of this discussion, I put whipped up a
>> flip-flop that can do 240 MHz using 2N4401's. It took me about half an hour. You
>> don't need to saturate those puppies, you just need a little gain.
>>
>>
>...snipped...
>
>OK Frank, I'm interested to see a picture and a schematic of your circuit. Do
>you have web pages like Harry's?
>
>I can't help but think that you have been more than a little rough on Harry,
>someone who obviously does "homebrew" his stuff. I wish I had the time
>patience and ability to construct more stuff that actually worked myself ;-).
>Perhaps I'm lazy but I'll choose a suitable IC over a descrete solution 9
>times out of ten. I'm not sure why you have a downer on using IC's.

Because when there is the alternative, you can learn a whole lot more by building circuits from discrete components; and many times those circuits are much better suited to an application than a chip, but people don't realize it because wiring chips is easier than learning how a circuit actually works. For example, I dug up a schematic I found in a book many years ago. It is for a "unanimous vote detector" and uses two 7400's, two 7404's, eight switches, an LED and a resistor.

Two thoughts keep running through my head that may or may not be true: The first thought is that semiconductor manufacturers are constantly trying to develop new technology that works just as well as old technology but is more complex, more expensive, and therefore more profitable; the second is that too many people assume that new technology is necessarily better than old technology.

>I sympathise with Harry's difficulty in getting hold of parts in Sweden as it
>is getting difficult to find (hobbiest) RF parts in the UK.

It's not like we have prescalers growing on trees around here, either. I started in electronics with whatever I could find, and since I didn't know about all the resources I had available, I didn't find much. For instance, I didn't realize that just about every FM broadcast receiver (even the cheap ones that people throw away as junk) has at least a couple VHF transistors in them, one for the

LO and one for the front-end. Junk TV's have both VHF and UHF semi's. Old computer boards frequently have high-speed switching transistors that make pretty good high-gain amps all the way up through VHF (and would be ideal for a high-speed flip-flop). Junk CB radios have lots of goodies, including power transistors that can work in the low VHF. Even tubes (valves) can be reasonable substitutes for some modern-yet-unavailable electronics. For example, a pair of triodes in cascode makes a mighty quiet front-end for a receiver, comparable or better in performance than many modern FET's. And several common miniature tubes can be used as high-frequency amplifiers, even as power amps capable of a few watts, well into high VHF. Etc, etc, etc.

When you learn about all the different components, their capabilities and applications, and the circuits in which they are used, it's hard NOT to find what you need REGARDLESS of what corner of the world you reside. But you don't really know what they can do until you use them. Sure, the same is true for chips. But I know I would get much more satisfaction by building a high-speed flip-flop using vacuum tubes than I would wiring up a 7473 on my proto-board. Come to think of it, that sounds like an interesting project for this winter.

I wonder what vacuum-tube technology would be like today if tube manufacturers had continued to develop them after the invention of the transistor....hmmm....

>The hobby of radio and electronics construction is dying in the UK,

It's not exactly flourishing in the states. One exception is the growing interest in radio piracy. The lack of broadcast transmitters available to the general (and usually unlicensed) public has been a boom for any company that builds kits for broadcast transmitters and RF amps.

> so we
>should be happy if some people build only kits, otherwise the kit suppliers
>will go out of business too.
>
>regards...
>
>--Gary

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

1378. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 05:53:06 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308182153.7d6ee802@posting.google.com>
Source record: 33195

Roy Lewallen <w7el@eznec.com> wrote in message news:<vk2qcu7tuohn5b@corp.supernews.com>...
...
> I don't have a Bristol wrench for comparison any more, but I recall
> their cross sectional shape as resembling modern Torx drivers.
...
:-) Yep, indeed. In fact, my older daughter bought a new faceplate
for my younger daughter's cell phone as a present, only it turned out
to be a whole new case (clear plastic). Yours Truly got to replace
the case, which was held in with #6 Torx. I was happy to find that
one of the Bristol spline wrenches from an old GC set fit just fine,
as my Torx drivers go down only to #8 here at home. So you MAY find
that a #6 or #8 or #10 Torx will work in your BC221. Mebbe I'll go
try it on my LM (Navy equivalent of the BC221) and report back.

Cheers,
Tom

1379. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 05:57:56 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308182157.14598c02@posting.google.com>
Source record: 33196

"Bruce W.1" <bw@NoDirectMail.com> wrote in message
news:<3F417FD0.A74AA6AE@NoDirectMail.com>...
> Say for a NiCad or NiMH battery, how is battery capacity calculated?
> Say I put a resistor across the battery and measured the voltage
> periodically. Is it the area of the curve above 1.1 volts, 0.9 volts,
> or what?

Usually they pick a voltage that lets you get some large percentage of
the total available energy. I think 1.0V is OK for a NiCd, though you
could be more conservative and use 1.1V. There probably isn't much
energy left by the time you reach a volt, at least at modest current.
It also makes a difference what rate you discharge. So for a 500mA-H
cell, if you discharge at 50mA, that's a "ten hour rate" and would be
a common way to rate the cell. If your application draws heavier
current, you'd be advised to test at that current, and you will find
the mA-H value to be lower than at the lower rate.

I'd think you could find lots of info on the web about this, since
it's a common topic. I've seen quite a few articles in various trade
journals about it.

Cheers,
Tom

1380. Re: How to measure battery capacity?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 05:58:56 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f41bc8d.1951486@news.cantech.net.au>
Source record: 33097
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

On Mon, 18 Aug 2003 12:11:14 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>budgie wrote:
>>
>> As I alluded to in my previous, I suspect you will find simple
>> constant current and 1v5 are relatively mutually exclusive unless you
>> want to go to low voltage op amps and roll your own.
>> . . .
>
>It's not difficult. I use an supply to power an op amp which senses the
>current across a small resistor and drives a power FET. It does fine
>down to less than one volt. In fact, it was actually designed to use as
>a constant current source for charging a NiCd battery from a solar
>panel, and it does double duty as a constant current load for testing
>battery and cell capacity.

i.e. roll your own, as I indicated.

1381. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 06:08:38 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bhsele$5rt$1@newstree.wise.edt.ericsson.se>
Source record: 33098

> "Harry - SM0VPO" (john.smith@micro$oft.com) writes:
> > By the
> > way, the TDA7000 is also obsolete and is soon to be joining the
ZN414/5/6
> > and TCM3105 chips in the depths of obscurity.
> >
> > BR Harry - SM0VPO
> >
> Do they have really cheap FM broadcast band only pocket radios over there,
> that tune with one button (and have a second button to reset to the bottom
of
> the band)?
>
> They're everywhere here, and I've seen them for as low as $1.99 Canadian.
> Curious, I bought one at that price. No cermic filter, so it's using
> an oddball scheme.
>
> Michael VE2BVW

Hi Michael,

Yes, we do have those wireless sets. The cheapest I have found is 69 crowns (US$9) which is still quite expensive. But then again, the TDA70xx ICs are also quite expensive, or obsolete. I am seeking a source of the chip outside Europe for my kits.

BR Harry

1382. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 06:39:57 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bhsgg5$6rc$1@newstree.wise.edt.ericsson.se>
Source record: 33099

> Frank Gilliland (sparky@NOSPAMaimcomm.net) writes:
> >
> ... as I write this it occured to me that it might be
> easier for Harry to mix the VCO signal down to a frequency where
> the average logic IC can work. You don't have to find a prescaler,
> and the design's frequency steps won't be limited by the division of
> that prescaler. There are various mixer schemes that will result
> in the needed frequency. There may be reasons for not doing it this
> way, but it may not even be explored because Harry hasn't given this
> alternative any thought.
>
> Michael VE2BVW

Hello Michael. Down-conversion has been considered, but quickly dismissed. The sysnthesiser I need is a tool to be used for a wide variety of projects: projects that include modulation.

Down conversion of frequency preserves any applied modulation. The prescaler and subsequent dividers filter out modulation so that a true phase lock may be achieved. This is especially true with WBFM where the total divide rate must be greater than 10000 to achieve a phase lock. NBFM, with a minimum modulating freq of, say, 250Hz, still needs a divider to divide by more than 60.

Down conversion could make a simple synth if modulation were never to be used. I intend the project area to be both TX + RX, and to become a "building block" for a variety of circuits.

Anyway, I have received a lot of response. My original question was "is there a good cheap source of prescalers" (but in a long-winded way) and this I have received. Many thanks to you and all who have given me positive suggestions. Unfortunately I will not be melting down horses hooves to make the glue to bond the home-beaten copper to a board to make the PCB. The only thin board available would be ready-made plywood, and that would not be "homebrew" ;-)

BR Harry

1383. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 06:48:14 UTC
From: John <abuse@global.freeserve.co.uk>
Message-ID: <bhsgurfnk1@newsg3.svr.pol.co.uk>
Source record: 33100

"Bibby" <m.bibby@comcast.net> wrote in message
news:z3c0b.183660$YN5.135802@sccrnsc01...
> Dick, as others have said, these probably need Bristol wrenches. I
bought
> some a few months back from JONWIENER@aol.com
>
> Good luck,
>
> Malcolm, W1/GW3NJY

Some Bristol wrenches here
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3041293202&category=4673

1384. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 09:15:26 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <J2OYS4KuqeQ$EAWZ@ifwtech.co.uk>
Source record: 33102

zindazenda wrote:
>ok i have a pc psu or two now and have attempted to strip the transformer
>but theres no way to take them apart without damaging the ferrite as they
>seem to be glued!!so i am ordering some new un wound ones from rs...but the
>primary winding appears to be in 2 parts..one half on top(the outer winding)
>and the other on the bottom (inner.)i assume i will have to duplicate this??

I'm not an expert on SMPS design, and espcecially not on the little
tricks that make the difference between just working and working well.
Obviously the extra complication of the split winding is there for a
reason, and my guess would be that it's to improve the high-frequency
performance by minimizing leakage inductance. Anyone else know for sure?

You may also be running into trouble by ordering un-wound cores, since
you don't know the specifications of the existing ones (permeability,
Bmax etc).

>which makes winding the secondary a pain as its in the middle, and i am sure
>i wont get it right the first time,meaning stripping the primary down a few
>times..your thoughts??
>also total winding of secondary 4+3+3+4 to give 12v..8+8 for 28v???5v 12v
>not needed...

The basic turns ratios are OK... the details, I'm not so sure about.

Can anyone recommend a book on SMPS design that leads you all the way
from basic theory to real-life designs - including all those little
practical details that need to be right?

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1385. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 09:37:34 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <n1q3kv4ev74t5f579tueiplm9vvgk8gj0t@4ax.com>
Source record: 33101

In <bhsgg5$6rc$1@newstree.wise.edt.ericsson.se>, "Harry - SM0VPO"
<john.smith@micro$oft.com> wrote:

>> Frank Gilliland (sparky@NOSPAMaimcomm.net) writes:
>> >
>> ... as I write this it occured to me that it might be
>> easier for Harry to mix the VCO signal down to a frequency where
>> the average logic IC can work. You don't have to find a prescaler,
>> and the design's frequency steps won't be limited by the division of
>> that prescaler. There are various mixer schemes that will result
>> in the needed frequency. There may be reasons for not doing it this
>> way, but it may not even be explored because Harry hasn't given this
>> alternative any thought.
>>
>> Michael VE2BVW
>
>Hello Michael. Down-conversion has been considered, but quickly dismissed.
>The sysnthesiser I need is a tool to be used for a wide variety of projects:
>projects that include modulation.
>
>Down conversion of frequency preserves any applied modulation. The prescaler
>and subsequent dividers filter out modulation so that a true phase lock may
>be achieved.

WHAT? Even -with- modulation all you need is a low-pass filter on the output of
the phase detector, which is what you have to do anyway. The phase lock is
"true" whether you have modulation or not, it just takes a couple extra
milliseconds to lock. If the VCO drifts faster than that then you have some
other problems that have a higher priority than a prescaler.

BTW, if you don't have any transistors in Sweden that will work at 100 MHz, what
are you using for your VCO?

> This is especially true with WBFM where the total divide rate
>must be greater than 10000 to achieve a phase lock. NBFM, with a minimum
>modulating freq of, say, 250Hz, still needs a divider to divide by more than
>60.
>
>Down conversion could make a simple synth if modulation were never to be
>used.

It makes a simple synth even -with- modulation.

> I intend the project area to be both TX + RX, and to become a
>"building block" for a variety of circuits.
>

>Anyway, I have received a lot of response. My original question was "is
>there a good cheap source of prescalers" (but in a long-winded way) and this
>I have received. Many thanks to you and all who have given me positive
>suggestions. Unfortunately I will not be melting down horses hooves to make
>the glue to bond the home-beaten copper to a board to make the PCB. The only
>thin board available would be ready-made plywood, and that would not be
>"homebrew" ;-)

From what you say about the availability of materials in Sweden, do you need any help finding some quality plywood (not obsolete, of course), and maybe an inexpensive source? You might try posting in alt.plywood.pirate.....

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 100,000 Newsgroups - 19 Different Servers! =-----

1386. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 09:54:13 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <+G0V+yPFPfQ$EAiy@ifwtech.co.uk>
Source record: 33103

Frank Gilliland wrote:

>> The lower level is trying to force someone to do it your way.
>
>I can think of a lower level -- saying that I'm trying to "force" anybody to do
>anything simply by expressing my opinions.

You are deeply mistaken if you believe that "simply expressing my opinions" exerts no force on other people.

Earlier, you mentioned someone who was proud of having repainted the front panel of an old communications receiver. That person may not yet have the knowledge or the confidence to tinker much inside the case... but with help and encouragement, they will.

Now what kind of encouragement is it, if someone more experienced comes along and dismisses their beginning efforts as "not homebrew"? Certainly you will have a private opinion - but will opening your mouth make them more likely to stay with electronics and learn something... or less?

More than 40 years ago, I actually *was* that beginner who started "electronics" with a paintbrush. I've only just realised how lucky I was to have escaped a put-down, right when it could have done the most damage.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1387. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 10:02:55 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <JNH0b.193$5U2.121166@newsfep1-win.server.ntli.net>
Source record: 33131

> Say for a NiCad or NiMH battery, how is battery capacity calculated?
> Say I put a resistor across the battery and measured the voltage
> periodically. Is it the area of the curve above 1.1 volts, 0.9 volts,
> or what?
======
Discharge the fully charged battery at a constant current until the voltage
has dropped to 1.0 volt per cell
A simple constant current drain can be made with a LM317 voltage regulator
used as a constant current regulator up to 1 ampere ,by tying the reference
leg 'downstream' of a resistor connected to the output leg.
Since the LM317 needs some 'head voltage' ,this system works well as from 3
cells in series , hence 3.6 V.
For 12 V and higher battery packs an additional resistor is advisable to
dissipate part of the discharged energy , alternatively you can use a LM
7805 voltage regulator in the same way, without an additional resistor.

Frank GM0CSZ /KN6WH

1388. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 13:07:35 UTC
From: "Bruce W.1" <bw@NoDirectMail.com>
Message-ID: <3F422117.C2F4A4CD@NoDirectMail.com>
Source record: 33104

Roy Lewallen wrote:
>
> You can measure it either in watt-hours or in ampere-hours. The first is
> the true energy delivered, and would be the area under a voltage-vs-time
> graph at constant discharge current. If current isn't constant, you
> would have to measure the voltage and current at each time interval to
> be rigorous, plot the product of V and I vs time, and integrate that
> function.
>
> However, capacity of NiCd and NiMH cells is just about always specified
> in ampere-hours, or milliampere-hours, since the discharge voltage is
> fairly constant anyway. That can be measured by simply discharging the
> battery at constant current and multiplying by the discharge time. If
> the current isn't constant during discharge and you wanted to be
> accurate, you'd have to measure the current at various time intervals,
> plot that against time, and integrate the result. Of course, a simple
> rectangular or triangular integration would be simple to do even with a
> spreadsheet, or a very simple program in the language of your choice,
> and would be entirely adequate for the job.
>
> But because a NiCd or NiMH cell voltage stays pretty constant between
> 1.2 and 1.25 volts during the majority of the discharge period, you
> could also discharge it with a resistor, then estimate the average
> current by assuming a voltage midway between those values, and simply
> multiply by the discharge time. That would be close enough for most
> purposes.
>
> 1.0 volts is the usually specified cutoff for NiCd and NiMH cells. When
> the cell voltage reaches that value, there's very little energy left, so
> the voltage falls very rapidly beyond that. There's actually very little
> energy left at 1.1 volts with a normal cell, but one suffering from
> voltage depression (the so-called "memory" effect that's cured by
> discharge to 1.0 volt) can deliver quite a bit of energy at 1.1 volt.
>
> Roy Lewallen, W7EL
>
==========

Thanks Roy.

I found a good way to measure the capacity of a single cell. This Radio
Shack multimeter:
http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F008
%5F002%5F000&product%5Fid=22%2D812

It logs voltage (or current) and its software can output the log to a text file. Now all I have to to is write a little computer program to calculate the capacity.

1389. Re: Help me Identidy this 'ol WE tube pse!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 14:58:10 UTC
From: Claudia & Reed Park <reedpark@nbnet.nb.ca>
Message-ID: <3F423B69.302C0225@nbnet.nb.ca>
Source record: 33105

RLucch2098 wrote:

> Hi All;
> Can anyone tell me what this tube is or used for?
> I've seen it before but forget now :-)
> Please e-mail me directly @
> rlucch2098@aol.com
> Pics>>
> http://www.myradioroom.com/oddwetube1.jpg
> http://www.myradioroom.com/oddwetube2.jpg
> Tnx & 73.....Rich WA2RQY

Looks like the 723AB reflex klystrons that I have in my basement.
Mine had been used as local oscillators in 10 GHz radar units.
(3 cm)

7 3
Reed - VE1NU

Looking for information on Marconi SMR-3 and
Northern Electric R8119A receivers.

1390. seeking data sheet for Sanyo A1201 I.C.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 15:27:33 UTC
From: Joe LeKostaj <joe@falseaddress2003.net>
Message-ID: <joe-C10878.10273319082003@news.covad.net>
Source record: 33106

Am looking for a data sheet on an AM/FM IF I.C. from the early '70s:
Sanyo A1201, possibly also known as LA1201 or HA1201 from other Japanese
mfrs. Used in the Allied A-2508 shortwave receiver. I have the pinout
but am looking for spec tables and/or application notes. Please send
replies to K9LY at arrl dot net

Thanks,
Joe

1391. Re: Help me Identidy this 'ol WE tube pse!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 15:29:36 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F4244F6.BC673C07@ieee.org>
Source record: 33107

Claudia & Reed Park wrote:

>
>
> RLucch2098 wrote:
>
>> Hi All;
>> Can anyone tell me what this tube is or used for?
>> I've seen it before but forget now :-)
>> Please e-mail me directly @
>> rlucch2098@aol.com
>> Pics>>
>> http://www.myradioroom.com/oddwetube1.jpg
>> http://www.myradioroom.com/oddwetube2.jpg
>> Tnx & 73.......Rich WA2RQY
>
> Looks like the 723AB reflex klystrons that I have in my basement.
> Mine had been used as local oscillators in 10 GHz radar units.
> (3 cm)
>
> 7 3
> Reed - VE1NU
>
> ---------------------
>
> Looking for information on Marconi SMR-3 and
> Northern Electric R8119A receivers.

I think Western Electric made this same type tube for 4 and 6 GHz
as well as 10 GHz. AT&T had equipment that operated in the 10.700
to 12.500 GHz range (Those freq. are close if not exact).

Bill K7NOM

1392. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 15:33:22 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F4245D9.2DD77C55@ieee.org>
Source record: 33108

Bill Janssen wrote: I vote for the Bristol answer. I think I have a couple here but it would

> probably take a "crime scene" investigation to find them. I have a couple of
> BC221
> and the newer version with a CRT.
>
> Bill K7NOM

That CRT comment was about as wrong as can be.
The "CRT" was a magnifier glass to read the film strip dial.

Should have looked at the unit before commenting.

Bill K7NOM

1393. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 17:12:06 UTC
From: wa5bdu@yahoo.com
Message-ID: <ca1a467b.0308190912.6d7c41b0@posting.google.com>
Source record: 33109
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

Geez, brilliant response Frank. A guy needs help finding a prescaler
and you tell him he just needs a bucket full of transistors. Why not
vacuum tubes or mechanical counters?

Here's some help for your next project Frank. Just get a bunch of
wire and solder and electronic parts and stuff and hook it all
together. Like freshman lab, remember? But from your communications
style, I suspect you're still in high school.

Nick

Frank Gilliland <sparky@NOSPAMaimcomm.net> wrote in message
news:<1mbpjv4htq8jff6svmuu5v2pemp2lq0i7j@4ax.com>...
> >
> Man, if THIS ain't a trip -- a well-known, over-rated internet homebrew tech
> asking for help for a simple prescaler. Hey Harry, don't you know that the basic
> freshman-lab-grade Class B or C amplifier is nothing more than a divide-by-2
> counter? If you have a bunch of 2N2222's, 2N2907's, or any transistor with an Ft
> above your high-freq limit, you have a divide-by-(n x 2) counter. Any advanced
> homebrewer should know that stuff cause it's basic theory.
>
> And for you to post such a question in alt.radio.pirate.... that's pretty
> pathetic, Harry.
>

1394. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 18:36:37 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308191036.64c4ebe1@posting.google.com>
Source record: 33110

"Bruce W.1" <bw@NoDirectMail.com> wrote in message
news:<3F422117.C2F4A4CD@NoDirectMail.com>...

>
> I found a good way to measure the capacity of a single cell. This Radio
> Shack multimeter:
> http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F0
08%5F002%5F000&product%5Fid=22%2D812
>
> It logs voltage (or current) and its software can output the log to a
> text file. Now all I have to to is write a little computer program to
> calculate the capacity.

I have a similar meter that seems pretty accurate, and because the
voltage is around half of one of the full-scale ranges, you don't
sacrifice much because of poor resolution (as you would at, say,
2.1V).

An easier way (for those of us who don't want to deal with programming
access to the info) than writing a program is just to import the text
file to a spreadsheet. You then have a column of voltages at uniform
time intervals. If you know the discharge resistance (load
resistance), then I=V/R and you can make a column of that value. The
power at each interval is just V*I -- or just go to that directly as
V^2/R. Then the total energy is the integral of the power over
time...in watt-seconds, just the sum of the power column, if your time
interval is one second. Divide by 3600 seconds/hour to get
watt-hours. Sum the amps column to get amp-seconds and divide by 3600
to get amp-hours.

I've done exactly this sort of thing with my RS-232-interface
voltmeter. Works fine.

Cheers,
Tom

1395. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 18:43:33 UTC
From: mcalhoun@ksu.edu
Message-ID: <bhtr4l$84q@unix1.cc.ksu.edu>
Source record: 33111

>> I believe that during WWII there was a specially employed
>>lady, complete with tattoos presumably, whose task it was to
>>tighten the set-screws on all military equipment. She did such a
>>good job that nobody except a certain candidate for the
>>governorship of California has since been able to move them.

Many, MANY years ago I wanted to remove the knobs from several pieces of
equipment (BC-610 tuning units vaguely comes to mind), and I recall that
I stripped an average of one properly-sized Allen wrench per knob removed.
Fortunately, the town where I was living at the time (Fort Collins, CO)
had a "war surplus" store, and -- even more fortunate for me -- they had
bins AND BINS of Allen wrenches of the proper size for a dime apiece!
Needless to say, I bought a lot of them!

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

1396. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 18:54:45 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <Vnu0b.105954$0v4.7449824@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33112

"Dick" <dick@langwang.demon.co.uk> wrote in message
news:cng7zzDEgPQ$Ew00@langwang.demon.co.uk...
> I'm trying to get a hold of a tool that will undo grub screws
> securing the front panel knobs on my venerable BC221, can anyone suggest
> where I can get a hold of one, a modern equivalent and/or something that
> can be modified to do the job ??
> Although all BC221s were provided with the tool (stored in a
> clip beside the spare valves) I've never seen one and can only guess
> that it must be something like a very small Phillips screwdriver head
> but with a parallel rather than tapered tip. It must also be less than
> 3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
> steel rod and that was too big, don't think my eyesight is up to hand
> filing the cruciform tip in any smaller dia rod, hence a request for
> help !!
> My BC221 is still furkling along after 63+ years (& only c/s -
> There, I've said it !!) out of calibration) but I think I should at
> least try & smarten up the case with a good clean and a bit of fresh
> paint. Who knows, it's probably got more chance of making the century
> than I have.
> Thanks
> --
> Dick
> GM0MNL

You need Bristol wrenches or Bristol keys or whatever Bristol calls them. They come in 4 or 6 point form. The 6 point ones look very much like Torx head screws. You need the 4 point type. I got mine from McMaster Carr:

mcmaster.com

I don't know if Bristol wrenches are easily available in the UK. McMaster's website seems to be down right now, but I have to figure they do international orders.

Frank Dresser

1397. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 18:57:02 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061334709.951825@auth2.dns.griffin.net.uk>
Source record: 33114

yes already found a problem..and thats i cant get the same core.
SO.....i have been led to believe that just about any toroid (that works at HF) will work..has anybody wound a SMPS transformer on a toroid..input voltage cir.
240v ac in rectified etc...28v out...
Since i dont intend to use the original pcb space is not a problem..

thanks simon g0zen
"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message news:J2OYS4KuqeQ$EAWZ@ifwtech.co.uk...
> zindazenda wrote:
> >ok i have a pc psu or two now and have attempted to strip the transformer
> >but theres no way to take them apart without damaging the ferrite as they
> >seem to be glued!!so i am ordering some new un wound ones from rs...but the
> >primary winding appears to be in 2 parts..one half on top(the outer winding)
> >and the other on the bottom (inner.)i assume i will have to duplicate this??
>
> I'm not an expert on SMPS design, and espcecially not on the little
> tricks that make the difference between just working and working well.
> Obviously the extra complication of the split winding is there for a
> reason, and my guess would be that it's to improve the high-frequency
> performance by minimizing leakage inductance. Anyone else know for sure?
>
> You may also be running into trouble by ordering un-wound cores, since
> you don't know the specifications of the existing ones (permeability,
> Bmax etc).
>
> >which makes winding the secondary a pain as its in the middle, and i am sure
> >i wont get it right the first time,meaning stripping the primary down a few
> >times..your thoughts??
> >also total winding of secondary 4+3+3+4 to give 12v..8+8 for 28v???5v 12v
> >not needed...
>
> The basic turns ratios are OK... the details, I'm not so sure about.
>
> Can anyone recommend a book on SMPS design that leads you all the way
> from basic theory to real-life designs - including all those little
> practical details that need to be right?
>

>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

1398. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-19 21:53:21 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk572fcipkmk0e@corp.supernews.com>
Source record: 33113

Now, that looks like a handy little gadget. Thanks for bringing it to
our attention. Should do the job, all right.

Roy Lewallen, W7EL

Bruce W.1 wrote:
> Thanks Roy.
>
> I found a good way to measure the capacity of a single cell. This Radio
> Shack multimeter:
> http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F0
08%5F002%5F000&product%5Fid=22%2D812
>
> It logs voltage (or current) and its software can output the log to a
> text file. Now all I have to to is write a little computer program to
> calculate the capacity.

1399. FS Large Lot of NEW NOS Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:17:15 UTC
From: Mike Kulyk <mkulyk@optonline.net>
Message-ID: <f6z0b.126437$_R5.47082781@news4.srv.hcvlny.cv.net>
Source record: 33115
Cross-posted to: rec.radio.swap,rec.radio.amateur.swap,rec.radio.amateur.homebrew,rec.antiques.radio+phono

6KA8 GE Full box of 5
6BK7B GE Full box of 5
35B5 GE Full box of 5
50C5 RCA Full box of 5
6GJ7 GE Full box of 5
6CY5 GE Full box of 5
12HG7 GE Full box of 5
12JQ6 GE Full box of 5
6CL6 GE Full box of 5
12AT6 RAY Full box of 5
6CB6A/6CF6 GE Full box of 5
6EF7/EF183 GE Full box of 5
6KT6 GE Full box of 5
1BC2A GE Full box of 5
6HM5/6HA5 GE Full box of 5
6HR5 RCA Full box of 5
1S2B/DY87 GE Full box of 5
6BZ7/6BQ7A GE Full box of 5
21KQ6 RAY Full box of 5
33JV6 ECG Full box of 5
21LU8 GE Full box of 5
29KQ6 SYV Full box of 5
31LR8 SYV 4
18GB5A AMPREX Full box of 5
31LZ6 ECG Full box of 5
31LR8 SYV Full box of 5
22JF6 SYV Full box of 5
31JS6C SYV Full box of 5
6JM6 SYV Full box of 5
6JC5-6JB5-6HE5 SYV Full box of 5
3A3C RCA Full box of 5
6JZ8 GE Full box of 5
23Z9 GE Full box of 5
25L6GT GE Full box of 5
6MJ8 GE Full box of 5
6AY3B GE Full box of 5
17JZ8 ECG Full box of 5
6GF7A GE Full box of 5
25BQ6GTB 25CU6 SYV Full box of 5

I have this lot of tubes. I don't have the time to get prices on each tube.

So I am working on reasonable best offer

ALL Tubes are NEW.. In boxes in sleeves

1400. FS Large Lot of NEW NOS Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:18:48 UTC
From: Mike Kulyk <mkulyk@optonline.net>
Message-ID: <I7z0b.126444$_R5.47087565@news4.srv.hcvlny.cv.net>
Source record: 33116
Cross-posted to: rec.radio.swap,rec.radio.amateur.swap,rec.radio.amateur.homebrew

6KA8 GE Full box of 5
6BK7B GE Full box of 5
35B5 GE Full box of 5
50C5 RCA Full box of 5
6GJ7 GE Full box of 5
6CY5 GE Full box of 5
12HG7 GE Full box of 5
12JQ6 GE Full box of 5
6CL6 GE Full box of 5
12AT6 RAY Full box of 5
6CB6A/6CF6 GE Full box of 5
6EF7/EF183 GE Full box of 5
6KT6 GE Full box of 5
1BC2A GE Full box of 5
6HM5/6HA5 GE Full box of 5
6HR5 RCA Full box of 5
1S2B/DY87 GE Full box of 5
6BZ7/6BQ7A GE Full box of 5
21KQ6 RAY Full box of 5
33JV6 ECG Full box of 5
21LU8 GE Full box of 5
29KQ6 SYV Full box of 5
31LR8 SYV 4
18GB5A AMPREX Full box of 5
31LZ6 ECG Full box of 5
31LR8 SYV Full box of 5
22JF6 SYV Full box of 5
31JS6C SYV Full box of 5
6JM6 SYV Full box of 5
6JC5-6JB5-6HE5 SYV Full box of 5
3A3C RCA Full box of 5
6JZ8 GE Full box of 5
23Z9 GE Full box of 5
25L6GT GE Full box of 5
6MJ8 GE Full box of 5
6AY3B GE Full box of 5
17JZ8 ECG Full box of 5
6GF7A GE Full box of 5
25BQ6GTB 25CU6 SYV Full box of 5

I have this lot of tubes. I don't have the time to get prices on each tube.

So I am working on reasonable best offer

ALL Tubes are NEW.. In boxes in sleeves

1401. Re: FS Large Lot of NEW NOS Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:27:08 UTC
From: Daniele <danREMOVE@tuberadio.it>
Message-ID: <wfz0b.252084$Ny5.7736892@twister2.libero.it>
Source record: 33117
Cross-posted to: rec.radio.swap,rec.radio.amateur.swap,rec.radio.amateur.homebrew,rec.antiques.radio+phono

Mike Kulyk wrote:
> 6KA8 GE Full box of 5

------8<---

Still no 6A8Gs... :-((

--

^___^
Daniele
www.tuberadio.it
New section: Fleamarket

1402. Re: FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:27:43 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <3gz0b.12737$kl3.1512939678@hebe.telenet-ops.be>
Source record: 33118

Take a look here

http://www.mods.dk/
Go to yaesu and then click on manuals
it's in pdf format

1403. Re: FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:30:47 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <Xiz0b.12740$Er3.1513353599@hebe.telenet-ops.be>
Source record: 33119

Take a look here

http://www.mods.dk/
Go to yaesu and then click on manuals
it's in pdf format

1404. Re: FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:33:54 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <Slz0b.12744$9D3.1514086453@hebe.telenet-ops.be>
Source record: 33120

Take a look here

http://www.mods.dk/
Go to yaesu and then click on manuals
it's in pdf format

1405. Re: FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:36:56 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <loz0b.12747$HV3.1515299953@hebe.telenet-ops.be>
Source record: 33121

Take a look here

http://www.mods.dk/
Go to yaesu and then click on manuals
it's in pdf format

1406. Re: FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:40:05 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <Frz0b.12749$eR3.1515009143@hebe.telenet-ops.be>
Source record: 33122

Take a look here

http://www.mods.dk/
Go to yaesu and then click on manuals
it's in pdf format

1407. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 00:54:56 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f42c688.2313327@news.cantech.net.au>
Source record: 33123

On 19 Aug 2003 11:36:37 -0700, k7itm@aol.com (Tom Bruhns) wrote:

>"Bruce W.1" <bw@NoDirectMail.com> wrote in message
news:<3F422117.C2F4A4CD@NoDirectMail.com>...
>
>>
>> I found a good way to measure the capacity of a single cell. This Radio
>> Shack multimeter:
>> http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F
008%5F002%5F000&product%5Fid=22%2D812
>>
>> It logs voltage (or current) and its software can output the log to a
>> text file. Now all I have to to is write a little computer program to
>> calculate the capacity.
>
>I have a similar meter that seems pretty accurate, and because the
>voltage is around half of one of the full-scale ranges, you don't
>sacrifice much because of poor resolution (as you would at, say,
>2.1V).
>
>An easier way (for those of us who don't want to deal with programming
>access to the info) than writing a program is just to import the text
>file to a spreadsheet. You then have a column of voltages at uniform
>time intervals. If you know the discharge resistance (load
>resistance), then I=V/R and you can make a column of that value. The
>power at each interval is just V*I -- or just go to that directly as
>V^2/R. Then the total energy is the integral of the power over
>time...in watt-seconds, just the sum of the power column, if your time
>interval is one second. Divide by 3600 seconds/hour to get
>watt-hours. Sum the amps column to get amp-seconds and divide by 3600
>to get amp-hours.

That is *exactly* what I suggested in another version of this thread.
(Not claiming anything except that at least TWO ppl find that way
easy).

>I've done exactly this sort of thing with my RS-232-interface
>voltmeter. Works fine.
>
>Cheers,
>Tom

1408. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 01:23:21 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <c4A0b.27643$Vx2.12664972@newssvr28.news.prodigy.com>
Source record: 33124

Well you've managed to hit my kill file. Good riddance
to your anti-social pap.

Bruce Raymond

"Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
news:n1q3kv4ev74t5f579tueiplm9vvgk8gj0t@4ax.com...
> In <bhsgg5$6rc$1@newstree.wise.edt.ericsson.se>, "Harry - SM0VPO"
> <john.smith@micro$oft.com> wrote:
>
> >> Frank Gilliland (sparky@NOSPAMaimcomm.net) writes:
> >> >
> >> ... as I write this it occured to me that it might be
> >> easier for Harry to mix the VCO signal down to a frequency where
> >> the average logic IC can work. You don't have to find a prescaler,
> >> and the design's frequency steps won't be limited by the division of
> >> that prescaler. There are various mixer schemes that will result
> >> in the needed frequency. There may be reasons for not doing it this
> >> way, but it may not even be explored because Harry hasn't given this
> >> alternative any thought.
> >>
> >> Michael VE2BVW
> >>
> >Hello Michael. Down-conversion has been considered, but quickly
dismissed.
> >The sysnthesiser I need is a tool to be used for a wide variety of
projects:
> >projects that include modulation.
> >
> >Down conversion of frequency preserves any applied modulation. The
prescaler
> >and subsequent dividers filter out modulation so that a true phase lock
may
> >be achieved.
>
> WHAT? Even -with- modulation all you need is a low-pass filter on the
output of
> the phase detector, which is what you have to do anyway. The phase lock is
> "true" whether you have modulation or not, it just takes a couple extra
> milliseconds to lock. If the VCO drifts faster than that then you have
some
> other problems that have a higher priority than a prescaler.
>
> BTW, if you don't have any transistors in Sweden that will work at 100
MHz, what

> are you using for your VCO?
>
> > This is especially true with WBFM where the total divide rate
> >must be greater than 10000 to achieve a phase lock. NBFM, with a minimum
> >modulating freq of, say, 250Hz, still needs a divider to divide by more
than
> >60.
> >
> >Down conversion could make a simple synth if modulation were never to be
> >used.
>
> It makes a simple synth even -with- modulation.
>
> > I intend the project area to be both TX + RX, and to become a
> >"building block" for a variety of circuits.
> >
> >Anyway, I have received a lot of response. My original question was "is
> >there a good cheap source of prescalers" (but in a long-winded way) and
this
> >I have received. Many thanks to you and all who have given me positive
> >suggestions. Unfortunately I will not be melting down horses hooves to
make
> >the glue to bond the home-beaten copper to a board to make the PCB. The
only
> >thin board available would be ready-made plywood, and that would not be
> >"homebrew" ;-)
>
> From what you say about the availability of materials in Sweden, do you
need any
> help finding some quality plywood (not obsolete, of course), and maybe an
> inexpensive source? You might try posting in alt.plywood.pirate.....
>
>
>
>
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> ------== Over 100,000 Newsgroups - 19 Different Servers! =-----

1409. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 02:12:25 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <68m5kvgfinmjvevond83595cobenkuhfgn@4ax.com>
Source record: 33125

In <+G0V+yPFPfQ$EAiy@ifwtech.co.uk>, "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
wrote:

>Frank Gilliland wrote:
>
>>> The lower level is trying to force someone to do it your way.
>>
>>I can think of a lower level -- saying that I'm trying to "force" anybody to do
>>anything simply by expressing my opinions.
>
>You are deeply mistaken if you believe that "simply expressing my
>opinions" exerts no force on other people.

Let me clue you in here: I can't force you to read my posts. I can't prevent you
from tossing me in your killfile. And while I -can- write a post that offers a
different perspective on an issue, I -can't- make up your mind for you. And in
case you didn't notice, a newsgroup is a temporal medium -- i.e, if anyone feels
that I am forcing them to do anything it's because they have a very weak mind.

>Earlier, you mentioned someone who was proud of having repainted the
>front panel of an old communications receiver. That person may not yet
>have the knowledge or the confidence to tinker much inside the case...
>but with help and encouragement, they will.
>
>Now what kind of encouragement is it, if someone more experienced comes
>along and dismisses their beginning efforts as "not homebrew"? Certainly
>you will have a private opinion - but will opening your mouth make them
>more likely to stay with electronics and learn something... or less?
>
>More than 40 years ago, I actually *was* that beginner who started
>"electronics" with a paintbrush. I've only just realised how lucky I was
>to have escaped a put-down, right when it could have done the most
>damage.

I'm glad to hear that your fragile ego has not been disturbed by people like me
who are not afraid to tell it like it is. I may take an in-your-face approach,
but that happens to be my personality -- I don't walk on eggshells, I don't play
pop-psychology, and I don't coddle someone for doing mediocre work when I know
they can do better. If painting was all you could accomplish 40 years ago,
consider yourself proud to have learned something more about electronics since
then. But now that you have more knowledge and experience, do you still think
that homebrew electronics includes doing nothing more than painting the front
panel of a radio built by someone else? If so, then we have widely different
perspectives on the subject.

I think that Harry is selling himself and his readers short by not even considering the use of discrete transistors (claiming that he can't find any that are fast enough but still hasn't said what he plans to use for a VCO). I know that he is certainly capable of making a high-speed flip-flop that will work for his application, and probably better than any prescaler chip he can find. Whatever he chooses, it's his choice to make. But it's also MY choice to speak up if I think that he is ignoring a better alternative. And also to point out that for a very public ham such as him to ask for help in a pirate newsgroup probably isn't the best way to further the legitimate radio hobbies.

Now, how am I "forcing" anyone to do anything?

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1410. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 02:24:43 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <p9m5kv4o360o72ne1ama9tr91ckl7nkdv6@4ax.com>
Source record: 33126

In <ca1a467b.0308190912.6d7c41b0@posting.google.com>, wa5bdu@yahoo.com (Nick Kennedy) wrote:

>Geez, brilliant response Frank. A guy needs help finding a prescaler
>and you tell him he just needs a bucket full of transistors.

That's all a chip is anyway. It's just a really small bucket.

> Why not
>vacuum tubes or mechanical counters?

The vacuum tube flip-flop is a neat idea, and I have that on the list for this winter. I don't think a mechanical counter will work at 100 MHz.

But maybe -you- can help Harry out in another way: He says that he can't find any transistors that will work above 100 MHz, yet he is building a synth to work at least that high. So what should he use for the VCO? A vacuum tube? Or a really, really small tuning fork?

>Here's some help for your next project Frank. Just get a bunch of
>wire and solder and electronic parts and stuff and hook it all
>together. Like freshman lab, remember? But from your communications
>style, I suspect you're still in high school.

Well, when EWU handed me my diploma I assumed they had checked my high school records.... but hey, you never know, do ya?

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1411. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 02:37:57 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <25n5kvgj4nm6uilpbi6ud1v6mbnsu71s45@4ax.com>
Source record: 33127

In <c4A0b.27643$Vx2.12664972@newssvr28.news.prodigy.com>, "Bruce Raymond" <raymondb@dma.org> wrote:

>Well you've managed to hit my kill file. Good riddance
>to your anti-social pap.

Gee, I'm hurt. Maybe someday in the future, when you sift through the archives and read this thread again, you might do so with an open technical mind. Oh, and maybe a behavioral therapist holding your hand and to provide counseling for the trauma of learning that not everyone behaves according to the edicts of some middle-aged newspaper columnist.

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
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1412. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 04:56:36 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <fgv5kvoenfoqckvfb6llu7gi7in6qns72k@4ax.com>
Source record: 33128

In <+G0V+yPFPfQ$EAiy@ifwtech.co.uk>, "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
wrote:

<snip>
>You are deeply mistaken if you believe that "simply expressing my
>opinions" exerts no force on other people.

How about providing explicit instructions to build a homebrew project (basically a pirate FM broadcast transmitter) that Harry openly admits is "illegal to use or build in many countries"? No, I don't suppose that "exerts no force on other people". Does it influence people? Even though he puts up a disclaimer stating that he will "accept no responsibility what-so-ever for any ilegal use", does it encourage people to break the law? How about that freedom-of-speech clause where he states that "This circuit is provided solely as an educational project". Is he allowed freedom of speech, but not me?

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 100,000 Newsgroups - 19 Different Servers! =-----

1413. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 05:05:11 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <bkD0b.106042$3o3.7431582@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33129

"W7TI" <noway@nohow.com> wrote in message
news:0a25kvc1i05tm28fra0jtebaunsninuijb@4ax.com...
> No need to toss a "stripped" Allen wrench. Just grind off the stripped
> part and it's good as new. Go slow while grinding so you don't overheat
> it or you'll ruin the temper. Dunk it in water every few seconds.
>
> While I haven't tried this on Bristol wrenches, it would probably fix
> them too.
>
> As a side note, often when it seems that the wrench is stripped, what
> really happens is the set screw develops a crack which widens it out and
> makes it appear like the wrench is stripped. When this happens, you're
> in deep doo-doo. You might also be able to use one of those
> reverse-threaded screw extractors if you can find one small enough. If
> not, drill the set screw out very carefully, and if you're lucky, no
> harm will be done to the threads in the knob. If the drill does gouge
> out the threads, you may be able to re-thread it for the next larger
> size set screw.
>
Also, a metric or Torx wrench might get enough bite in the damaged socket head screw. If you do go for the drill, try to find a bit with a left hand twist. If it locks in the set screw, it might well spin it out.

Frank Dresser

> The best approach for old military equipment though, is to apply
> penetrating oil and let it sit for a day or so. The more valuable the
> equipment, the more days you should let it sit. With any luck, the set
> screw will come right out. And use REAL penetrating oil, not just WD-40
> or something similar.
>
> --
> 73, Bill W7TI

1414. Re: Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 06:14:19 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F4311BB.FD163EAC@ob-wan.com>
Source record: 33130
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Bruce W.1 wrote:
>
> Roy Lewallen wrote:
> >
> > What's really important for matching in a battery pack is that the cells
> > have very close to the same capacity. If one has lower capacity than the
> > others, the others will reverse charge it after it discharges. This
> > further reduces its capacity, making it go flat even sooner the next
> > time. The absolute cell voltage at any point in the discharge process is
> > unimportant.
> >
> > Unfortunately, you can't discern the remaining capacity of a NiCd or
> > NiMH cell by looking at the cell voltage. The only way to accomplish the
> > matching is to discharge each cell until its energy is essentially
> > completely gone (i.e., to 1.0 volt at moderate drains), and select cells
> > on the basis of how long they take to get there. Ideally, the discharge
> > rate would be about the same as in the device you intend to use the
> > battery for. But in practice, the capacity of NiCd and NiMH cells isn't
> > a very strong function of the load current, so you've got quite a bit of
> > leeway.
> >
> > Many years ago I made up a discharger for this purpose. It's basically
> > an adjustable constant current load with an adjustable voltage
> > comparator. When the voltage reaches the comparison voltage, it
> > disconnects the load. An old analog electric clock is used to record the
> > time -- the comparator also removes power from the clock. Initially set
> > a_pag:00, it directly reads the time it took for the cell to discharge
> > to the specified voltage level. These days it would make a lot more
> > sense to use an A/D converter computer board and/or a microcomputer chip
> > of some sort.
> >
> > Roy Lewallen, W7EL
> >
> ==========
>
> Seems the RC car community matches batteries based on a number of
> criteria like capacity, internal resistance, and average voltage. The
> websites I found on this don't give specifics.
>
> Buying a $200 pieces of test equipment to measure all this is slight
> overkill. I think I came up with a way. What to you think of this?
>
> Charge all the batteries in parallel to the same voltage, say 1.5

> volts. Then partially discharge them all in series. At this point
> quickly measure the voltage of each cell while still under load.
> Matched cells would have the same voltage.

I'd add a prior step: Fully discharge the batteries.

Rob

1415. Re: FT707 Manual . I've lost the URL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 15:03:52 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <s5M0b.15065$U26.1655307293@hebe.telenet-ops.be>
Source record: 33132

It was not intentionally to post is 5 times.
Outlook express tried several times to post in this newsgroup and always
gave an error.

1416. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 16:18:48 UTC
From: "Bruce W.1" <bw@NoDirectEmail.com>
Message-ID: <3F439F68.2B8DD47A@NoDirectEmail.com>
Source record: 33133

Roy Lewallen wrote:
>
> Now, that looks like a handy little gadget. Thanks for bringing it to
> our attention. Should do the job, all right.
>
> Roy Lewallen, W7EL
>
> Bruce W.1 wrote:
> > Thanks Roy.
> >
> > I found a good way to measure the capacity of a single cell. This Radio
> > Shack multimeter:
> > http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F008%5F002%5F000&product%5Fid=22%2D812
> >
> > It logs voltage (or current) and its software can output the log to a
> > text file. Now all I have to to is write a little computer program to
> > calculate the capacity.

==========

I wrote the program and will make it available to anyone that wants it.
I runs on Windows and the .NET Framework. Works fine. The only problem
I have is remembering to disconnect the battery from the resistor after
it hits one volt, Doh! Some of them were pulled down to 0.4 volts
(under load) but they recover to about a volt at rest.

Yet one question still lingers in my mind. Is a discharge voltage to,
say, 1.1 volts under load or at rest?

1417. Re: High IP-3 (TOIP) in FM amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 18:40:19 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308201040.56f2af54@posting.google.com>
Source record: 33134

fornewspost@aol.com (ForNewsPost) wrote in message
news:<20030819211554.06138.00000199@mb-m19.aol.com>...
> Hi All,
>
> I have been very curious if IP3 matters for class A receiver amplifiers used
> for FM or FSK applications. Since linearity doesn't matter with frequency
> modulated RF signals, does a high IP3 matter at all?

Sure it does! Imagine that you want to listen to 146.52MHz and
there's a weak signal there. Imagine that you have a couple local
repeaters on 146.62 and 146.72MHz. Where are the third-order products
from the repeaters? One lands right on your weak signal. This sort
of thing is specifically a problem at repeater sites where there may
be many transmitters sharing the same mountain top or tower.

Cheers,
Tom

1418. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 18:41:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vk7g7aumskue9@corp.supernews.com>
Source record: 33135

The end discharge voltage (generally 1.0 volt per cell for NiCd and NiMH cells) is measured under load. After disconnecting the load, the voltage will typically rise substantially, but its value isn't of any significance.

It's usually not recommended to discharge below 1.0 volt, but it doesn't seem to cause any harm, at least if it's not done really often. I think a cell is more likely to grow dendrites and short if it's left in an extreme discharged state for an extended period, so it's probably a good idea to put at least some charge back in before too awfully long if you've discharged it particularly deeply. What is harmful is reverse charging of the cell. But that happens only when you have an external source of current, like other cells in a series connected battery.

Roy Lewallen, W7EL

Bruce W.1 wrote:
>
> I wrote the program and will make it available to anyone that wants it.
> I runs on Windows and the .NET Framework. Works fine. The only problem
> I have is remembering to disconnect the battery from the resistor after
> it hits one volt, Doh! Some of them were pulled down to 0.4 volts
> (under load) but they recover to about a volt at rest.
>
> Yet one question still lingers in my mind. Is a discharge voltage to,
> say, 1.1 volts under load or at rest?

1419. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 20:19:45 UTC
From: Lasse SM5GLC <no_email@today.sri>
Message-ID: <2ul7kvcddnim4m88nksnrvb5d0ob33rg1u@4ax.com>
Source record: 33136

Roy,
If I remember correctly my physics teacher showed that based on what
is written in the Bible, heaven have a much higher temperature than
hell.....

/Lasse SM5GLC

On Sun, 17 Aug 2003 13:18:49 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Harris poll results reported in the July/August issue of _Skeptical
>Inquirer_ reveal that 84% of Americans believe in survival of the soul
>after death. 82% believe there's a heaven, and 63% expect to go there.
>But while 69% believe in hell, only 1% expect to go there. Wonder if the
>"small" proportion happens to be about 1%. . . and wonder if it's the
>same ones.
>
>Roy Lewallen, W7EL

1420. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 20:44:10 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <s5n7kv8k3e1f8un7rn2j6vfh4jpf20ajnt@4ax.com>
Source record: 33137

>>Harris poll results reported in the July/August issue of _Skeptical
>>Inquirer_ reveal that 84% of Americans believe in survival of the soul
>>after death. 82% believe there's a heaven, and 63% expect to go there.
>>But while 69% believe in hell, only 1% expect to go there. Wonder if the
>>"small" proportion happens to be about 1%. . . and wonder if it's the
>>same ones.

Tell you one thing, I hope for every ones sake, we don't exist in one form or another 'forever'.

I can't think of a worse nightmare than to always exist with no reprieve ! ... in the end, you'd wish for nothing else but to be allowed to rest in peace.

Clive

1421. Re: High IP-3 (TOIP) in FM amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-20 22:43:07 UTC
From: Joe LeKostaj <joe@falseaddress2003.net>
Message-ID: <joe-95A552.17430720082003@news.covad.net>
Source record: 33138

> fornewspost@aol.com (ForNewsPost) wrote:
> does a high IP3 matter at all?

k7itm@aol.com (Tom Bruhns) wrote:
> Sure it does!

Absolutely agree. The 2 meter FM transceivers of the '70s were prime examples. I used to have a Drake TR-22 that received false signals when certain local repeaters were transmitting at the same time. Later transceivers had much better IP3.

73,
Joe K9LY

1422. F.s 813 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 03:42:05 UTC
From: "lou.de.beer" <lou.de.beer@general.com>
Message-ID: <vk8fqicpu7cj79@corp.supernews.com>
Source record: 33139

Two(2) RCA 813 tubes new in original boxes..Both for $95.00

1423. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 04:02:08 UTC
From: MikeN <mnewman@clear.net.nz>
Message-ID: <2jg8kv864pa8vsbpnjmu5thp4mov71tqfv@4ax.com>
Source record: 33140

I had no trouble getting a SMPS transformer apart when I put it in a
sealed can with some MEK solvent and left it for 24 hours. I put some
scewed up wire mesh in the bottom of a small can to elevate the core,
so that it was only exposed to the vapour, and not immersed in the
MEK.

The E-cores separated with minimal force and with no damage after this
treatment, and the MEK did not affect the bobbin.

Make sure the can is properly sealed. I left the can outside to
minimise any exposure to the MEK fumes.

MikeN ZL1BNB

On Tue, 19 Aug 2003 19:57:02 +0100, "zindazenda" <zen@lineisp.co.uk>
wrote:

>yes already found a problem..and thats i cant get the same core.
>SO.....i have been led to believe that just about any toroid (that works at
>HF) will work..has anybody wound a SMPS transformer on a toroid..input
>voltage cir.
>240v ac in rectified etc...28v out...
>Since i dont intend to use the original pcb space is not a problem..
>
>thanks simon g0zen
>"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
>news:J2OYS4KuqeQ$EAWZ@ifwtech.co.uk...
>> zindazenda wrote:
>> >ok i have a pc psu or two now and have attempted to strip the transformer
>> >but theres no way to take them apart without damaging the ferrite as they
>> >seem to be glued!!so i am ordering some new un wound ones from rs...but
>the
>> >primary winding appears to be in 2 parts..one half on top(the outer
>winding)
>> >and the other on the bottom (inner.)i assume i will have to duplicate
>this??
>>
>> I'm not an expert on SMPS design, and espcecially not on the little
>> tricks that make the difference between just working and working well.
>> Obviously the extra complication of the split winding is there for a
>> reason, and my guess would be that it's to improve the high-frequency
>> performance by minimizing leakage inductance. Anyone else know for sure?
>>
>> You may also be running into trouble by ordering un-wound cores, since
>> you don't know the specifications of the existing ones (permeability,
>> Bmax etc).

>>
>> >which makes winding the secondary a pain as its in the middle, and i am
>sure
>> >i wont get it right the first time,meaning stripping the primary down a
>few
>> >times..your thoughts??
>> >also total winding of secondary 4+3+3+4 to give 12v..8+8 for 28v???5v 12v
>> >not needed...
>>
>> The basic turns ratios are OK... the details, I'm not so sure about.
>>
>> Can anyone recommend a book on SMPS design that leads you all the way
>> from basic theory to real-life designs - including all those little
>> practical details that need to be right?
>>
>>
>> --
>> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
>> Editor, 'The VHF/UHF DX Book'
>> http://www.ifwtech.co.uk/g3sek
>

1424. Re: High IP-3 (TOIP) in FM amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 07:23:42 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Cv7KEJI+NHR$EAvs@ifwtech.co.uk>
Source record: 33141

Tom Bruhns wrote:
>fornewspost@aol.com (ForNewsPost) wrote in message
>news:<20030819211554.06138.00000199@mb-m19.aol.com>...
>> Hi All,
>>
>> I have been very curious if IP3 matters for class A receiver amplifiers used
>> for FM or FSK applications. Since linearity doesn't matter with frequency
>> modulated RF signals, does a high IP3 matter at all?
>
>Sure it does! Imagine that you want to listen to 146.52MHz and
>there's a weak signal there. Imagine that you have a couple local
>repeaters on 146.62 and 146.72MHz. Where are the third-order products
>from the repeaters? One lands right on your weak signal. This sort
>of thing is specifically a problem at repeater sites where there may
>be many transmitters sharing the same mountain top or tower.

The "capture effect" of FM means that in general you either don't have a problem, because the wanted signal is the stronger one... or else you have a big problem.

One of the problems with FM is that because everything's channelized, IMD products are sure to fall on another channel.

With a shared site, you can also get third-order IMD problems that only arise when a particular combination of three transmitters are activated at the same time. It can even happen if one or even two of the transmitters aren't actually on that site. Such intermittent problems can be a pig to track down - especially when you don't have authority to do it the easy way, which is by turning off other people's transmitters!

If this doesn't happen often, and you're not up there at the site to monitor the audio on the digital link, you may not even be aware of the increased retry count. On the other hand, that probably also means you can live with it.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1425. 80 m am tx schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 13:47:06 UTC
From: rfload <rfload@yahoo.com>
Message-ID: <bi2ijcpll1@newshost.mot.com>
Source record: 33142

hi,

where can i get a 80m am tx schematic?

tks
mul

1426. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 16:29:48 UTC
From: Eamon Skelton <Xnospam@oceanfree.net>
Message-ID: <pan.2003.08.21.16.28.42.6567@oceanfree.net>
Source record: 33048

On Wed, 20 Aug 2003 22:19:45 +0200, Lasse SM5GLC wrote:

> Roy,
> If I remember correctly my physics teacher showed that based on what is
> written in the Bible, heaven have a much higher temperature than
> hell.....

We are wandering way off-topic here so I'm a bit reluctant to post this on r.r.a.h

Ah! what the hell!, it's only a few KB of text....

The following is an actual question given on a University of Washington chemistry mid-term. The answer by one student was so "profound" that the professor shared it with colleagues, via the Internet, which is, of course, why we now have the pleasure of enjoying it as well.

Bonus Question: Is Hell exothermic (gives off heat) or endothermic (absorbs heat)?

Most of the students wrote proofs of their beliefs using Boyle's Law (gas cool when it expands and heats when it is compressed) or some variant. One student, however, wrote the following:

"First, we need to know how the mass of Hell is changing in time. So we need to know the rate at which souls are moving into Hell and the rate at which they are leaving. I think that we can safely assume that once a soul gets to Hell, it will not leave. Therefore, no souls are leaving.

As for how many souls are entering Hell, let's look at the different religions that exist in the world today. Most of these religions state that if you are not a member of their religion, you will go to Hell. Since there is more than one of these religions and since people do not belong to more than one religion, we can project that all souls go to Hell.

With birth and death rates as they are, we can expect the number of souls in Hell to increase exponentially. Now, we look at the rate of change of the volume in Hell because Boyle's Law states that in order for the temperature and pressure in Hell to stay the same, the volume of Hell has to expand proportionately as souls are added.

This gives two possibilities:

1) If Hell is expanding at a slower rate than the rate at which souls enter Hell, then the temperature and pressure in Hell will increase until all Hell breaks loose.

2) If Hell is expanding at a rate faster than the increase of souls in Hell, then the temperature and pressure will drop until Hell freezes over.

So which is it? If we accept the postulate given to me by Teresa during my Freshman year that, "...it will be a cold day in Hell before I sleep with you," and take into account the fact that I still have not succeeded in having an affair with her, then #2 above cannot be true, and thus I am sure that Hell is exothermic and will not freeze over."

THIS STUDENT RECEIVED THE ONLY "A".

73, Ed, EI9GQ.

--

Remove 'X' to reply by e-mail
http://homepage.eircom.net/~ei9gq
Linux 2.4.21

1427. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 19:20:55 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3F451B97.C66D91FB@noDirectEmail.com>
Source record: 33143

Roy Lewallen wrote:
>
> The end discharge voltage (generally 1.0 volt per cell for NiCd and NiMH
> cells) is measured under load. After disconnecting the load, the voltage
> will typically rise substantially, but its value isn't of any significance.
>
> It's usually not recommended to discharge below 1.0 volt, but it doesn't
> seem to cause any harm, at least if it's not done really often. I think
> a cell is more likely to grow dendrites and short if it's left in an
> extreme discharged state for an extended period, so it's probably a good
> idea to put at least some charge back in before too awfully long if
> you've discharged it particularly deeply. What is harmful is reverse
> charging of the cell. But that happens only when you have an external
> source of current, like other cells in a series connected battery.
>
> Roy Lewallen, W7EL
>
==========

Thanks for your help Roy. See you at the Dayton QRP Suite.

Bruce AF8F

1428. FS on Ebay.co.uk Transmitting Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 21:11:09 UTC
From: Theo <theodore.twyler@ntlworld.com>
Message-ID: <IEa1b.528$Dg4.226094@newsfep2-gui.server.ntli.net>
Source record: 33145

At:-

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3042495181&category=150
2

Thanks for looking.

1429. FS on Ebay.co.uk:- Roller Coaster Inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 21:17:34 UTC
From: Theo <theodore.twyler@ntlworld.com>
Message-ID: <GGa1b.533$Dg4.149657@newsfep2-gui.server.ntli.net>
Source record: 33146

At:-

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3042488483

Thanks for looking.

1430. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 21:29:46 UTC
From: john graesser <graesser@tca.net>
Message-ID: <vkae8bbpq494fb@corp.supernews.com>
Source record: 33144

"Lasse SM5GLC" <no_email@today.sri> wrote in message
news:2ul7kvcddnim4m88nksnrvb5d0ob33rg1u@4ax.com...
> Roy,
> If I remember correctly my physics teacher showed that based on what
> is written in the Bible, heaven have a much higher temperature than
> hell.....
>
> /Lasse SM5GLC

As anyone who lives in Scandanavia and grew up with Norse myths should know, hell is frozen. Heaven is the warm place you go after freezing your behind off your whole life. Here in Texas 100F in the summer is a small price to pay for 70F in December. My cousins in Wisconsin still put up with -35F in the winter, I consider Texas heaven and Wisconsin hell.

No ice build up on antenna towers, and your mobile station doesn't rust out after 10 years from the salt on the roads (just to put a little amatuer content in the message).
thanks, John.
KC5DWD

1431. Re: 80 m am tx schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-21 21:50:39 UTC
From: Claudia & Reed Park <reedpark@nbnet.nb.ca>
Message-ID: <3F453F18.CAF216F7@nbnet.nb.ca>
Source record: 33047

One of the best reference books for just about everything
dealing in electronics, is an older copy of the ARRL, Amateur
Radio Handbook. The older ones are the best as far as I am concerned.
Try used book stores, amateur radio flea markets etc. Hardly a day
goes
by that I am not looking up something in one of the 5 that I have.

Regards
Reed - VE1NU

---

rfload wrote:

> hi,
>
> where can i get a 80m am tx schematic?
>
> tks
> mul

1432. FA: LINK RADIO Model 1855 D.L. ... A Classic Dummy Load Assy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 00:02:45 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <Bdd1b.6563$q9.383580@read1.cgocable.net>
Source record: 33049
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.swap

A rare find for Link Corp Collectors or others. A small Dummy Load in very good condition.

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3042557247&indexURL=0&photoDisplayType=2#ebayphotohosting

1433. Re: 80 m am tx schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 01:13:15 UTC
From: funkbastler <funkbastler@yahoo.com>
Message-ID: <0frakv0s7n37kdlq5i890etprkbd4tj8u5@4ax.com>
Source record: 33050

On Thu, 21 Aug 2003 21:50:39 GMT, Claudia & Reed Park
<reedpark@nbnet.nb.ca> wrote:

>One of the best reference books for just about everything
>dealing in electronics, is an older copy of the ARRL, Amateur
>Radio Handbook. The older ones are the best as far as I am concerned.
>Try used book stores, amateur radio flea markets etc. Hardly a day
>goes
>by that I am not looking up something in one of the 5 that I have.
>

Also look on ebay. I've bought several there (all the way back
to a 1937 edition) for very little money.

-fb-

1434. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 01:22:00 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061515076.972613@auth2.dns.griffin.net.uk>
Source record: 33051

MEK???

proberly something obvious Mike, but am very tired and so isnt obvious at
moment..
simon
"MikeN" <mnewman@clear.net.nz> wrote in message
news:2jg8kv864pa8vsbpnjmu5thp4mov71tqfv@4ax.com...
> I had no trouble getting a SMPS transformer apart when I put it in a
> sealed can with some MEK solvent and left it for 24 hours. I put some
> scewed up wire mesh in the bottom of a small can to elevate the core,
> so that it was only exposed to the vapour, and not immersed in the
> MEK.
>
> The E-cores separated with minimal force and with no damage after this
> treatment, and the MEK did not affect the bobbin.
>
> Make sure the can is properly sealed. I left the can outside to
> minimise any exposure to the MEK fumes.
>
> MikeN ZL1BNB
>
>
>
> On Tue, 19 Aug 2003 19:57:02 +0100, "zindazenda" <zen@lineisp.co.uk>
> wrote:
>
> >yes already found a problem..and thats i cant get the same core.
> >SO.....i have been led to believe that just about any toroid (that works
at
> >HF) will work..has anybody wound a SMPS transformer on a toroid..input
> >voltage cir.
> >240v ac in rectified etc...28v out...
> >Since i dont intend to use the original pcb space is not a problem..
> >
> >thanks simon g0zen
> >"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
> >news:J2OYS4KuqeQ$EAWZ@ifwtech.co.uk...
> >> zindazenda wrote:
> >> >ok i have a pc psu or two now and have attempted to strip the
transformer
> >> >but theres no way to take them apart without damaging the ferrite as
they
> >> >seem to be glued!!so i am ordering some new un wound ones from
rs...but

> >the
> >> >primary winding appears to be in 2 parts..one half on top(the outer
> >winding)
> >> >and the other on the bottom (inner.)i assume i will have to duplicate
> >this??
> >>
> >> I'm not an expert on SMPS design, and espcecially not on the little
> >> tricks that make the difference between just working and working well.
> >> Obviously the extra complication of the split winding is there for a
> >> reason, and my guess would be that it's to improve the high-frequency
> >> performance by minimizing leakage inductance. Anyone else know for
sure?
> >>
> >> You may also be running into trouble by ordering un-wound cores, since
> >> you don't know the specifications of the existing ones (permeability,
> >> Bmax etc).
> >>
> >> >which makes winding the secondary a pain as its in the middle, and i
am
> >sure
> >> >i wont get it right the first time,meaning stripping the primary down
a
> >few
> >> >times..your thoughts??
> >> >also total winding of secondary 4+3+3+4 to give 12v..8+8 for 28v???5v
12v
> >> >not needed...
> >>
> >> The basic turns ratios are OK... the details, I'm not so sure about.
> >>
> >> Can anyone recommend a book on SMPS design that leads you all the way
> >> from basic theory to real-life designs - including all those little
> >> practical details that need to be right?
> >>
> >>
> >> --
> >> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> >> Editor, 'The VHF/UHF DX Book'
> >> http://www.ifwtech.co.uk/g3sek
> >
>

1435. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 01:51:12 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f4576eb.5658532@news.cantech.net.au>
Source record: 33052

On Fri, 22 Aug 2003 02:22:00 +0100, "zindazenda" <zen@lineisp.co.uk>
wrote:

>MEK???
>
>proberly something obvious Mike, but am very tired and so isnt obvious at
>moment..

methyl-ethyl ketone. definitely not a particularly user-friendly
solvent.

1436. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 02:52:21 UTC
From: MikeN <mnewman@clear.net.nz>
Message-ID: <161bkv0eqgnfo564j1b9kg4kn14ds404i0@4ax.com>
Source record: 33053

MEK - Methyl Ethyl Ketone - it's used as a solvent in some
industrial paints. One can buy it from a paint shop here in ZL, along
with other solvents like xylol.

73 MikeN ZL1BNB

On Fri, 22 Aug 2003 02:22:00 +0100, "zindazenda" <zen@lineisp.co.uk>
wrote:

>MEK???
>
>proberly something obvious Mike, but am very tired and so isnt obvious at
>moment..
>simon
>"MikeN" <mnewman@clear.net.nz> wrote in message
>news:2jg8kv864pa8vsbpnjmu5thp4mov71tqfv@4ax.com...
>> I had no trouble getting a SMPS transformer apart when I put it in a
>> sealed can with some MEK solvent and left it for 24 hours. I put some
>> scewed up wire mesh in the bottom of a small can to elevate the core,
>> so that it was only exposed to the vapour, and not immersed in the
>> MEK.
>>
>> The E-cores separated with minimal force and with no damage after this
>> treatment, and the MEK did not affect the bobbin.
>>
>> Make sure the can is properly sealed. I left the can outside to
>> minimise any exposure to the MEK fumes.
>>
>> MikeN ZL1BNB
>>
>>
>>
>> On Tue, 19 Aug 2003 19:57:02 +0100, "zindazenda" <zen@lineisp.co.uk>
>> wrote:
>>
>> >yes already found a problem..and thats i cant get the same core.
>> >SO.....i have been led to believe that just about any toroid (that works
>at
>> >HF) will work..has anybody wound a SMPS transformer on a toroid..input
>> >voltage cir.
>> >240v ac in rectified etc...28v out...
>> >Since i dont intend to use the original pcb space is not a problem..
>> >
>> >thanks simon g0zen
>> >"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message

>> >news:J2OYS4KuqeQ$EAWZ@ifwtech.co.uk...
>> >> zindazenda wrote:
>> >> >ok i have a pc psu or two now and have attempted to strip the
>transformer
>> >> >but theres no way to take them apart without damaging the ferrite as
>they
>> >> >seem to be glued!!so i am ordering some new un wound ones from
>rs...but
>> >the
>> >> >primary winding appears to be in 2 parts..one half on top(the outer
>> >winding)
>> >> >and the other on the bottom (inner.)i assume i will have to duplicate
>> >this??
>> >>
>> >> I'm not an expert on SMPS design, and espcecially not on the little
>> >> tricks that make the difference between just working and working well.
>> >> Obviously the extra complication of the split winding is there for a
>> >> reason, and my guess would be that it's to improve the high-frequency
>> >> performance by minimizing leakage inductance. Anyone else know for
>sure?
>> >>
>> >> You may also be running into trouble by ordering un-wound cores, since
>> >> you don't know the specifications of the existing ones (permeability,
>> >> Bmax etc).
>> >>
>> >> >which makes winding the secondary a pain as its in the middle, and i
>am
>> >sure
>> >> >i wont get it right the first time,meaning stripping the primary down
>a
>> >few
>> >> >times..your thoughts??
>> >> >also total winding of secondary 4+3+3+4 to give 12v..8+8 for 28v???5v
>12v
>> >> >not needed...
>> >>
>> >> The basic turns ratios are OK... the details, I'm not so sure about.
>> >>
>> >> Can anyone recommend a book on SMPS design that leads you all the way
>> >> from basic theory to real-life designs - including all those little
>> >> practical details that need to be right?
>> >>
>> >>
>> >> --
>> >> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
>> >> Editor, 'The VHF/UHF DX Book'
>> >> http://www.ifwtech.co.uk/g3sek
>> >
>>
>

1437. Re: RE 28v swither psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 03:04:39 UTC
From: dplatt@radagast.org
Message-ID: <vkb2275vm69n0b@corp.supernews.com>
Source record: 33054

>MEK???
>
>proberly something obvious Mike, but am very tired and so isnt obvious at
>moment..

Methyl Ethyl Ketone, a moderately nasty solvent. If I recall properly
it is (or was) a common ingredient in fast-acting paint strippers.

http://www.emedco.com/emed2/resource/msds/msds_view.asp?md=msds&pd=ch&pf=clhhy

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1438. Re. 28v switcher psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 16:05:56 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061601258.986450@auth2.dns.griffin.net.uk>
Source record: 33060

ok then MikeN i guess you were moding a psu, was it a computer psu and if so what was your final voltage, asking as i would like to know how many secondary turns you wound for your required voltage, asumming running at about 33khz 230v ac before rectifier etc...
oh MEK?? i have cellulose thinners to hand..but no transformer to split untill i get my hands on some more psu's, (when i venture back into the attic!)
sorry if these questions sound simple, but i am really keen in not having to wind douzens of transformers before i get it correct..
All else has been done ie caps beefed up from 16v to 35v, feedback crt modded.etc......I will be writing up when finished and putting on web page in case of any interest..

simon

1439. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 17:21:25 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3F465115.9060508@psu.edu>
Source record: 33055

john graesser wrote:
> "Lasse SM5GLC" <no_email@today.sri> wrote in message
> news:2ul7kvcddnim4m88nksnrvb5d0ob33rg1u@4ax.com...
>
>>Roy,
>>If I remember correctly my physics teacher showed that based on what
>>is written in the Bible, heaven have a much higher temperature than
>>hell.....
>>
>>/Lasse SM5GLC
>
>
> As anyone who lives in Scandanavia and grew up with Norse myths should know,
> hell is frozen. Heaven is the warm place you go after freezing your behind
> off your whole life. Here in Texas 100F in the summer is a small price to
> pay for 70F in December. My cousins in Wisconsin still put up with -35F in
> the winter, I consider Texas heaven and Wisconsin hell.

Wow! different strokes for different folks! I'm too warm up here in
Pennsylvania. I spent some time in Fla during a normal summer, and I
though I was going to die at any moment. The folks I stayed with didn't
use air conditioning. Maybe I'll move to Alaska when I retire.

I live for the winter!

- Mike KB3EIA -

1440. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 18:09:52 UTC
From: tdonaly@aol.com
Message-ID: <20030822140952.28604.00000462@mb-m18.aol.com>
Source record: 33056

>
>>
>> As anyone who lives in Scandanavia and grew up with Norse myths should
>know,
>> hell is frozen. Heaven is the warm place you go after freezing your behind
>> off your whole life. Here in Texas 100F in the summer is a small price to
>> pay for 70F in December. My cousins in Wisconsin still put up with -35F in
>> the winter, I consider Texas heaven and Wisconsin hell.
>
> Wow! different strokes for different folks! I'm too warm up here in
>Pennsylvania. I spent some time in Fla during a normal summer, and I
>though I was going to die at any moment. The folks I stayed with didn't
>use air conditioning. Maybe I'll move to Alaska when I retire.
>
>
> I live for the winter!
>
> - Mike KB3EIA -

I always considered those San Franciscans who claim to like being socked
in by fog all summer every summer to be emotionally defective.
73,
Tom Donaly, KA6RUH

1441. FS:- Rare Frequency Counter ICs on Ebay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 19:16:41 UTC
From: Theo <theodore.twyler@ntlworld.com>
Message-ID: <Gav1b.467$L4.763331@newsfep1-win.server.ntli.net>
Source record: 33058

At:-

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=2553057952

Thanks for looking.

1442. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 19:38:30 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vkcs9gbpmeh03a@corp.supernews.com>
Source record: 33057

Eamon Skelton wrote:
> On Wed, 20 Aug 2003 22:19:45 +0200, Lasse SM5GLC wrote:
>
> We are wandering way off-topic here so I'm a bit reluctant to post this on
> r.r.a.h
>
> Ah! what the hell!, it's only a few KB of text....
>

And a very well spent few kB at that. Thanks!

Roy Lewallen, W7EL

1443. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-22 22:30:47 UTC
From: mikea@mikea.ath.cx
Message-ID: <bi65in$7fc$5@puck.litech.org>
Source record: 33059

Mike Coslo <mjc5@psu.edu> wrote:

> I live for the winter!

I spent a winter in Korea. The stools in the latrine froze
and exploded when a lackwit left the transom open. I really
do _NOT_ like temperatures in the vicinity of -55ï¿½F.

Then again, I was born in Oklahoma, grew up in Houston, and
have lived in Oklahoma since 1970. It was only 101ï¿½F today
here.

--
Insofar as the police deter by their presence, they are very,
very good. Criminals take great pains not to commit a crime in
front of them.
-- Jeffrey Snyder

1444. Re: Re. 28v switcher psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-23 01:17:59 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1061601480.257548@auth2.dns.griffin.net.uk>
Source record: 33061

ok i know what mek is now thanks..helps if i read previous posts first..
"zindazenda" <zen@lineisp.co.uk> wrote in message
news:1061601258.986450@auth2.dns.griffin.net.uk...
> ok then MikeN i guess you were moding a psu, was it a computer psu and if
so
> what was your final voltage, asking as i would like to know how many
> secondary turns you wound for your required voltage, asumming running at
> about 33khz 230v ac before rectifier etc...
> oh MEK?? i have cellulose thinners to hand..but no transformer to split
> untill i get my hands on some more psu's, (when i venture back into the
> attic!)
> sorry if these questions sound simple, but i am really keen in not having
to
> wind douzens of transformers before i get it correct..
> All else has been done ie caps beefed up from 16v to 35v, feedback crt
> modded.etc......I will be writing up when finished and putting on web page
> in case of any interest..
>
> simon
>
>

1445. Re: Re. 28v switcher psu

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-23 04:18:18 UTC
From: "mkelly@powerup.com.au" <mkelly@powerup.com.au>
Message-ID: <3F46EB0A.A2B70DC4@powerup.com.au>
Source record: 33062

My analysis of the few switchers from PCs is that
the windings are
about 4V/turn. This assumes one takes the center
point of the mains caps
as the primary voltage switched. 42 to 44 turns, I
counted.
The secondary seems to have plenty of lee-way in
voltage range
on the assumption that on full load only will it
be a 50% duty
cycle. I'm sure someone will correct me it I'm
wrong! :-)

Cheers

zindazenda wrote:
>
> ok then MikeN i guess you were moding a psu, was it a computer psu and if so
> what was your final voltage, asking as i would like to know how many
> secondary turns you wound for your required voltage, asumming running at
> about 33khz 230v ac before rectifier etc...
> oh MEK?? i have cellulose thinners to hand..but no transformer to split
> untill i get my hands on some more psu's, (when i venture back into the
> attic!)
> sorry if these questions sound simple, but i am really keen in not having to
> wind douzens of transformers before i get it correct..
> All else has been done ie caps beefed up from 16v to 35v, feedback crt
> modded.etc......I will be writing up when finished and putting on web page
> in case of any interest..
>
> simon
Murray Kelly vk4aok

1446. Ramsey PA-10 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-23 06:26:54 UTC
From: WavyDave <nowaynowhere@yahoo.com>
Message-ID: <bi71k6019re@enews4.newsguy.com>
Source record: 33063

Hi,
I just got a PA-10 at a hamfest, Ramsey was nice enough to mail me a copy of the manual for it, but seems to be missing a page.

It says the PA-10 is easily configured to other bands, but not how to do so. Would this include 6 meter and if so what would be involved?
Thanks

1447. FS:NOS JACKSON BROS. 2-Section Air Variables w/pics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-23 14:03:35 UTC
From: rlucch2098@aol.com
Message-ID: <20030823100335.05646.00000422@mb-m16.aol.com>
Source record: 33064

Hi All,
For Sale:
2)- Beautifully made Jackson Bros.(made in England) 2-section air variables w/BB Vernier drive shafts. 15-270pf. each section, 1/4" shaft, NOS, 2-1/4"lg x 1-7/8"w x 1-1/2" h(closed)
Price is $20ppd ea.
Pics>>
http://www.myradioroom.com/2-jbcaps.jpg
1)- Another beautiful Jackson Bros. 2-section Air variable cap, 16-540pf each NOS, 2-1/2"lg x 2-3/4"w x 2-3/8"h(open)
Price is $25.00ppd or B/O.
Pics>>
http://www.myradioroom.com/jbgeardrivecap1.jpg
http://www.myradioroom.com/jbgeardrivecap2.jpg
Tnx and 73........Rich WA2RQY

1448. Re: 80 m am tx schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-24 00:21:20 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f48051f$0$23604$5a62ac22@freenews.iinet.net.au>
Source record: 33065

I have seen a number of ideas for 80M AM using a switching FETs which are pretty cheap.
You could do drain modulation using a switch mode PWM setup - this is how commercial transmitters work nowadays so I understand. It would need some filtering after the modulator

I have thought about doing this a few times but have never got around to it....

Richard

rfload <rfload@yahoo.com> wrote in message news:bi2ijcpll1@newshost.mot.com...
> hi,
>
> where can i get a 80m am tx schematic?
>
>
> tks
> mul
>
>

1449. Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-24 13:04:39 UTC
From: Chris <chrismatchett@hotmail.com>
Message-ID: <vO22b.170$ml5.293361@newsfep1-win.server.ntli.net>
Source record: 33066

This is my first visit to this newsgroup...I am a new MI3.

I would like to put together a very simple QRP CW transceiver. The schematic I am using includes a 3.560MHz crystal oscillator.

Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators respectively and I am wodering will these do the job or should I be looking for a 3.560MHz crstal? The circuit does have a 65pF trimmer capacitor for tuning but I want to sure about the crystal before I order.

Thanks for your help.

Chris

1450. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-24 14:52:42 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3F48D138.7050705@invalid.invalid>
Source record: 33067

Chris wrote:
> This is my first visit to this newsgroup...I am a new MI3.
>
> I would like to put together a very simple QRP CW transceiver. The schematic
> I am using includes a 3.560MHz crystal oscillator.
>
> Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators
> respectively and I am wodering will these do the job or should I be looking
> for a 3.560MHz crstal? The circuit does have a 65pF trimmer capacitor for
> tuning but I want to sure about the crystal before I order.

(without seeing the schematic I can't know for sure but...)

I doubt the trimmer capacitor will be able to "warp" the frequency from
3.579545 to 3.560. I would be *certain* you won't be able to warp it
from 3.6864 to 3.560. I would expect more like maybe at most 5KHz
(3.579545=>3.574).

I wouldn't think that would be a big problem though, with regard to
3.579. You'll just be operating on 3.579 instead of 3.560. (you do
need to double-check and make sure your license allows operation on the
higher frequency but I'd be VERY surprised if it doesn't.)

3.686400 will work from a technical standpoint too. However, I think
that frequency is in the phone band in Europe so it might not be a
suitable choice for a CW transceiver.
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

1451. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-24 16:28:25 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <AO52b.16644$os2.233738@news2.e.nsc.no>
Source record: 33068

Alternatively you could consider getting a 3.58 MHz ceramic resonator. It is pullable from about 3.50 to 3.60 MHz and might even cost less.

--
Sverre Holm, LA3ZA
---
www.qsl.net/la3za

1452. Need help with 6-pin mic connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-24 17:16:53 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vkhsopcg5oe734@corp.supernews.com>
Source record: 33069

I need a pinout for the microphone connector on my KDK FM-2033. It has the same connector as the FM-2030, the FM-4033 and the FM-7033, as well as, possibly, the FM-2016. It is a screw-on connector with 6 pins. There is one pin in the center, with five others at various points surrounding it, and there is a notch at the bottom. The microphone unit has the female connector, the one on the radio is male.

Anybody got a similar connector with a pinout for it?
Thanks!

-Greg Courville

1453. Re: 80 m am tx schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-24 19:29:58 UTC
From: "graham.ogle" <graham.ogle@ntlworld.com>
Message-ID: <lm82b.520$ml5.869986@newsfep1-win.server.ntli.net>
Source record: 33070

Have a look at

http://www.part15.org/mwa/tech/circuits/poppet.html

Although for 160m, it is easy to retune it for 80m. I've just built one
without any real problems. Low power, but I'm now working on the linear!

Graham
MW0RAK

"rfload" <rfload@yahoo.com> wrote in message
news:bi2ijcpll1@newshost.mot.com...
> hi,
>
> where can i get a 80m am tx schematic?
>
>
> tks
> mul
>
>

1454. Re: Ramsey PA-10 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 01:11:45 UTC
From: KG4PBI James <JAHarrison@Surry.Net>
Message-ID: <bibnsg$egih$1@news3.infoave.net>
Source record: 33071

Hi,

I have a PA-10 with complete manual, from what I read, the "other Bands"
refer to the business Freq. located above/below 2 Mtr.
For 6mtr. it is time for a re-design, as in coils, caps., ect...

I have thought, of getting a kit for their HF amp, and re-do the thing for
my FT-817, however I have had so much fun working QRP during band openings,
I never did anything...

73's James KG4PBI
"WavyDave" <nowaynowhere@yahoo.com> wrote in message
news:bi71k6019re@enews4.newsguy.com...
> Hi,
> I just got a PA-10 at a hamfest, Ramsey was nice enough to mail me a copy
of
> the manual for it, but seems to be missing a page.
>
> It says the PA-10 is easily configured to other bands, but not how to do
so.
> Would this include 6 meter and if so what would be involved?
> Thanks
>
>

1455. Re: Need help with 6-pin mic connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 02:39:36 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vkitnuk039ie04@corp.supernews.com>
Source record: 33072

I have figured out the pinout by taking apart my handset. Here it is:

*-Down button (12V to activate)

*-Up button (12V to
activate)
* -PTT line (ground to transmit)
* -GND

*-Mic-level audio *-12V power (regulated to 5V inside
handset)

(looking at the male connector on the radio)

Sorry if that's hard to see. The asterisks represent the pins on the male
connector.
Hope this helps anyone else who's looking for it!

-Greg

"Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
news:vkhsopcg5oe734@corp.supernews.com...
> I need a pinout for the microphone connector on my KDK FM-2033. It has the
> same connector as the FM-2030, the FM-4033 and the FM-7033, as well as,
> possibly, the FM-2016. It is a screw-on connector with 6 pins. There is
one
> pin in the center, with five others at various points surrounding it, and
> there is a notch at the bottom. The microphone unit has the female
> connector, the one on the radio is male.
>
> Anybody got a similar connector with a pinout for it?
> Thanks!
>
> -Greg Courville
>
>

1456. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 07:47:29 UTC
From: pake@extrafoi.se
Message-ID: <pake-0801040505520001@dhcp-032-102.foi.se>
Source record: 33073

In article <vO22b.170$ml5.293361@newsfep1-win.server.ntli.net>, "Chris"
<chrismatchett@hotmail.com> wrote:

> This is my first visit to this newsgroup...I am a new MI3.
>
> I would like to put together a very simple QRP CW transceiver. The schematic
> I am using includes a 3.560MHz crystal oscillator.
>
> Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators
> respectively and I am wodering will these do the job or should I be looking
> for a 3.560MHz crstal? The circuit does have a 65pF trimmer capacitor for
> tuning but I want to sure about the crystal before I order.
>
> Thanks for your help.
>
> Chris

Try to find a ceramic resonator 3.58 MHz instead.
Its much cheaper. And you can tune it much wider.And its very stable.
I can tune mine from 3.5 to 3.6 MHz with a adj. aircapacitor in serie (ca
ca 100pF).
It was a little tricky to find a schematic for it to oscillate with my
junkbox-components.
I dont use a sinus oscillator but a square-wave . So perhaps its
not tricky to get a sinus osc. to work.
The companys manuf. these (for ex. Murata) have schematic diagrams
on there homepage I think.
But try to find schematic diagrams on QRP-pages on the net.

/Per-Ake

--
Remove "extra" in my e-mail adress !!

1457. Belco SG-2030

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 13:19:12 UTC
From: "P. Seifert" <p.seifert@addcom.de>
Message-ID: <bid2a7$7edhc$1@ID-74846.news.uni-berlin.de>
Source record: 33074

Hi,
I have an old (broken) signal genarator 'Belco SG-203'
which I want to repair. Does any one have a schematic
of this old device to copy for me?

73' from Germany

Pedro, DF3YB

1458. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 16:25:14 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <3f4a386a$0$962$cc9e4d1f@news.dial.pipex.com>
Source record: 33075

"Chris" <chrismatchett@hotmail.com> wrote in message
news:vO22b.170$ml5.293361@newsfep1-win.server.ntli.net...
> This is my first visit to this newsgroup...I am a new MI3.
>
> I would like to put together a very simple QRP CW transceiver. The
schematic
> I am using includes a 3.560MHz crystal oscillator.
>
> Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators
> respectively and I am wodering will these do the job or should I be
looking
> for a 3.560MHz crstal? The circuit does have a 65pF trimmer capacitor for
> tuning but I want to sure about the crystal before I order.

Putting two of the same freq. crystals in parallel increases the tuning
range considerably.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

1459. Weller WTCPN Soldering Staton

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 18:58:06 UTC
From: "Clair J. Robinson" <cjr@visi.com>
Message-ID: <3F4A5C3E.BDF5C01E@visi.com>
Source record: 33076
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

The soldering iron, P/N TC201, for the subject station has burned out. The heating element is P/N TC208 with pigtail leads. A local supplier has told me that it cannot be obtained any more and another supplier that I found on line told me that they had them back ordered with an ETA of 01/31/03 so I think that they can't get them anymore either.

Does anyone know of a source?

If there is none, can anyone verify that the newer soldering iron, P/N TC201T, can be used with the older power supply? It sure looks like it can.

Thanks es 73, CJ K0CJ

1460. Re: Weller WTCPN Soldering Staton

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 19:20:59 UTC
From: John Moriarity <k6qq@hdo.net>
Message-ID: <vkkod5ruaht0fd@corp.supernews.com>
Source record: 33077
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

>
> Does anyone know of a source?

CJ,

Drop a line to (or call):

Harold Fue
916 Roble Lane
Santa Barbara, CA 93103-2044
805-965-0753

He deals in refurbished soldering equipment,
and I have gotten Weller parts from him.

73, John - K6QQ

1461. RCA 814 Tubes on Ebay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 20:31:03 UTC
From: Theo <theodore.twyler@ntlworld.com>
Message-ID: <imu2b.5543$tS2.3642946@newsfep2-win.server.ntli.net>
Source record: 33078

At:-
http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3043183531&category=150
2&rd=1

Thanks for looking

1462. Re: Weller WTCPN Soldering Staton

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 23:13:51 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <PKw2b.113765$0v4.8115706@bgtnsc04-news.ops.worldnet.att.net>
Source record: 33079
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Clair J. Robinson" <cjr@visi.com> wrote in message
news:3F4A5C3E.BDF5C01E@visi.com...
> The soldering iron, P/N TC201, for the subject station has burned out.
> The heating element is P/N TC208 with pigtail leads. A local supplier
> has told me that it cannot be obtained any more and another supplier
> that I found on line told me that they had them back ordered with an ETA
> of 01/31/03 so I think that they can't get them anymore either.
>
> Does anyone know of a source?
>
> If there is none, can anyone verify that the newer soldering iron, P/N
> TC201T, can be used with the older power supply? It sure looks like it
> can.
>
> Thanks es 73, CJ K0CJ

Mouser www.mouser.com stocks the TC201T iron and repair parts for it. I
don't know the difference between the WTCPN station and the WTCPT station
that Mouser lists in their current catalog (page 1027), but if the TC210T
iron is interchangeable with the TC210, then that's the place to go.
Cheers!!!
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Time is what keeps everything from happening all at once.

1463. Re: Weller WTCPN Soldering Staton

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-25 23:35:27 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308251535.78de9a80@posting.google.com>
Source record: 33080
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Clair J. Robinson" <cjr@visi.com> wrote in message news:<3F4A5C3E.BDF5C01E@visi.com>...
> The soldering iron, P/N TC201, for the subject station has burned out.
> The heating element is P/N TC208 with pigtail leads. A local supplier
> has told me that it cannot be obtained any more and another supplier
> that I found on line told me that they had them back ordered with an ETA
> of 01/31/03 so I think that they can't get them anymore either.
>
> Does anyone know of a source?
>
> If there is none, can anyone verify that the newer soldering iron, P/N
> TC201T, can be used with the older power supply? It sure looks like it
> can.

I suppose the newer iron is the one with the plug. I have both the
oooooold version and a couple newer ones, and the irons in all of them
are 24V 2A. Since all the control is in the iron itself, you should
be fine with the newer version.

You might be able to find a surplus station for less than a new
replacement iron will cost, though there is some advantage to having a
new iron with new cord and new thermal switch.

Cheers,
Tom

1464. Re: Weller WTCPN Soldering Staton

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 00:48:07 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <b7y2b.258432$o%2.117981@sccrnsc02>
Source record: 33081
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Clair J. Robinson" <cjr@visi.com> wrote in message
news:3F4A5C3E.BDF5C01E@visi.com...
> The soldering iron, P/N TC201, for the subject station has burned out.
> The heating element is P/N TC208 with pigtail leads. A local supplier
> has told me that it cannot be obtained any more and another supplier
> that I found on line told me that they had them back ordered with an ETA
> of 01/31/03 so I think that they can't get them anymore either.
>
> Does anyone know of a source?
>
> If there is none, can anyone verify that the newer soldering iron, P/N
> TC201T, can be used with the older power supply? It sure looks like it
> can.
>
> Thanks es 73, CJ K0CJ

Clair -

I have already answered this for you directly. The TC208 "sired-in" heater used in the original TCP-1 irons and early version of the WTCPN station are still available from Weller. Wassco (California) is a very good Weller distributor -- takes about 2 weeks - since they do not stock the wired in heater.

The TC201P and TC201T irons (that use the newer plug-in heater) will work with the TC202 base.

Greg
w9gb

1465. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 01:52:35 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F4ABD31.87E1B126@bellatlantic.net>
Source record: 33082

"Bruce W.1" wrote:
The only problem
> I have is remembering to disconnect the battery from the resistor after
> it hits one volt, Doh! Some of them were pulled down to 0.4 volts
> (under load) but they recover to about a volt at rest.

There is a simple way to do that automatically. Find a relay
whose dropout voltage equals the voltage you want to discharge
the battery to. Discharge the battery through the relay coil and
the normally open point on the relay. You'll need to operate
the relay manually or via an external power source to start
the discharge cycle. When the battery discharges to the dropout
voltage, the relay drops and all current flow stops.

1466. Re: Need help with 6-pin mic connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 02:23:56 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F4AC533.B5EBA797@bellatlantic.net>
Source record: 33083

Greg Courville wrote:
>
> I have figured out the pinout by taking apart my handset. Here it is:
>
> *-Down button (12V to activate)
>
> *-Up button (12V to
> activate)
> * -PTT line (ground to transmit)
> * -GND
>
> *-Mic-level audio *-12V power (regulated to 5V inside
> handset)
>
> (looking at the male connector on the radio)
>
> Sorry if that's hard to see. The asterisks represent the pins on the male
> connector.
> Hope this helps anyone else who's looking for it!

Do you mean this? (My attempt to understand your diagram)

1
2 3
4
5 6

1 = Down button (12V to activate)
2 = PTT line (ground to transmit)
3 = Up button (12V to activate)
4 = GND
5 = Mic-level audio
6 = 12V power (regulated to 5V inside handset)

1467. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 02:27:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vklhbmto0k3ua2@corp.supernews.com>
Source record: 33084

Run the power to an old style electric clock or an analog
battery-powered clock through another set of contacts, and you've also
got the time it took.

All you've gotta do is find the relay. . .

Roy Lewallen, W7EL

ehsjr@bellatlantic.net wrote:
>
> "Bruce W.1" wrote:
> The only problem
>
>>I have is remembering to disconnect the battery from the resistor after
>>it hits one volt, Doh! Some of them were pulled down to 0.4 volts
>>(under load) but they recover to about a volt at rest.
>
>
> There is a simple way to do that automatically. Find a relay
> whose dropout voltage equals the voltage you want to discharge
> the battery to. Discharge the battery through the relay coil and
> the normally open point on the relay. You'll need to operate
> the relay manually or via an external power source to start
> the discharge cycle. When the battery discharges to the dropout
> voltage, the relay drops and all current flow stops.

1468. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 07:10:23 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0308252310.5e48612e@posting.google.com>
Source record: 33085

Hi all,

> Putting two of the same freq. crystals in parallel increases the tuning
> range considerably.
See http://www.norcalqrp.com/nb6m/contestvxos/VXOExperiments.htm for
more info.
Or try to use a once-programmable oscillator Epson SG8002, which
will provide you any exact (per several Hz) frequency between 1MHz and
125MHz, square wave of course. See
http://www.hw.cz/english/docs/oscillators/epson_sg8002.html .

73 from Ivan

1469. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 09:22:47 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bif8ta$8jq1c$1@ID-61331.news.uni-berlin.de>
Source record: 33086

You could use a ceramic resonator but you might need a different circuit.

Either of the crystals you mention will work. However as mentioned by another poster 3.6864 isn't in the CW part of the band. Personally to avoid dissappointment I'd advise against 3.579 too: there isn't much activity there. 3.560 is the standard QRP calling frequency and there's plenty of activity there. You can get 3.560 crystals, try http://www.jabdog.com/crystals.htm amongst others.

Alternatively you can get use a 3.579 crystal and modify it down to 3.560. See this page on my web site for details http://www.hanssummers.com/radio/penning/index.htm.

Hans G0UPL

"Chris" <chrismatchett@hotmail.com> wrote in message news:vO22b.170$ml5.293361@newsfep1-win.server.ntli.net...
> This is my first visit to this newsgroup...I am a new MI3.
>
> I would like to put together a very simple QRP CW transceiver. The schematic
> I am using includes a 3.560MHz crystal oscillator.
>
> Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators
> respectively and I am wodering will these do the job or should I be looking
> for a 3.560MHz crstal? The circuit does have a 65pF trimmer capacitor for
> tuning but I want to sure about the crystal before I order.
>
> Thanks for your help.
>
> Chris
>
>

1470. Re: Need help with 6-pin mic connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 15:39:52 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vkmvqq6pt6qr09@corp.supernews.com>
Source record: 33087

<ehsjr@bellatlantic.net> wrote in message
news:3F4AC533.B5EBA797@bellatlantic.net...
> Do you mean this? (My attempt to understand your diagram)
>
> 1
> 2 3
> 4
> 5 6
>
> 1 = Down button (12V to activate)
> 2 = PTT line (ground to transmit)
> 3 = Up button (12V to activate)
> 4 = GND
> 5 = Mic-level audio
> 6 = 12V power (regulated to 5V inside handset)

Yes, that's correct. Thanks for clearing it up a bit. Your diagram is
definitely easier to understand than what I did. :)

-Greg

1471. Part needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 17:05:19 UTC
From: Bob Liesenfeld <robert.liesenfeld@neicoltech.org>
Message-ID: <3F4B934E.D8CBB59B@neicoltech.org>
Source record: 33088

Hi gang,
Looking for 2 Motorola MC1648 oscillator chips. ANyone got a couple
to sell?

Thanks!

Bob WB0POQ

1472. Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 18:14:17 UTC
From: Matt <mthomas@biocontrolsys.com>
Message-ID: <vkn8rpgbf8oh6b@corp.supernews.com>
Source record: 33089

What sort of kit can I get for 6th grade kids to interest them in radio/electronics? And where could I get same inexpensively (so I don't go broke if I got a bunch for a classful of kids)? Crystal radio? Something else? Does anyone have experience/stories of doing something like this with a group of kids?

Thanks for your time.

73,
Matt Thomas
KD7PPK

1473. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 18:17:11 UTC
From: Signal In The Noise <SITN@opinion.com>
Message-ID: <GuN2b.19776$S_.10592@fed1read01>
Source record: 33090

Lots of kits to choose from -- see URL:
http://ac6v.com/kits.htm#HOB

"Matt" <mthomas@biocontrolsys.com> wrote in message
news:vkn8rpgbf8oh6b@corp.supernews.com...
> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't
go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this
with
> a group of kids?
>
> Thanks for your time.
>
> 73,
> Matt Thomas
> KD7PPK
>
>

1474. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 22:45:37 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3F4BE311.A27EB9B4@noDirectEmail.com>
Source record: 33091

ehsjr@bellatlantic.net wrote:
>
> "Bruce W.1" wrote:
> The only problem
> > I have is remembering to disconnect the battery from the resistor after
> > it hits one volt, Doh! Some of them were pulled down to 0.4 volts
> > (under load) but they recover to about a volt at rest.
>
> There is a simple way to do that automatically. Find a relay
> whose dropout voltage equals the voltage you want to discharge
> the battery to. Discharge the battery through the relay coil and
> the normally open point on the relay. You'll need to operate
> the relay manually or via an external power source to start
> the discharge cycle. When the battery discharges to the dropout
> voltage, the relay drops and all current flow stops.

==========

I like that idea. Thanks.

This one drops out at 0.6 volts:
http://www.radioshack.com/product.asp?catalog%5Fname=CTLG&category%5Fname=CTLG%5F011%5F002%5F013%5F000&product%5Fid=275%2D248

1475. WANTED - Will pay $100 for Lafayette Explor-Air kit radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-26 23:51:12 UTC
From: padawer@mindspring.com
Message-ID: <edd286fc.0308261551.54e5dd43@posting.google.com>
Source record: 33092
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

My first radio as a kid in the mid-1960s was one my father bought for me -- a Lafayette Explor-Air kit radio. He built it, and I used it well. It was a three-tube regenerative unit for AM and three SW bands. It was Lafayette model KT-135, and it looked like this: http://hometown.aol.com/kc0imn/explorair.jpg

Osterman prices it $25-35 (Shortwave Receivers Past & Present, p. 255). There's another pic there as well for those who have the book.

I would very much like to acquire one unit, working if possible (although I would be happy to acquire one even if not), to present to my father at an anniversary event in December 2003. I will pay $100 plus shipping to anyone who has one they're willing to unload.

Thanks very much!

Randy Padawer (WA4FJF)
padawer@mindspring.com

1476. Re: WANTED - Will pay $100 for Lafayette Explor-Air kit radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 00:23:22 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F4BF7BF.CEFBB209@gte.net>
Source record: 33093
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Randy Padawer wrote:

> My first radio as a kid in the mid-1960s was one my father bought for
> me -- a Lafayette Explor-Air kit radio. He built it, and I used it
> well. It was a three-tube regenerative unit for AM and three SW
> bands. It was Lafayette model KT-135, and it looked like this:
> http://hometown.aol.com/kc0imn/explorair.jpg
>
> Osterman prices it $25-35 (Shortwave Receivers Past & Present, p.
> 255). There's another pic there as well for those who have the book.
>
> I would very much like to acquire one unit, working if possible
> (although I would be happy to acquire one even if not), to present to
> my father at an anniversary event in December 2003. I will pay $100
> plus shipping to anyone who has one they're willing to unload.
>
> Thanks very much!
>
> Randy Padawer (WA4FJF)
> padawer@mindspring.com

They appear fairly regularly on EBay. $60 or so.

W4OP

1477. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 01:25:38 UTC
From: test@ness.com.au
Message-ID: <3f4c076c.10959000@news.syd.comcen.com.au>
Source record: 33094

"Matt" <mthomas@biocontrolsys.com> wrote:

>What sort of kit can I get for 6th grade kids to interest them in
>radio/electronics? And where could I get same inexpensively (so I don't go
>broke if I got a bunch for a classful of kids)? Crystal radio? Something
>else? Does anyone have experience/stories of doing something like this with
>a group of kids?

Have you looked around the internet? There are a few sites that have
some basic circuits that should help.

Try:
http://my.integritynet.com.au/purdic/
This site has beginner and advanced information on various projects.

Try:
http://users.forthnet.gr/rho/billpatric/circuits1.htm
It has what looks like Rusian headings but most if not all the links
are english.

--
Max Gaming and Toms Kites
http://www.mis.net.au/max

1478. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 07:08:05 UTC
From: Roger Conroy <rogerconroy@nospam.hotmail.com>
Message-ID: <bihlqbqtp1@ctb-nnrp2.saix.net>
Source record: 33095

Take a look at www.tentec.com They have a reciever kit specilfically
intended for classroom use - http://www.tentec.com/tkit.htm#model1054
includes Includes five Receivers, Instructor's Notes, Spare-Parts... And not
too expensive!

73
Roger ZR3RC

"Matt" <mthomas@biocontrolsys.com> wrote in message
news:vkn8rpgbf8oh6b@corp.supernews.com...
> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't
go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this
with
> a group of kids?
>
> Thanks for your time.
>
> 73,
> Matt Thomas
> KD7PPK
>
>

1479. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 07:42:27 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <3f4c60e2$0$253$cc9e4d1f@news.dial.pipex.com>
Source record: 33096

"Matt" <mthomas@biocontrolsys.com> wrote in message
news:vkn8rpgbf8oh6b@corp.supernews.com...
> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't
go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this
with
> a group of kids?

A friend of mine in Paris is running an electronics class on Saturday mornings at his kids' school; I was staying with him and helped out at the first session. He has started them from scratch - switches, light bulbs, resistors, ...

The main thing is to get them doing things for themselves, as much as possible, otherwise they will get bored. Use analogue meters and batteries. Have them work in pairs/threes. Have a good selection of different components - old-fashioned salvaged ones are fine, and can be obtained free.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

1480. Re: WANTED - Will pay $100 for Lafayette Explor-Air kit radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 12:47:30 UTC
From: Bob Liesenfeld <robert.liesenfeld@neicoltech.org>
Message-ID: <3F4CA862.2590EDA2@neicoltech.org>
Source record: 32997
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Randy Padawer wrote:

>
>
> I would very much like to acquire one unit, working if possible
> (although I would be happy to acquire one even if not), to present to
> my father at an anniversary event in December 2003.

What a good son you are! :) Best of luck finding it.

Bob WB0POQ

1481. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 13:22:53 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <biibbdprr1@freenet9.carleton.ca>
Source record: 32998

"Matt" (mthomas@biocontrolsys.com) writes:
> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this with
> a group of kids?
>
> Thanks for your time.
>
> 73,
> Matt Thomas
> KD7PPK
>
>
I would think commercial kits would tend to have a price that when multiplied
by a classroom would be quite costly. An individual paying $20 might
not find that too costly, but what they'd really be paying for is whatever
instructions come with the kit.

If you can scrounge parts, likely the cost will be low or zero, though
there it will require time, to do the scrounging and to test the parts.
Though, that could be part of the assembly process, so instead of
detailing how the kids should assemble the parts, you'd start with
using a DVM to check the diode and/or transistor.

There isn't much in a crystal radio. Some sort of tube, wound with
wire, A variable capacitor would be nice, but that's going to be costly
if buying new. A fixed capacitor would get some results. A germanium
diode would be the best choice for the detector (unless you actually
build cat's whiskers, but that likely would increase cost), and they
won't cost much, but you may have to look to find them. The biggest problem
will be headphones that will have enough impedance to work well with the
detector. Though there have been workarounds suggested in recent years
in the magazines, such as transformers, and even IC amplifiers working
merely for impedance matching rather than outright gain.

Make it a scavenger hunt, and each kid needs to bring in a junk
transistor radio, which will offer up a variable capacitor. Either they'd
have one just sitting around at home, or they could get one for a dollar
or so. The advantage of them scrounging is that you won't have to
buy thirty radios at different garage sales or rummage sales.

Charles Kitchin has written quite a few articles in the past decade
about renerative receivers. Some have been intended for the beginner.
Except for the variable capacitor, they have all been common parts (and

I think he might have used a varicap in one, which likely is cheaper
than buying a new variable capacitor). The local surplus outlet was
selling 99cent boards, some sort of game I think it was originally,
that would have offered up most of the parts for one of his regens.
Common bipolar transistors, some bypass capacitors, an audio amplifier
(though not the one he used), some diodes, and maybe some of the resistors.
But a lot of junked consumer equipment would provide most of the parts.
He even used a 35mm film canister for his coil form, and those can
be had by visiting a friendly photo shop.

A regen requires more parts, and of course requires more assembly work,
but it just might come in cheaper than buying parts for a crystal radio.

Michael VE2BVW

1482. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 14:59:54 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <ZsacnXY2Pb_AWtGiXTWJiA@comcast.com>
Source record: 32999

Lots of good ideas have been posted here.

Someone in the International Technology Education Association
http://www.iteawww.org/
might have already solved the problem. There are vendors of educational kits just for the classroom. My home was previously occupied by a tech ed teacher and for the first year I got some of his catalogs.

I think it is interesting that on the ITEA website I could find no mention of ham radio or the ARRL. Wonder why?

Tom, N3IJ

"Matt" <mthomas@biocontrolsys.com> wrote in message
news:vkn8rpgbf8oh6b@corp.supernews.com...
> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't
go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this
with
> a group of kids?
>
> Thanks for your time.
>
> 73,
> Matt Thomas
> KD7PPK
>
>

1483. Re: Lamps?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 16:10:02 UTC
From: --- Bill --- <no@no.no>
Message-ID: <3f4cd7ce_3@127.0.0.1>
Source record: 33000
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Fred Nachbaur wrote:

> Any LED can be a 5 volt LED with an appropriate dropping resistor. ;-)
>
> That being said, there *is* an LED rated for operation directly from a 5
> volt line. Unfortunately, it's a flasher.
>
> Cheers,
> Fred

I noticed in the new Mouser catalog that there is a line of LED lamps
designed as direcet drop-ins for incandesent lamps. Horribly expensive
at this time.

-Bill

1484. Swapfest, TX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 16:34:09 UTC
From: Bill Hennessy <hennessy@281.com>
Message-ID: <3f4cdce2$0$10422$9a6e19ea@news.newshosting.com>
Source record: 33001

We sent the following information to all ARRL affiliated clubs within a 100 mile radius. That is 17 clubs plus Betty w5pup:

The Highland Lakes Amateur Radio Club is hosting its Third Annual Free Swap Meet Saturday morning September 6th. The meet will be held at the "Lakeside Pavilion" in Marble Falls. (The Burnet site we used the past two years is no longer available.)

We think the Pavilion will be a good location for the Swap Meet; it's located on the north bank of Lake Marble Falls, a short distance West of the Hw 281 bridge. It has a roof that covers more than 5000 sq., electrical outlets, restrooms, and 30 tables that will be available on a first-come-first-serve basis. We expect to have enough chairs to meet everyone's needs but if you are not going to arrive early it might be advisable to bring your own table. Tailgaters will be welcome to set up in the parking but no spaces will be reserved. The City has regulations pertaining to alcohol and firearms on park property so we ask that neither be brought to the Pavilion.

Our Club VEs are scheduling license exams on site at 11am. If you have any questions about the exams please contact Don Graves and dgraves@tstar.net

We hope to attract a good crowd and would appreciate any help you can give us getting word out to Hams in your area.

More information on the Meet is posted on the clubs website: www.hlarc.org

A talk-in station will be manned on 146.660(-) with access tone 88.5.

DIRECTIONS: From Hw 281 turn west onto 1st St., then TURN LEFT at the first intersection (Ave. H), proceed south to the first Stop Sign, then TURN RIGHT, you will pass a boat ramp, a tennis court and a swimming pool. The Pavilion is a large structure located just past the swimming pool.

Bill, N5NOB

1485. Broken rigs wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 17:20:21 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <VpKdnWuq3oDkddGiRTvUrg@cnmnetwork.com>
Source record: 33002
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

I enjoy fixing up transceivers that are 'beyond practical repair.' If you have something that no longer works, that you will part with for a reasonable price, please let me know.

I am interested in HF, VHF, and UHF transceivers of any age up to, say, 15 years old as long as they aren't messed up cosmetically and aren't missing any important components. Kenwood, Alinco, and ICOM are brands of interest, for instance.

Recently I have solved some tough problems with radios and I feel that I am on a roll.

73, Bob K6DDX

1486. Re: Lamps?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 18:20:00 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3F4CF650.7060901@psu.edu>
Source record: 33003
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew,rec.radio.swap

Lizard Blizzard wrote:
> Bob wrote:
>
>> Looking for tiny incandescent lamps for my TM-451A Kenwood.
>>
>> Apparently these are 6 V or so; there are four of them in series parallel
>> controlled by a regulator to vary intensity. They light up the LCD
>> and two
>> of them are burned out.
>>
>> I have searched many of the usual sources and can't seem to locate
>> replacement lamps; as a last resort I could go to Pacific Parts but
>> they are
>> so expensive. These are just inexpensively made tiny bulbs with wire
>> leads.
>>
>> Any suggestions?
>
>
> The 272-1140 6V lamp from Radio Shark should work, if they still stock it.

They have them. I just bought a pack a few weeks ago.

- Mike KB3EIA -

1487. No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 19:50:12 UTC
From: snarflemike@yahoo.com
Message-ID: <20619edc.0308271150.18ab03ec@posting.google.com>
Source record: 33004

Caution: this may be the most unimportant post you read today (or this month, or this year, or...)

Anyway, I haven't been in the market for QRP-level transistors for a long time, having laid in a lifetime's supply years ago, but today just for fun I searched for some of the usual suspects from the past (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and found almost nothing to be had. This greatly surprised me, as I was expecting to find all of my old friends readily available. So, are the "old standards" really hard to find now, or are they still readily available (outside of Ebay), or what???

I have to mention the irony that I am able to find any vacuum tube I could possibly want on Ebay, including dozens of types that would make excellent QRP finals, from a seemingly unlimited number of sellers! :-)

73,
Mike, KK6GM

1488. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 20:25:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vkq4uhhab2po08@corp.supernews.com>
Source record: 33005

Do a web search for the part number, and you'll get quite a few hits showing sites that have them for sale.

Roy Lewallen, W7EL

Mike Silva wrote:
> Caution: this may be the most unimportant post you read today (or this
> month, or this year, or...)
>
> Anyway, I haven't been in the market for QRP-level transistors for a
> long time, having laid in a lifetime's supply years ago, but today
> just for fun I searched for some of the usual suspects from the past
> (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> found almost nothing to be had. This greatly surprised me, as I was
> expecting to find all of my old friends readily available. So, are
> the "old standards" really hard to find now, or are they still readily
> available (outside of Ebay), or what???
>
> I have to mention the irony that I am able to find any vacuum tube I
> could possibly want on Ebay, including dozens of types that would make
> excellent QRP finals, from a seemingly unlimited number of sellers!
> :-)
>
> 73,
> Mike, KK6GM

1489. Re: Broken rigs wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 22:37:10 UTC
From: JF <no@reply.com>
Message-ID: <moa3b.6321$L15.2893@newsfep4-winn.server.ntli.net>
Source record: 33006
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Hello,

I fail to see how the cosmetic side of things would stop you repairing
something - unless you're selling the items on afterwards.

"Bob" <balbert@cnmnetwork.com> wrote in message
news:VpKdnWuq3oDkddGiRTvUrg@cnmnetwork.com...
> I enjoy fixing up transceivers that are 'beyond practical repair.' If you
> have something that no longer works, that you will part with for a
> reasonable price, please let me know.
>
> I am interested in HF, VHF, and UHF transceivers of any age up to, say, 15
> years old as long as they aren't messed up cosmetically and aren't missing
> any important components. Kenwood, Alinco, and ICOM are brands of
interest,
> for instance.
>
> Recently I have solved some tough problems with radios and I feel that I
am
> on a roll.
>
> 73, Bob K6DDX
>
>

1490. Re: Broken rigs wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 22:41:24 UTC
From: "Ed G." <Spectrumhog@_REMOVE_StarBand.net>
Message-ID: <Xns93E49FDCD582EFrog207Junocom@148.78.248.75>
Source record: 33007
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

>
> I fail to see how the cosmetic side of things would stop you
> repairing something - unless you're selling the items on afterwards.
>

I fail to see why selling these repaired radios is a problem? If it
is, then they can keep the rigs that are "beyond practical repair" for
paper-weights.

Ed

1491. FA: Dielectric Wattmeter $10 min bid !

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-27 23:16:33 UTC
From: mike <k6zsr@cox.net>
Message-ID: <lZa3b.27818$cj1.1167@fed1read06>
Source record: 33008

See it at:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3043165829&category=4671&rd=1

1492. Re: Lamps?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 01:49:16 UTC
From: Fred Nachbaur <fnachbaur@netscape.net>
Message-ID: <wcd3b.66847$K44.18766@edtnps84>
Source record: 33009
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

```
--- Bill --- wrote:
> Fred Nachbaur wrote:
>
>> Any LED can be a 5 volt LED with an appropriate dropping resistor. ;-)
>>
>> That being said, there *is* an LED rated for operation directly from a
>> 5 volt line. Unfortunately, it's a flasher.
>>
>> Cheers,
>> Fred
>
>
> I noticed in the new Mouser catalog that there is a line of LED lamps
> designed as direcet drop-ins for incandesent lamps. Horribly expensive
> at this time.
>
> -Bill

If you have a parts distributor nearby that stocks (or can order the
Mode line) you might find their variants marginally cheaper:

http://www.mode-elec.com/Products/Page_44-46.pdf

Distributor list here:

http://www.mode-elec.com/Distributors/distributors.html

Cheers,
Fred
--
+-----------------------------------------+
| Music: http://www3.telus.net/dogstarmusic/ |
| Projects, Vacuum Tubes & other stuff: |
| http://www.dogstar.dantimax.dk |
+-----------------------------------------+
```

1493. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 02:06:42 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <Ssd3b.35014$Vx2.15178128@newssvr28.news.prodigy.com>
Source record: 33010

You can find 2Sc799's here. I've also bought 2N3553's
here, although I don't see any currently listed.

http://partsandkits.com/orders.asp

Bruce Raymond/ND8I

"Mike Silva" <snarflemike@yahoo.com> wrote in message
news:20619edc.0308271150.18ab03ec@posting.google.com...
> Caution: this may be the most unimportant post you read today (or this
> month, or this year, or...)
>
> Anyway, I haven't been in the market for QRP-level transistors for a
> long time, having laid in a lifetime's supply years ago, but today
> just for fun I searched for some of the usual suspects from the past
> (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> found almost nothing to be had. This greatly surprised me, as I was
> expecting to find all of my old friends readily available. So, are
> the "old standards" really hard to find now, or are they still readily
> available (outside of Ebay), or what???
>
> I have to mention the irony that I am able to find any vacuum tube I
> could possibly want on Ebay, including dozens of types that would make
> excellent QRP finals, from a seemingly unlimited number of sellers!
> :-)
>
> 73,
> Mike, KK6GM

1494. LED education needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 03:25:19 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <3Ae3b.74955$kP.24778@fed1read03>
Source record: 33011

To All, I need to understand a few things about LED's, such as amperage, current limiting and light output.. Anyone an expert that can explain things and answer my further rising questions in terms an electronics hack (myself) can understand...

Thanks
Bob in phx...

1495. Re: LED education needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 04:09:06 UTC
From: Bob Liesenfeld <wb0poq@visi.com>
Message-ID: <3F4D8062.5F61B5F5@visi.com>
Source record: 33012

bobinphx wrote:
>
> To All, I need to understand a few things about LED's, such as amperage,
> current limiting and light output.. Anyone an expert that can explain things
> and answer my further rising questions in terms an electronics hack (myself)
> can understand...
>
> Thanks
> Bob in phx...

Well, as a start it is generally assumed that an LED when under
forward bias and lit up has 2V across it with 20mA flowing through it.
This allows you to calculate a series resistor with any applied voltage.
Does this help? Any other questions?

Bob WB0POQ

1496. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 08:21:56 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <3f4dbba2$0$264$cc9e4d1f@news.dial.pipex.com>
Source record: 33013

"Mike Silva" <snarflemike@yahoo.com> wrote in message
news:20619edc.0308271150.18ab03ec@posting.google.com...
> Caution: this may be the most unimportant post you read today (or this
> month, or this year, or...)
>
> Anyway, I haven't been in the market for QRP-level transistors for a
> long time, having laid in a lifetime's supply years ago, but today
> just for fun I searched for some of the usual suspects from the past
> (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> found almost nothing to be had. This greatly surprised me, as I was
> expecting to find all of my old friends readily available. So, are
> the "old standards" really hard to find now, or are they still readily
> available (outside of Ebay), or what???

Those devices don't seem to be manufactured any more. I checked a couple of
manufacturers' web sites a couple of weeks ago and couldn't find them. One
or two suppliers here in the UK still stock them, but they are quite
expensive.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

1497. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 12:28:38 UTC
From: John Dyson <sam@jdyson.com>
Message-ID: <3F4DF576.99D9C1CA@jdyson.com>
Source record: 33014

Leon Heller wrote:
>
> "Mike Silva" <snarflemike@yahoo.com> wrote in message
> news:20619edc.0308271150.18ab03ec@posting.google.com...
> > Caution: this may be the most unimportant post you read today (or this
> > month, or this year, or...)
> >
> > Anyway, I haven't been in the market for QRP-level transistors for a
> > long time, having laid in a lifetime's supply years ago, but today
> > just for fun I searched for some of the usual suspects from the past
> > (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> > found almost nothing to be had. This greatly surprised me, as I was
> > expecting to find all of my old friends readily available. So, are
> > the "old standards" really hard to find now, or are they still readily
> > available (outside of Ebay), or what???
>
> Those devices don't seem to be manufactured any more. I checked a couple of
> manufacturers' web sites a couple of weeks ago and couldn't find them. One
> or two suppliers here in the UK still stock them, but they are quite
> expensive.
>
I recently had to look for something similar. A current part might
be the NEC (CEL) NE46134... It is probably a little faster than parts
like the 2N3866, and also is lower voltage, but for a new design might
be somewhat useful (and current.)

John

1498. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 13:12:56 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <3f4dffd7$0$251$cc9e4d1f@news.dial.pipex.com>
Source record: 33015

"John Dyson" <sam@jdyson.com> wrote in message
news:3F4DF576.99D9C1CA@jdyson.com...
> Leon Heller wrote:
> >
> > "Mike Silva" <snarflemike@yahoo.com> wrote in message
> > news:20619edc.0308271150.18ab03ec@posting.google.com...
> > > Caution: this may be the most unimportant post you read today (or this
> > > month, or this year, or...)
> > >
> > > Anyway, I haven't been in the market for QRP-level transistors for a
> > > long time, having laid in a lifetime's supply years ago, but today
> > > just for fun I searched for some of the usual suspects from the past
> > > (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> > > found almost nothing to be had. This greatly surprised me, as I was
> > > expecting to find all of my old friends readily available. So, are
> > > the "old standards" really hard to find now, or are they still readily
> > > available (outside of Ebay), or what???
> >
> > Those devices don't seem to be manufactured any more. I checked a couple
of
> > manufacturers' web sites a couple of weeks ago and couldn't find them.
One
> > or two suppliers here in the UK still stock them, but they are quite
> > expensive.
> >
> I recently had to look for something similar. A current part might
> be the NEC (CEL) NE46134... It is probably a little faster than parts
> like the 2N3866, and also is lower voltage, but for a new design might
> be somewhat useful (and current.)

The BF959 (On Semi, plastic) should be quite useful for broadband pre-amps
instead of the 2N5109 - 500 MHz ft and 1W max. It's a bit noisier, though.
I recently bought some.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

1499. Re: LED education needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 14:17:21 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vks3nt40kk5ved@corp.supernews.com>
Source record: 33016

The advice about current is a good one. Be particularly watchful of the specs on odd colored LEDs. White and Blue LEDs often require more voltage to begin emitting. Many of the brighter LEDs will draw somewhat more current.

If you are limiting the current with a simple series resistor, presume the LED will drop the specification voltage, and select the resistor to drop the remainder of the voltage at the specification current. The problem with this approach is that you often end up dropping a bunch of volts, and so you can dissapate a lot of power in the resistor. It can be a little startling to see a little LED fry a resistor.

Unlike incandescent lamps, which fail abruptly, an LED has a half-life which is dependent (in a very non-linear way) on the current. A typical LED, run at the manufacturer's specs, will loose half it's intensity after about 5 years of on time. Decreasing the current will improve this somewhat, but not a lot. On the other hand, increasing the current will shorten the life a lot. There is a sort of avalange effect where a little too much current will quickly fry the LED. It can be quite surprising how much current an LED can suck up, for a short period of time(!).

When you are close to the specification current, changing the current a little one way or the other doesn't seem to affect the output all that much. This is handy if you are concerned, for example, with battery life. By sacrificing a little light output you can often save quite a bit of current.

..

"W7TI" <noway@nohow.com> wrote in message
news:681rkv49ele9fndhgmbsc0ptsns4b6q1ia@4ax.com...
> On Wed, 27 Aug 2003 20:25:19 -0700, "bobinphx" <rbelisle1@cox.net>
> wrote:
>
> >To All, I need to understand a few things about LED's, such as amperage,

1500. Collins gear on rec.audio.tech

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 14:27:22 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <7uGcnf7JUJlojdOiXTWJkA@comcast.com>
Source record: 33017
Body handling: HTML body converted to readable text

i saw the following on rec.audio.tech -- someone in this newsgroup might be interested:

1501. Re: LED education needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 14:31:11 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <Zz2dnSsG3-tBjNOiXTWJhA@comcast.com>
Source record: 33018

The best tutorials are on Agilent's website. For controllers, National Semi and Linear Tech have very interesting articles.

One thing which I will point out is that each LED (generally) needs its own current limiting resistor. Don't try to parallel LEDs with only one current limiting resistor.

LED brightness is also affected by ambient temperature.

Lastly, there are some good current regulation circuits out there -- LEDs can be used in densitometric (where you need 60+dB of linear performance) applications if you tightly control the current.

"bobinphx" <rbelisle1@cox.net> wrote in message
news:3Ae3b.74955$kP.24778@fed1read03...
> To All, I need to understand a few things about LED's, such as amperage,
> current limiting and light output.. Anyone an expert that can explain
things
> and answer my further rising questions in terms an electronics hack
(myself)
> can understand...
>
> Thanks
> Bob in phx...
>
>

1502. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 14:33:08 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <g4qcnSeAobLNj9OiXTWJhg@comcast.com>
Source record: 33019

use a wildcard, as some of the devices are quite specific in their
descriptors -- thus if you want a 2SC799 and someone is selling a 2SC799A it
won't search up -- ergo search with 2SC79*

"Mike Silva" <snarflemike@yahoo.com> wrote in message
news:20619edc.0308271150.18ab03ec@posting.google.com...
> Caution: this may be the most unimportant post you read today (or this
> month, or this year, or...)
>
> Anyway, I haven't been in the market for QRP-level transistors for a
> long time, having laid in a lifetime's supply years ago, but today
> just for fun I searched for some of the usual suspects from the past
> (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> found almost nothing to be had. This greatly surprised me, as I was
> expecting to find all of my old friends readily available. So, are
> the "old standards" really hard to find now, or are they still readily
> available (outside of Ebay), or what???
>
> I have to mention the irony that I am able to find any vacuum tube I
> could possibly want on Ebay, including dozens of types that would make
> excellent QRP finals, from a seemingly unlimited number of sellers!
> :-)
>
> 73,
> Mike, KK6GM

1503. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 17:06:38 UTC
From: snarflemike@yahoo.com
Message-ID: <20619edc.0308280906.41b435f9@posting.google.com>
Source record: 33020

"John Walton" <jdwalton@comcast.net> wrote in message
news:<g4qcnSeAobLNj9OiXTWJhg@comcast.com>...
> use a wildcard, as some of the devices are quite specific in their
> descriptors -- thus if you want a 2SC799 and someone is selling a 2SC799A it
> won't search up -- ergo search with 2SC79*

Your advice is on the mark. I've gotten to the point where I *never*
spell out an entire word or part number on ebay! Hint to hams: lots
of sellers can't spell "amateur" :-)

73,
Mike, KK6GM

1504. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 17:12:42 UTC
From: snarflemike@yahoo.com
Message-ID: <20619edc.0308280912.3eeb7706@posting.google.com>
Source record: 33021

John Dyson <sam@jdyson.com> wrote in message news:<3F4DF576.99D9C1CA@jdyson.com>...
> >
> I recently had to look for something similar. A current part might
> be the NEC (CEL) NE46134... It is probably a little faster than parts
> like the 2N3866, and also is lower voltage, but for a new design might
> be somewhat useful (and current.)

Thanks. Is there a current "List of desirable RF transistors for
2003" floating around? If not, would anybody else like to contribute
some part numbers here?

73,
Mike, KK6GM

1505. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 19:53:55 UTC
From: John Dyson <sam@jdyson.com>
Message-ID: <3F4E5DD3.DB995AFF@jdyson.com>
Source record: 33022

Mike Silva wrote:
>
> John Dyson <sam@jdyson.com> wrote in message news:<3F4DF576.99D9C1CA@jdyson.com>...
> > >
> > I recently had to look for something similar. A current part might
> > be the NEC (CEL) NE46134... It is probably a little faster than parts
> > like the 2N3866, and also is lower voltage, but for a new design might
> > be somewhat useful (and current.)
>
> Thanks. Is there a current "List of desirable RF transistors for
> 2003" floating around? If not, would anybody else like to contribute
> some part numbers here?
>
I dont' have any 'lists' per-se, but you might want to look at
www.cel.com (for the US rep and info for NEC transistors.) philips
and siemens (infineon.com) also have a current line of RF components.
For slightly higher frequencies, the agilent phemts are actually
really practical for as low as 50MHz (but probably 200MHz in reality.)
For RF gain modules, the sirenza (sp) parts are really good (and
in some cases, the original OEM for the Minicircuits gain parts.)
(Their SiGe parts are usually reasonably priced, have low NF as low
as 1.9dB, and SiGe parts tend to have good low frequency NF also.)

The manufacturers that I listed above tend to have fairly good
spec sheets and have SOME US availability. Often, there
is the terrible issue of QTY3000 type order requirements, but
that isn't always a problem.

For distributors, you can try mouser.com, newark.com, avnet.com?, etc.

Mouser has a fairly good stock, and so does newark... Sometimes, the
distributors have 'good deals' on designers kits. The designers kits
usually have anywhere from QTY3 per part number on up to QTY10 or higher.

I usually play the game of looking at the suppliers spec sheets, and
the distributor's availability lists, and then compare the two.

(I know that this isn't directly answering your need/questions, but can
get you started if no other info is provided to you!!!)

John

1506. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 21:03:01 UTC
From: "Mark J. Dulcey" <mark@buttery.org>
Message-ID: <pan.2003.08.28.21.03.01.727032@buttery.org>
Source record: 33023

On Sat, 09 Aug 2003 10:20:08 +0000, chrisdot muriel wrote:

> If you go to www.analog.com/dds then scroll down & select the
> "Technical Library" link (under the "Technical Support Resources"
> heading) you can download the DDSTutor (900K+ pdf-file).
> Then do a Ctrl-F and search for "sweet" in the pdf itself.
> Some hints are given there.

Unfortunately, the file does not seem to be available currently. I found
the link for it
(http://www.analog.com/UploadedFiles/Tutorials/104002517DDStutor.pdf), but
it takes you to a "not found" page.

1507. Re: using AD9954 400MHz DSS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-28 22:18:55 UTC
From: chrisdot muriel <muriel@analogdot.com>
Message-ID: <gqvskv033c5nqif5ohuh8u2o6i863g7bmv@4ax.com>
Source record: 33024

On Thu, 28 Aug 2003 17:03:01 -0400, "Mark J. Dulcey"
<mark@buttery.org> wrote:

>On Sat, 09 Aug 2003 10:20:08 +0000, chrisdot muriel wrote:
>
>> If you go to www.analog.com/dds then scroll down & select the
>> "Technical Library" link (under the "Technical Support Resources"
>> heading) you can download the DDSTutor (900K+ pdf-file).
>> Then do a Ctrl-F and search for "sweet" in the pdf itself.
>> Some hints are given there.
>
>Unfortunately, the file does not seem to be available currently. I found
>the link for it
>(http://www.analog.com/UploadedFiles/Tutorials/104002517DDStutor.pdf), but
>it takes you to a "not found" page.

The 1st link under "Technical Documentation" doesn't work.
The one under Tutorials (right at the bottom) does work :
http://www.analog.com/UploadedFiles/Tutorials/5401118911001651518334353307910400 2517DDStut
or.pdf

Chris Muriel, G3ZDM

1508. Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 00:51:07 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <%rx3b.35343$Vx2.15393021@newssvr28.news.prodigy.com>
Source record: 33025

I've seen the equation Po = V^2 / 2R applied to the design
of Class C amplifiers. This doesn't make sense to me and
I'm looking for corroboration, or somebody to tell me I'm
an idiot ;-). The formula makes sense for a Class A amplifier
which has conduction over 360 degrees, but would seem
to overstate the power output for a Class C amplifier with,
say a 120 degree conduction.

An amplifier with a 120 degree conduction angle would
only produce about 47% as much power as one with a
360 degree conduction angle (if I did the math right).
Therefore, I'm assuming that the formula should be
Po = .47 * V^2 / 2R, or Po = V^2 / 4.2R in this case.
Is this correct?

Thanks,
Bruce Raymond/ND8I

1509. FA: Eico 147A,SWR/Watt,tubes,xmtr cap...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 01:19:55 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <%Sx3b.119232$3o3.8353713@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33026
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On Ebay now: search under seller heytubeguy
Many other items coming daily.

1510. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 02:52:02 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F4EC0C5.1A0F1376@rica.net>
Source record: 33027

Bruce Raymond wrote:
>
> I've seen the equation Po = V^2 / 2R applied to the design
> of Class C amplifiers. This doesn't make sense to me and
> I'm looking for corroboration, or somebody to tell me I'm
> an idiot ;-). The formula makes sense for a Class A amplifier
> which has conduction over 360 degrees, but would seem
> to overstate the power output for a Class C amplifier with,
> say a 120 degree conduction.
>
> An amplifier with a 120 degree conduction angle would
> only produce about 47% as much power as one with a
> 360 degree conduction angle (if I did the math right).
> Therefore, I'm assuming that the formula should be
> Po = .47 * V^2 / 2R, or Po = V^2 / 4.2R in this case.
> Is this correct?

I think the answer depends on what the letter V stands for in the
equation. If it is the peak voltage of a sine wave that rings out of
a tuned circuit (or any other pretty good sine source), then it
doesn't matter how the sine wave was generated. Somehow, the energy
put into the resonator is driving a resistor with positive and
negative peak swings and that dumps
V^2 / 2R watts into the resistor. The instantaneous peak power put
into the resonance must be higher than that, for the class C amplifier
to pump it up to that voltage in a small fraction of a cycle.

If you want a challenge, figure the power out of a class C DC
amplifier. ;)

--
John Popelish

1511. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 12:05:40 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <okH3b.35399$Vx2.15461928@newssvr28.news.prodigy.com>
Source record: 33028

John,

Thanks for the reply. I'm actually interested in the version
of the formula (Rl = Vcc^2 / 2Pout) listed on page 2.33
of "Experimental Methods in RF Design", by Wes Hayward, ...
(excellent book).

In the example Vcc is 12 volts and Po is 1.5 watts. Rl
works out to 48 ohms. Wouldn't the peak current be
12 volts/48 ohms = 250 ma? If this were a sine wave then
the RMS power would be 1.5 watts. However, the amplifier
is run as Class C and only produces output less than half
of the time, so the output would then be less than 0.75 watts.

It seems that the formula should be adjusted to account
for the conduction angle, e.g. Rl should be smaller by at
least a factor of 2 to compensate for the conduction
angle. What am I missing?

Thanks,
Bruce Raymond/ND8I

"John Popelish" <jpopelish@rica.net> wrote in message
news:3F4EC0C5.1A0F1376@rica.net...
> Bruce Raymond wrote:
> >
> > I've seen the equation Po = V^2 / 2R applied to the design
> > of Class C amplifiers. This doesn't make sense to me and
> > I'm looking for corroboration, or somebody to tell me I'm
> > an idiot ;-). The formula makes sense for a Class A amplifier
> > which has conduction over 360 degrees, but would seem
> > to overstate the power output for a Class C amplifier with,
> > say a 120 degree conduction.
> >
> > An amplifier with a 120 degree conduction angle would
> > only produce about 47% as much power as one with a
> > 360 degree conduction angle (if I did the math right).
> > Therefore, I'm assuming that the formula should be
> > Po = .47 * V^2 / 2R, or Po = V^2 / 4.2R in this case.
> > Is this correct?
>
>
> I think the answer depends on what the letter V stands for in the
> equation. If it is the peak voltage of a sine wave that rings out of
> a tuned circuit (or any other pretty good sine source), then it
> doesn't matter how the sine wave was generated. Somehow, the energy

> put into the resonator is driving a resistor with positive and
> negative peak swings and that dumps
> V^2 / 2R watts into the resistor. The instantaneous peak power put
> into the resonance must be higher than that, for the class C amplifier
> to pump it up to that voltage in a small fraction of a cycle.
>
> If you want a challenge, figure the power out of a class C DC
> amplifier. ;)
>
> --
> John Popelish

1512. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 13:10:29 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <iujukv4u2fkersiene95vjkpv287i2e5s7@4ax.com>
Source record: 33029

>It seems that the formula should be adjusted to account
>for the conduction angle, e.g. Rl should be smaller by at
>least a factor of 2 to compensate for the conduction
>angle. What am I missing?

More current is flowing thru the transistor when conducting than would normally be used if class-A ? ... this would average out because it's being pulsed rather than continuous.

As it's a tuned circuit, the tuned circuit would carry on dishing out current into the load thru the rest of the cycle - stored from the pulse of current when the transistor conducts.

Clive

1513. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 13:17:09 UTC
From: Brian Collett <bcollett@hamilton.edu>
Message-ID: <bcollett-DF362B.09170929082003@central.isp.giganews.com>
Source record: 33030

In article <okH3b.35399$Vx2.15461928@newssvr28.news.prodigy.com>,
"Bruce Raymond" <raymondb@dma.org> wrote:
>
> Thanks for the reply. I'm actually interested in the version
> of the formula (Rl = Vcc^2 / 2Pout) listed on page 2.33
> of "Experimental Methods in RF Design", by Wes Hayward, ...
> (excellent book).
>
<SNIP>
> It seems that the formula should be adjusted to account
> for the conduction angle, e.g. Rl should be smaller by at
> least a factor of 2 to compensate for the conduction
> angle. What am I missing?
>

You are missing the effect of the tuned circuit. Class C operation means
that the output transistor(s) are turned on for only part of a cycle and
thus feed energy into the tuned circuit during part of a cycle. However,
the energy stored in the tuned circuit is large enough to maintain the
output voltage through the complete cycle. Thus the formula does not
need to kow about the conduction angle.
Tink about puching a child on a swing. The person pushing is the output
transistor and the child on the swing the tuned circuit. The person
provides small pushes for a very short part of the complete swing cycle
but they do it at just the right times and the total energy in the
system (how high the child swings) builds up and the swing executes
complete cycles even though it is only pushed for a few degrees at the
back of its swing.
Brian.

1514. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 18:49:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vkv81kj5uuka1f@corp.supernews.com>
Source record: 33031

The equation appears in Terman's _Radio Engineering_, where it's derived with what looks like a bit of hand-waving. However, a paper is referenced (Terman and Roake, "Calculation and Design of Class C Amplifiers", Proc. I.R.E., vol. 24, April, 1936) which apparently has more of an in-depth derivation. However, it appears to be depend somewhat on characteristics unique to vacuum tubes. I recall having a homework question in college that looked like it required a derivation of the formula, and I struggled for several hours before giving up. The professor told me that it was a somewhat emperical formula which couldn't be rigorously derived.

Anyway, in Terman there's a graph (fig. 7-29 in the Third Ed.) which does include the effect of conduction angle, but it's not immediately obvious how the formula would be affected.

The formula commonly seen isn't generally used to predict power output, but rather solved for R to give a nominal impedance that a class C amplifier with output power Po would like to see. It's a good starting point for designing output networks, but by no means universal. High-efficiency amplifiers I've designed do require a different impedance than predicted by the formula. For example, see Fig. 2.97 in _Experimental Methods in RF Design_. The impedance seen by the collector of that amplifier is about 18.7 + j8.5 ohms(*), while the formula would predict about 9 ohms. There are more comments about that in the book.

I'm not aware of any rigorous formula that can be used to precisely predict the optimum load impedance for a class C amplifier.

(*) I don't recall right off how much C the zener adds, but think it was around 30 pF. So that's what I used for the calculation. Note that the L values in the figure caption should be uH, not H and mH as shown.

Roy Lewallen, W7EL

Bruce Raymond wrote:
> John,
>
> Thanks for the reply. I'm actually interested in the version
> of the formula (Rl = Vcc^2 / 2Pout) listed on page 2.33
> of "Experimental Methods in RF Design", by Wes Hayward, ...
> (excellent book).
>
> In the example Vcc is 12 volts and Po is 1.5 watts. Rl
> works out to 48 ohms. Wouldn't the peak current be
> 12 volts/48 ohms = 250 ma? If this were a sine wave then
> the RMS power would be 1.5 watts. However, the amplifier

> is run as Class C and only produces output less than half
> of the time, so the output would then be less than 0.75 watts.
>
> It seems that the formula should be adjusted to account
> for the conduction angle, e.g. Rl should be smaller by at
> least a factor of 2 to compensate for the conduction
> angle. What am I missing?
>
> Thanks,
> Bruce Raymond/ND8I
>
>
> "John Popelish" <jpopelish@rica.net> wrote in message
> news:3F4EC0C5.1A0F1376@rica.net...
>
>>Bruce Raymond wrote:
>>
>>>I've seen the equation Po = V^2 / 2R applied to the design
>>>of Class C amplifiers. This doesn't make sense to me and
>>>I'm looking for corroboration, or somebody to tell me I'm
>>>an idiot ;-). The formula makes sense for a Class A amplifier
>>>which has conduction over 360 degrees, but would seem
>>>to overstate the power output for a Class C amplifier with,
>>>say a 120 degree conduction.
>>>
>>>An amplifier with a 120 degree conduction angle would
>>>only produce about 47% as much power as one with a
>>>360 degree conduction angle (if I did the math right).
>>>Therefore, I'm assuming that the formula should be
>>>Po = .47 * V^2 / 2R, or Po = V^2 / 4.2R in this case.
>>>Is this correct?
>>
>>
>>I think the answer depends on what the letter V stands for in the
>>equation. If it is the peak voltage of a sine wave that rings out of
>>a tuned circuit (or any other pretty good sine source), then it
>>doesn't matter how the sine wave was generated. Somehow, the energy
>>put into the resonator is driving a resistor with positive and
>>negative peak swings and that dumps
>>V^2 / 2R watts into the resistor. The instantaneous peak power put
>>into the resonance must be higher than that, for the class C amplifier
>>to pump it up to that voltage in a small fraction of a cycle.
>>
>>If you want a challenge, figure the power out of a class C DC
>>amplifier. ;)
>>
>>--
>>John Popelish
>
>

>

1515. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 21:10:31 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <bjP3b.35454$Vx2.15529472@newssvr28.news.prodigy.com>
Source record: 33032

Guys,

Thanks for all of the insight - I appreciate the help.

Bruce Raymond/ND8I

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vkv81kj5uuka1f@corp.supernews.com...
> The equation appears in Terman's _Radio Engineering_, where it's derived
> with what looks like a bit of hand-waving. However, a paper is
> referenced (Terman and Roake, "Calculation and Design of Class C
> Amplifiers", Proc. I.R.E., vol. 24, April, 1936) which apparently has
> more of an in-depth derivation. However, it appears to be depend
> somewhat on characteristics unique to vacuum tubes. I recall having a
> homework question in college that looked like it required a derivation
> of the formula, and I struggled for several hours before giving up. The
> professor told me that it was a somewhat emperical formula which
> couldn't be rigorously derived.
>
> Anyway, in Terman there's a graph (fig. 7-29 in the Third Ed.) which
> does include the effect of conduction angle, but it's not immediately
> obvious how the formula would be affected.
>
> The formula commonly seen isn't generally used to predict power output,
> but rather solved for R to give a nominal impedance that a class C
> amplifier with output power Po would like to see. It's a good starting
> point for designing output networks, but by no means universal.
> High-efficiency amplifiers I've designed do require a different
> impedance than predicted by the formula. For example, see Fig. 2.97 in
> _Experimental Methods in RF Design_. The impedance seen by the collector
> of that amplifier is about 18.7 + j8.5 ohms(*), while the formula would
> predict about 9 ohms. There are more comments about that in the book.
>
> I'm not aware of any rigorous formula that can be used to precisely
> predict the optimum load impedance for a class C amplifier.
>
> (*) I don't recall right off how much C the zener adds, but think it was
> around 30 pF. So that's what I used for the calculation. Note that the L
> values in the figure caption should be uH, not H and mH as shown.
>
> Roy Lewallen, W7EL
>

<snip>

1516. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 21:34:10 UTC
From: snarflemike@yahoo.com
Message-ID: <20619edc.0308291334.79262174@posting.google.com>
Source record: 33033

c.a.m@antijunk3.blueyonder.co.uk wrote in message
news:<iujukv4u2fkersiene95vjkpv287i2e5s7@4ax.com>...
> >It seems that the formula should be adjusted to account
> >for the conduction angle, e.g. Rl should be smaller by at
> >least a factor of 2 to compensate for the conduction
> >angle. What am I missing?
>
> More current is flowing thru the transistor when conducting than would normally
> be used if class-A ? ... this would average out because it's being pulsed rather
> than continuous.

And it's reasonable to expect higher current in the pulse than Ohm's
Law would give, because the pulse has a whole bunch of energy in
harmonics, for which the load impedance is lower (the load C reactance
being lower). Since the harmonic content of the pulse goes up as the
conduction angle gets smaller, it makes sense that the average current
through the whole cycle would be somewhat independent of conduction
angle.

Just don't ask me to prove it! ;-)

73,
Mike, KK6GM

1517. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 21:35:52 UTC
From: Bibby <m.bibby@comcast.net>
Message-ID: <YGP3b.227320$Oz4.62141@rwcrnsc54>
Source record: 33034

Dick, you got a lot of helpful feedback on your question - yet no response from you.

Don't you think a simple "thank you" would be in order?

Malcolm

"Dick" <dick@langwang.demon.co.uk> wrote in message news:cng7zzDEgPQ$Ew00@langwang.demon.co.uk...
> I'm trying to get a hold of a tool that will undo grub screws
> securing the front panel knobs on my venerable BC221, can anyone suggest
> where I can get a hold of one, a modern equivalent and/or something that
> can be modified to do the job ??
> Although all BC221s were provided with the tool (stored in a
> clip beside the spare valves) I've never seen one and can only guess
> that it must be something like a very small Phillips screwdriver head
> but with a parallel rather than tapered tip. It must also be less than
> 3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
> steel rod and that was too big, don't think my eyesight is up to hand
> filing the cruciform tip in any smaller dia rod, hence a request for
> help !!
> My BC221 is still furkling along after 63+ years (& only c/s -
> There, I've said it !!) out of calibration) but I think I should at
> least try & smarten up the case with a good clean and a bit of fresh
> paint. Who knows, it's probably got more chance of making the century
> than I have.
> Thanks
> --
> Dick
> GM0MNL

1518. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 21:39:34 UTC
From: PJ <pyoung47@yahoo.com>
Message-ID: <qKP3b.689$Lk5.369@newsread3.news.pas.earthlink.net>
Source record: 33035

Yes

"Bruce Raymond" <raymondb@dma.org> wrote in message
news:%rx3b.35343$Vx2.15393021@newssvr28.news.prodigy.com...
> I've seen the equation Po = V^2 / 2R applied to the design
> of Class C amplifiers. This doesn't make sense to me and
> I'm looking for corroboration, or somebody to tell me I'm
> an idiot ;-). The formula makes sense for a Class A amplifier
> which has conduction over 360 degrees, but would seem
> to overstate the power output for a Class C amplifier with,
> say a 120 degree conduction.
>
> An amplifier with a 120 degree conduction angle would
> only produce about 47% as much power as one with a
> 360 degree conduction angle (if I did the math right).
> Therefore, I'm assuming that the formula should be
> Po = .47 * V^2 / 2R, or Po = V^2 / 4.2R in this case.
> Is this correct?
>
> Thanks,
> Bruce Raymond/ND8I
>
>
>

1519. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-29 22:33:42 UTC
From: Paul Burridge <redscar@waitrose.notformail.com>
Message-ID: <bggvkv8ruo6oa9i6orcnif26vl3mnf1101@4ax.com>
Source record: 33036

On Fri, 29 Aug 2003 09:17:09 -0400, Brian Collett
<bcollett@hamilton.edu> wrote:

>You are missing the effect of the tuned circuit. Class C operation means
>that the output transistor(s) are turned on for only part of a cycle and
>thus feed energy into the tuned circuit during part of a cycle. However,
>the energy stored in the tuned circuit is large enough to maintain the
>output voltage through the complete cycle. Thus the formula does not
>need to kow about the conduction angle.
>Tink about puching a child on a swing. The person pushing is the output
>transistor and the child on the swing the tuned circuit. The person
>provides small pushes for a very short part of the complete swing cycle
>but they do it at just the right times and the total energy in the
>system (how high the child swings) builds up and the swing executes
>complete cycles even though it is only pushed for a few degrees at the
>back of its swing.

Yes, but to complete the analogy, as the pushing phase becomes
shorter, the more the energy that be provided during it. It's just the
same with Class C., the shorter conduction angle operation requires
higher peak current drive to work properly.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1520. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 00:18:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vkvrbbj2ps2j83@corp.supernews.com>
Source record: 33037

It's really tricky to do a frequency domain analysis on a waveform as distorted as the one appearing on a class C amplifier collector. Unless you're extremely careful and very aware of exactly what you're doing, results are likely to be very wrong. Among other things, you have to rigorously preserve phase information for each frequency. I personally think a time domain approach is much more likely to yield correct results, and this has been done. Search for papers by Sokal and Sokal about class E amplifiers. I believe Frederick Raab did a lot of the mathematical analysis, and published a number of papers on the topic. I'd be very skeptical of any frequency domain analysis, or even general intuitive arguments based solely on frequency domain considerations.

You'll probably find more references on class E amplifiers in _Experimental Methods_. Class E amplifiers are essentially class C amplifiers in which the output networks are carefully and rigorously designed (using time domain techniques) to maximize efficiency.

Roy Lewallen, W7EL

Mike Silva wrote:
> c.a.m@antijunk3.blueyonder.co.uk wrote in message
news:<iujukv4u2fkersiene95vjkpv287i2e5s7@4ax.com>...
>
>>>It seems that the formula should be adjusted to account
>>>for the conduction angle, e.g. Rl should be smaller by at
>>>least a factor of 2 to compensate for the conduction
>>>angle. What am I missing?
>>
>>More current is flowing thru the transistor when conducting than would normally
>>be used if class-A ? ... this would average out because it's being pulsed rather
>>than continuous.
>
>
> And it's reasonable to expect higher current in the pulse than Ohm's
> Law would give, because the pulse has a whole bunch of energy in
> harmonics, for which the load impedance is lower (the load C reactance
> being lower). Since the harmonic content of the pulse goes up as the
> conduction angle gets smaller, it makes sense that the average current
> through the whole cycle would be somewhat independent of conduction
> angle.
>
> Just don't ask me to prove it! ;-)
>
> 73,
> Mike, KK6GM

1521. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 01:21:48 UTC
From: Ron Gould <ron@gould.net>
Message-ID: <biou2r02fkl@enews3.newsguy.com>
Source record: 33038
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

BTW, my post was real true experiences---I have had some really wild
experiences in my 65 years of life--Unfortunately----

Best---
Ron :-)

Ron Gould <ron@gould.net> wrote in message
news:bh72ri02n24@enews3.newsguy.com...
> Well, I got hit by lightening while camping in the mountains as a kid.
I
> was laying down in my "fern" bed on the ground in my pup tent. The ground
> liquidified like a wave, first raising my head, then lowering, and then my
> hips, then feet raised and lowered.
>
> Took about 3 minutes for my eyesight to come back, about 8 or 10
minutes
> for any hearing. I didn't like being blind for 3 minutes alone out in a
tent
> in bear country!
>
> Another time as a kid, my Aunt Katherine had one of the old, old
> electric fence units that used a light bulb to limit the current. She put
a
> big wattage bulb in there, to really shock the cows, as they were ignoring
> the regular shocks. I was out in the field, and as a kid, tried to see how
> high I could pee. I didn't realize the electric fence wire went thru the
> other side of that huge bush.
>
> Yep, you got it--- with a body being 90% water, it went up into me,
and
> all over my body internally. Threw me down on the ground, I saw huge Black
> stars (daytime), muscle contraction from electric shock, I was peeing
> straight upwards out of control, since I was on my back on the ground, it
> all came down like a fountain above me, all over me. It took years before
I
> told this story (the other guy had it happen to him too).
>
> Then in the Navy I got about 20 KV of RF which burned a hole clear
> through my finger. I could've fed a thread through my finger. Took a long
> time to grow together.
>
> And, yes, I remember discharging the Radar Caps with that long
grounding
> stick with the wood handle. Never got shocked there, just good and scared.

>
> I got caught in front of a radar antenna (20 feet) that someone had
> turned on. I had my back to it, I got very sweaty and hot, turned around,
> and it was rotating. I've had problems with uncontrolled sweating since
that
> day in 1958. I soak the pillow every night, my clothes everyday. To this
> day.
>
> I'm thinking of changing my name to "Lucky" :-)
> I've learmed to laugh at myself.
> Seems everytime some Doggoned thing comes along, my Creator seems to
say
> "Let's try this on Ron, He really gives ME a lotta laughs".
>
> Best to all---
> Ron a Scot :-)
> Lucky
>
>
> George R. Gonzalez <grg2@comcast.net> wrote in message
> news:GbsYa.58326$Vt6.20071@rwcrnsc52.ops.asp.att.net...
> > IIRC a "fatal" shock is mroe likely to be a mddling-current one. The
> > stronger ones tend to self-defibbrilate you.
> >
> > That's why lightning strike victims often survive.
> >
> > A BAD shock I got once was when I had a pair of 400uf, 450V capacitors
> > forming up on the cap tester.
> > It was up to 450 volts, but still pulling a few milliamps. I went to
set
> it
> > aside and wrapped one hand around one big aluminum can, other hand
around
> > the other can. I thought both cans were grounded, but somehow got a
heck
> of
> > a shock! Later on I realized I was chanrging the capacitors in series
for
> > some reason.
> >
> > Take care,
> >
> >
> > George
> >
> >
> >
>
>
> ---

> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.506 / Virus Database: 303 - Release Date: 8/1/03
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.506 / Virus Database: 303 - Release Date: 8/1/03

1522. WTB: Cliff Dweller Rotatable Dipoe Centre Antenna Section

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 02:48:54 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <qpU3b.3961$Pa1.177316@read1.cgocable.net>
Source record: 33039
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.swap

I have the End Coils & Control Box for the Cliff Dweller Antenna that was
Mfd in 1960's by New-Tronics.
The Model was CD-40-75. It was essentially a 40 & 75 Meter Rotatable
Dipole.
I need the centre Motor Assy and extended 10 ft extentions between the
Center Motor Assy and the End 40/75 Meter Coild Assy.
I got the parts I got from an Estate Sale, but the widow did not know
anything about a Centre Section...I have done some digging and have info
from Newtronics but is limited.
Any assistance would be appreciated...even close up pictures of the centre
section so I "may" be able to fabricate a similar assy would be appreciated
Thank You for your time....Norm

1523. Re: Newbie Question - Class C Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 04:41:33 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F502C5F.8B5AE52A@rica.net>
Source record: 33040

Bruce Raymond wrote:
>
> John,
>
> Thanks for the reply. I'm actually interested in the version
> of the formula (Rl = Vcc^2 / 2Pout) listed on page 2.33
> of "Experimental Methods in RF Design", by Wes Hayward, ...
> (excellent book).
>
> In the example Vcc is 12 volts and Po is 1.5 watts. Rl
> works out to 48 ohms. Wouldn't the peak current be
> 12 volts/48 ohms = 250 ma? If this were a sine wave then
> the RMS power would be 1.5 watts. However, the amplifier
> is run as Class C and only produces output less than half
> of the time, so the output would then be less than 0.75 watts.

I guess this assumes that with a 12 volt supply, a resonant load could produce almost a 24 volt peak to peak sine wave. A fair approximation.

When the class C amplifier comes on, it sees an impedance a lot lower than the 48 ohms on the tank. The amp loads the tank with all the energy it will lose in the next cycle, but the tank meters this energy to the load in sinusoidal form. A piston in an internal combustion engine puts out more peak torque than the flywheel delivers to the transmission by the same mechanism. But the average power put out by the piston is the same as the the average power delivered by the flywheel to the transmission.

> It seems that the formula should be adjusted to account
> for the conduction angle, e.g. Rl should be smaller by at
> least a factor of 2 to compensate for the conduction
> angle. What am I missing?

Energy storage in the tank.

--
John Popelish

1524. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 05:05:40 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bipbme$sk2@library2.airnews.net>
Source record: 33041

6th grade is WAY too late to try to get them interested.

Back in the Dark Ages of the early 1960s, the Boy Scouts of America had an Arrowhead point on the Wolf badge for a crystal radio, and one on the Bear badge for a 1-tube regenerative receiver (complete with 1H4G tube and 90 V B-battery). Wolf badge was nominally 8 years old, Bear nominally 9.

Kids can be successfully hooked on electronics at 5 or 6. The old 12-in-1 or 18-in-1 or N-in-1 experimenters kits work WONDERFULLY for that kind of thing.

Ramsey Electronics used to sell a crystal radio kit. This is the standard starting place.

"Matt" <mthomas@biocontrolsys.com> wrote in message
news:vkn8rpgbf8oh6b@corp.supernews.com...
> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't
go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this
with
> a group of kids?
>
> Thanks for your time.
>
> 73,
> Matt Thomas
> KD7PPK
>
>

1525. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 06:35:06 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f504532.525971864@news.freeserve.net>
Source record: 33042

Dick, there's a BC221 on Ebay UK's Ham Radio list, selling later
today, current;y the bid is 12.50 UKP if you're interested.
Not mine I hasten to add.
atb Mike W
--
On Mon, 18 Aug 2003 17:00:04 +0100, Dick <dick@langwang.demon.co.uk>
wrote:

> I'm trying to get a hold of a tool that will undo grub screws
>securing the front panel knobs on my venerable BC221, can anyone suggest
>where I can get a hold of one, a modern equivalent and/or something that
>can be modified to do the job ??
> Although all BC221s were provided with the tool (stored in a
>clip beside the spare valves) I've never seen one and can only guess
>that it must be something like a very small Phillips screwdriver head
>but with a parallel rather than tapered tip. It must also be less than
>3/32" dia 'cos I've just tried to make one by hand out of 3/32" dia
>steel rod and that was too big, don't think my eyesight is up to hand
>filing the cruciform tip in any smaller dia rod, hence a request for
>help !!
> My BC221 is still furkling along after 63+ years (& only c/s -
>There, I've said it !!) out of calibration) but I think I should at
>least try & smarten up the case with a good clean and a bit of fresh
>paint. Who knows, it's probably got more chance of making the century
>than I have.
> Thanks
>--
>Dick
>GM0MNL

1526. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 06:49:54 UTC
From: ?n?n?m?u? <respond@in.conference.com>
Message-ID: <skh0lvoep9vhrlbg82o1koojj6sf9j9cth@4ax.com>
Source record: 33043
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge <redscar@waitrose.notformail.com> wrote:

>The question seems daft, but bear with me, gentlemen. Has anyone ever
>had an electric shock that they feel lucky to have survived?
No, can't say I have..... I do remember once when I had just got to work
and a line operator came into the lab complaining that he had blown the
fuse on a power supply. It was one of those twist on black cap ones, that
held the fuse inside it. Well, I pulled it out and without thinking just shoved
a new fuse in and wham! Ya! I'm up! That worked better that 10 cups of
coffee!

1527. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 10:58:47 UTC
From: Winfield Hill <whill@picovolt.com>
Message-ID: <biq0170bka@drn.newsguy.com>
Source record: 33044
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

> wrote...
>
> Paul Burridge wrote:
>
>> The question seems daft, but bear with me, gentlemen. Has anyone
>> ever had an electric shock that they feel lucky to have survived?
>
> No, can't say I have..... I do remember once when I had just got
> to work and a line operator came into the lab complaining that he
> had blown the fuse on a power supply. It was one of those twist
> on black cap ones, that held the fuse inside it. Well, I pulled
> it out and without thinking just shoved a new fuse in and wham!
> Ya! I'm up! That worked better that 10 cups of coffee!

I'm glad you're OK. But that fuse-holder was mis-wired, with the
ac input on the outer ring rather than on the inner end connection.
Properly wired, a user won't be exposed to a dangerous hazard, as
we point out on page 328 of our book, The Art of Electronics.

Thanks,
- Win

1528. Re: Wanted: 4-Condr FEMALE Connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 11:49:33 UTC
From: Doug <DeliverSpam@Landfill.Com>
Message-ID: <dPSdnZfXO4j9Es2iXTWJig@gbronline.com>
Source record: 33045
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.swap

The first couple years those radios were out you couldn't find them. I actually made a couple for myself. HOWEVER now they can be found abundantly at hamfests, just check with the big connector dealers (sorry no names come to mind) (possibly rainbow).

"Norm VE3CZI" <ve3czi@arrl.net> wrote in message news:gg6_a.674$q9.47000@read1.cgocable.net...
> Have a requirement to make an interface cable to connect an FT-90 to a
> Motorcycle Helmet Sprkr/Mic Assy which has a MALE (tip-ring-ring-sleeve)
> Plug on it.
>
> I need a Yaesu Female connector (tip-ring-ring-sleeve) and will connect
> the other end of the cable to the FT-90 Mic & Ext Spkr jack.
>
> Does anyone know of a supplier of the Female 4 Condr Connector OR has a
> scrap Yaesu Portable that I can salvage the Remote Jack connector for this
> project.
> Tnx & 73...Norm VE3CZI
>
>
>

1529. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 12:22:52 UTC
From: Dick <dick@langwang.demon.co.uk>
Message-ID: <LhSeSfBccJU$Ew3f@langwang.demon.co.uk>
Source record: 32901

In message <YGP3b.227320$Oz4.62141@rwcrnsc54>, Bibby
<m.bibby@comcast.net> writes
>Dick, you got a lot of helpful feedback on your question - yet no response
>from you.
>
>Don't you think a simple "thank you" would be in order?
>
>Malcolm
Yes, my fault & I should have got back to thank everyone for their input
to my BC221 query sooner than this. I've now got a set of small Bristol
wrenches on order from the US and I'll post an up date once they arrive
& I've had a chance to try & remove the grub screws (carefully).

Once again, thanks for all the suggestions & loan offers.
--
Dick
GM0MNL

1530. FA: RCA RADIOLA III + other ham stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 13:33:42 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <WI14b.121335$3o3.8498691@bgtnsc05-news.ops.worldnet.att.net>
Source record: 33046

Antique RCA Radiola III
5881 tubes x 5
SWR/Watt cross reading meter
+ More
OTHER ITEMS COMING

See under ebay seller heytubeguy +
http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

1531. Re: Refurbishing BC221

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 15:00:54 UTC
From: k7itm@aol.com
Message-ID: <3200347.0308300700.7fb9f34b@posting.google.com>
Source record: 32897

"Bibby" <m.bibby@comcast.net> wrote in message news:<YGP3b.227320$Oz4.62141@rwcrnsc54>...
> Dick, you got a lot of helpful feedback on your question - yet no response
> from you.
>
> Don't you think a simple "thank you" would be in order?

I'm glad to see that others feel the same way I do about that. I
often respond to questions, and end up with no idea if my response was
helpful or not. "Thank yous" are nice, but feedback even without a
thank-you would also be welcome, just to know that we're not talking
into the wind. Also, an "I solved the problem (thus-and-such way)" is
helpful: we then know we don't have to write any more, and maybe we
learn another way to solve such a problem, or place to get such parts.
Sometimes the discussion is worthwhile even without the OP's
response, but I'd always like to see _something_ back from the OP.

Welcome to bash me unmercifully if I fail to follow up like that on
any question I post!

Cheers,
Tom

1532. Bluetooth Telephone

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 17:57:21 UTC
From: Giorgos Sarmonikas <gs7776@hotmail.com>
Message-ID: <3f50e57f$0$246$ed9e5944@reading.news.pipex.net>
Source record: 32898

Hi all,

I am trying to build a device that plugs in any fixed telephone and transmits the voice conversation to a Bluetooth headset (as it happens currently with the Bluetooth mobile phones).

Is there anyone out there interested to help me?
I have more or less designed the circuitry but I am stuck in the embedded programming of the microchip.

Anybody with electronic/programming knowledge is welcomed.

Regards,

George

1533. PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 18:39:38 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <biqr9edbv1@reader08.wxs.nl>
Source record: 32899

Hello all,
I 've built PLL in order to command the VCO of a VHF receiver. Unfortunately it doesn't work very well: the VCO output is on average equal the same as the frequency programmed in the PLL, but it is constantly varying a bit around it. I guess the problem comes from the output filter, but I've re-calculated it and it should be okay. Where could the problem come from ??

FYI, the PLL is build from a schematic of the Motorola application note 980 (http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_980.gif).

Thank you in advance for your answers ;-)

1534. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 19:19:54 UTC
From: "Watson A.Name - Watt Sun" <alondra101@hotmail.com>
Message-ID: <MPG.19ba98b1e46aec22989695@news.dslextreme.com>
Source record: 32900
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <skh0lvoep9vhrlbg82o1koojj6sf9j9cth@4ax.com>,
respond@in.conference.com mentioned...
> On Thu, 07 Aug 2003 11:29:46 +0100, Paul Burridge <redscar@waitrose.notformail.com>
wrote:
>
> >The question seems daft, but bear with me, gentlemen. Has anyone ever
> >had an electric shock that they feel lucky to have survived?
> No, can't say I have..... I do remember once when I had just got to work
> and a line operator came into the lab complaining that he had blown the
> fuse on a power supply. It was one of those twist on black cap ones, that
> held the fuse inside it. Well, I pulled it out and without thinking just shoved
> a new fuse in and wham! Ya! I'm up! That worked better that 10 cups of
> coffee!

The incoming hot wire is not supposed to go to the center pin. That
way, the fuse isn't hot when it's inserted into the socket.

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

1535. computer smps psu crt diag. wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 19:56:42 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1062274662.550459@auth2.dns.griffin.net.uk>
Source record: 32902

RE 28v switch mode psu see earlier..
looking for crt diagrams of typical computer psu's...can anyone help,not had much luck finding so far...
simon g0zen

1536. computer psu crt dia..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 20:19:48 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1062274793.413@auth2.dns.griffin.net.uk>
Source record: 32903

oh really looking for AT rather than ATX diagrams..
thanks simon. (see previous post.)

1537. WTD: information on a low power military T-339 transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-30 20:30:42 UTC
From: yardleyite@aol.com
Message-ID: <20030830163042.07673.00000294@mb-m17.aol.com>
Source record: 32904

Hello,
Does anyone have any information on a low power military T-339
transmitter? What was it used for? Any manual available?

How do I key the oscillator/plate? Any information will be greatly appreciated.
73 de Joe Cro N3IBX

1538. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 00:34:43 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1062290081.392681@auth2.dns.griffin.net.uk>
Source record: 32905

what frequency steps are you using???and what values do you have for the
loop filter??
"Damien Teney" <damien.teney@sobelairva.net> wrote in message
news:biqr9edbv1@reader08.wxs.nl...
> Hello all,
> I 've built PLL in order to command the VCO of a VHF receiver.
Unfortunately
> it doesn't work very well: the VCO output is on average equal the same as
> the frequency programmed in the PLL, but it is constantly varying a bit
> around it. I guess the problem comes from the output filter, but I've
> re-calculated it and it should be okay. Where could the problem come from
??
>
> FYI, the PLL is build from a schematic of the Motorola application note
980
>
(http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
> 0.gif).
>
> Thank you in advance for your answers ;-)
>
>
>
>

1539. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 01:15:23 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F514C0E.C34E7E2E@earthlink.net>
Source record: 32906

Damien Teney wrote:
>
> Hello all,
> I 've built PLL in order to command the VCO of a VHF receiver. Unfortunately
> it doesn't work very well: the VCO output is on average equal the same as
> the frequency programmed in the PLL, but it is constantly varying a bit
> around it. I guess the problem comes from the output filter, but I've
> re-calculated it and it should be okay. Where could the problem come from ??
>
> FYI, the PLL is build from a schematic of the Motorola application note 980
> (http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
> 0.gif).
>
> Thank you in advance for your answers ;-)

How clean is the power supply? Any noise, ripple or hum will appear
in the output of the VCO.
--

Michael A. Terrell
Central Florida

1540. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 01:27:48 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <oac4b.2739$Lk5.1264@newsread3.news.pas.earthlink.net>
Source record: 32907

We need some more information.

What is the tuning sensitivity of the VCO in MHz/volt ?

What are the values for the divide by N ?

What is your desired reference frequency ?

==========

Even if you have calculated the loop filter correctly, there are many other ways to have a synthesizer full of undesired spurs....

For example, how well filtered is the DC voltage feeding the VCO ?

Many VCOs will respond quite nicely to any sort of noise on the DC voltage and that'll show up as undesired noise on the VCO output.

Another question is how well buffered is the VCO output to the MC12017 pulse swallowing prescaler ??

Quite a few of the pulse swallowing prescaler chips slightly change their input impedance when going from one divide ratio to another one, and this may easily result in spurs on the VCO output signal.

So, all in all, designing a quiet synthesizer can take some time and careful circuitry. Of course, one of the early things to solve is the loop filter components, and the first three questions will help in doing that calculation.

I do not recall the website ofhand, but there is one that will calculate the loop filter given the proper information.

Maybe one of the main manufacturer's webpages ??

I forget.....

Jim Pennell
N6BIU

1541. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 01:34:04 UTC
From: TweetIdee <dgmason99@att99.net>
Message-ID: <ggc4b.120333$0v4.8648937@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32908

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:3F514C0E.C34E7E2E@earthlink.net...
> Damien Teney wrote:
> >
> > Hello all,
> > I 've built PLL in order to command the VCO of a VHF receiver.
Unfortunately
> > it doesn't work very well: the VCO output is on average equal the same
as
> > the frequency programmed in the PLL, but it is constantly varying a bit
> > around it. I guess the problem comes from the output filter, but I've
> > re-calculated it and it should be okay. Where could the problem come
from ??
> >
> > FYI, the PLL is build from a schematic of the Motorola application note
980
> >
(http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
> > 0.gif).
> >
> > Thank you in advance for your answers ;-)
>
> How clean is the power supply? Any noise, ripple or hum will appear
> in the output of the VCO.
> --
>
>
> Michael A. Terrell
> Central Florida

I haven't followed this thread very long, but I'll jump in. Sorry if this
has already been mentioned. Michael is absolutely correct in his response.
How have you constructed this PLL? Is it on a breadboard or PCB? It has
been my experience that it's usually very important that the VCO be well
shielded and decoupled from the rest of the circuitry. Otherwise, the
extraneous signals can cause the VCO to wander and have unwanted jitter.
Perhaps this is what you're experiencing.
If breadboard, then you've got your work cut out; use a separate breadboard
for the VCO and wrap it in aluminum foil to help eliminate external
influences. If on a PCB, the same reasoning, applies, just somewhat
different techniques. The solution will be determined by your physical
layout and the ability of the VCO to be shielded. Again, good decoupling of
the power supply is critical.
Cheers!!!

--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Time is what keeps everything from happening all at once.

1542. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 01:36:33 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <birjs4$kon@library2.airnews.net>
Source record: 32909

"Damien Teney" <damien.teney@sobelairva.net> wrote in message
news:biqr9edbv1@reader08.wxs.nl...
> Hello all,
> I 've built PLL in order to command the VCO of a VHF receiver.
Unfortunately
> it doesn't work very well: the VCO output is on average equal the same as
> the frequency programmed in the PLL, but it is constantly varying a bit
> around it. I guess the problem comes from the output filter, but I've
> re-calculated it and it should be okay. Where could the problem come from
??
>
> FYI, the PLL is build from a schematic of the Motorola application note
980
>
(http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
> 0.gif).
>
> Thank you in advance for your answers ;-)

First stupid question: have you verified that your reference oscillator is
rock-solid stable?

A PLL is only as good as the reference oscillator. If the reference
oscillator is drifting, the PLL will chase it.

1543. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 03:18:16 UTC
From: don@manx.misty.com
Message-ID: <slrnbl2q7o.l03.don@manx.misty.com>
Source record: 32910
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <MPG.19ba98b1e46aec22989695@news.dslextreme.com>, Watson A.Name - "Watt Sun" wrote:
>
>The incoming hot wire is not supposed to go to the center pin. That >way, the fuse isn't hot when it's inserted into the socket.

Fuse holders aren't the only thing that can be miswired. I have seen outlets with hot and neutral reversed.

- Don Klipstein (don@misty.com)

1544. Re: computer smps psu crt diag. wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 03:28:57 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <birq1pbim1@freenet9.carleton.ca>
Source record: 32911

"zindazenda" (zen@lineisp.co.uk) writes:
> RE 28v switch mode psu see earlier..
> looking for crt diagrams of typical computer psu's...can anyone help,not had
> much luck finding so far...
> simon g0zen
>
>
>
>
Look around the "FAQ" for the sci.electronics.repair newsgroup, which
is at http://www.repairfaq.org I din't know if Sam put in a typical
power supply schematic in the section on switching supplies, but it's
one place to look. When he was writing the repair column for
Electronics Now and then Poptronics, much of the material was from the FAQ,
though I think he sometimes added some graphic material. So likely
when he covered switching supplies in the magazine, there was a schematic
for a typical supply.

Michael VE2BVW

1545. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 03:32:06 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <birq7m$c3f$1@freenet9.carleton.ca>
Source record: 32912

"Michael A. Terrell" (mike.terrell@earthlink.net) writes:
> Damien Teney wrote:
>>
>> Hello all,
>> I 've built PLL in order to command the VCO of a VHF receiver. Unfortunately
>> it doesn't work very well: the VCO output is on average equal the same as
>> the frequency programmed in the PLL, but it is constantly varying a bit
>> around it. I guess the problem comes from the output filter, but I've
>> re-calculated it and it should be okay. Where could the problem come from ??
>>
>> FYI, the PLL is build from a schematic of the Motorola application note 980
>> (http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
>> 0.gif).
>>
>> Thank you in advance for your answers ;-)
>
> How clean is the power supply? Any noise, ripple or hum will appear
> in the output of the VCO.

And of course, one reason three terminal regulators were invented
was so small sections could have their own regulators.

They are cheap enough that it's hardly worth not having a separate
regulator for the VCO. And maybe even a separate regulator for
the phase detector (and any amplifier) section.

Michael VE2BVW

1546. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 03:35:44 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F516CEE.58E9086@earthlink.net>
Source record: 32913

Damien Teney wrote:
>
> Hello all,
> I 've built PLL in order to command the VCO of a VHF receiver. Unfortunately
> it doesn't work very well: the VCO output is on average equal the same as
> the frequency programmed in the PLL, but it is constantly varying a bit
> around it. I guess the problem comes from the output filter, but I've
> re-calculated it and it should be okay. Where could the problem come from ??
>
> FYI, the PLL is build from a schematic of the Motorola application note 980
> (http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
> 0.gif).
>
> Thank you in advance for your answers ;-)

Some other points. Do you have a filter to remove the reference
frequency from the loop. A notch filter will clean out a lot of noise.
I had to straighten out and re-certify the design of a commercial
synthesizer after the purchasing department bought different capacitors
used in the VCO circuit, and in fixing that, I found several other
problems.

Does your power supply use a linear or a switching regulator? To
achieve a very low phase noise we had to use a pair of low dropout
linear regulators inside the shielded case.

How do you bring signals in and out of the synthesizer case?
feed-thru capacitors and coaxial connectors are a must. The Microdyne
synthesizer I mentioned used a DB 25 to connect the power and logic
inputs, and had a two rows of feed-thru capacitors behind the connector
to filter all signals, including DC. Also, make a spare top cover with
small holes to reach test points. Screw it down to the case, and make
any adjustments. Working without a cover can change the frequency, and
in some cases, take the VCO to the edge of its range where you will get
a lot more noise.

A big part of building a clean VCO is electronics, but a lot is
mechanical, too. A solid case, good shielding, and board layout. Mount
the PC board to the case with short spacers, preferably permanently
attached to the case. For homebrew work you can use brass spacers and
solder the them to the case after they are screwed in from the back. It
will make a big difference.

A clean ground system in the RF circuits is critical. We had to
replace a couple cases where a PEM standoff didn't make good contact
after it was pressed in, but moved the three circuit boards to a new

case, and they passed on the first try.
--

Michael A. Terrell
Central Florida

1547. Re: computer psu crt dia..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 06:22:06 UTC
From: "mkelly@powerup.com.au" <mkelly@powerup.com.au>
Message-ID: <3F51940E.5DDA34BA@powerup.com.au>
Source record: 32914

The only major difference is in the standby
supply. The AT has none.

Have a look at this for starters

w8mia@antennex.com

zindazenda wrote:
>
> oh really looking for AT rather than ATX diagrams..
> thanks simon. (see previous post.)
Murray Kelly vk4aok

1548. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 08:04:22 UTC
From: Richard <rlwest@nethere.com>
Message-ID: <3F51AC05.86D62384@nethere.com>
Source record: 32916

As Mr Strohm indicated, Ramsey Electronics is a good one. Go to
www.ramseyelectronics.com/ for a selection.
Richard West, KF6KE

Matt wrote:

> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this with
> a group of kids?
>
> Thanks for your time.
>
> 73,
> Matt Thomas
> KD7PPK

1549. XRF or MRF?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 08:19:01 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <bis9gd$b0o$1@news.hccnet.nl>
Source record: 32915

Hi all,

We have a couple of XRF18085A LDMOS transistors here. Seem to be
pre-production samples of the MRF18085A by Motorola. But as the famous
M-logo is on the package I guess (hope) that these are full spec. samples.
They are to be used at around 1800 MHz and prematched for that band. I can't
find data for other frequencies. Has anyone tried these units (a solid 80
Watts out) on 23 cm?
Please advise.
Regards,
Harke PA0HRK

1550. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 08:23:32 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <3Qg37jHECbU$EAio@ifwtech.co.uk>
Source record: 32917

Michael Black wrote:
>And of course, one reason three terminal regulators were invented was
>so small sections could have their own regulators.
>
>They are cheap enough that it's hardly worth not having a separate
>regulator for the VCO. And maybe even a separate regulator for the
>phase detector (and any amplifier) section.
>
Absolutely. For example, if you need really clean 5V supplies in various places, a good technique is to run a pre-regulated "semi-clean" 12V rail around the system, and then regulate locally to 5V.

Don't rely totally on the IC to clean-up the noise on the input rail. Remember that it's a feedback system, so there is always a high-frequency corner, above which the regulator can't keep up. Above that corner frequency, the regulator becomes increasingly transparent to high-frequency input noise and sharp spikes.

If low output noise is important, include some good old-fashioned R-C filtering between the 12V line and the input to the regulator IC. Don't forget to leave more than the minimum required voltage at the input of the regulator... and that's not the average DC level - it's the voltage at the *bottom* of any noise spikes at the input, so you have to allow a little extra input voltage.

Even so, it's still only R = V/I, like we used to do routinely for zener diodes (I'll swear that half the attraction of IC regulators is that they let people avoid that simple calculation). If you want to use two poles of R-C filtering, simply split the R into two parts.

You're still faced with other sources of noise, for example noise originating in the regulator itself, and things like induced voltages and ground loops... but all those are actually separate problems.

In different applications, R-C input filtering combined with a voltage clamp device is a good way to protect regulator ICs and their downstream components from the very sharp spikes induced by lightning. The pre-filtering reduces the peak amplitude of the incoming spike and also attenuates its high-frequency components, down to levels that the voltage clamp and the regulator IC can safely handle between them.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1551. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 08:52:55 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bisd9bivh1@reader08.wxs.nl>
Source record: 32918

There are the answers to your questions:

>Frequency steps used:
5 KHz

>What is the tuning sensitivity of the VCO in MHz/volt ?
About 4,6 MHz/volt

>What are the values for the divide by N ?
For the test I'm using 271 for the N, and 1 for the A

>What is your desired reference frequency ?
The reference frequency is given by a crystal at 5.12 MHz. So it should be constant. The frequency of the crystal is then divided by 1024 in order to get the 5 KHz reference.

>Actual values for the loop filter:
Cc = 3.9 nF
C1 = 0.1 µF
R1 = 540 Kohms (2 x 270 Kohms)
R2 = 100 Kohms
These values were calculated with the formulas given in the Motorola AN980
(where I picked up the schematic).

>How clean is the power supply?
I don't think it is the problem: I use a battery (not the sector), two separates regulators for the VCO and the PLL board, and there are a lot of filtering and decoupling capacitors.

>How have you constructed this PLL? Is it on a breadboard or PCB?
The PLL is on a veroboard, and the VCO is on a PCB. None of them is shielded.

>How well buffered is the VCO output to the MC12017 pulse swallowing prescaler ??
No problem for this, there's a additional buffering stage at the end of the VCO, in order to feed the prescaler.

>How well filtered is the DC voltage feeding the VCO ?
I don't have any additional filter between the Phase detector filter, and the VCO. Maybe I should add something ??

I've looked closer with the oscilloscope at DC voltage fed into the VCO, and
I've seen that it is varying a bit at a constant frequency of ± 400 KHz, and
also varying (more) randomly at a few tens of hertz. It is a bit strange,
but I hope you can help me :-)
For Jim Pennell: it would be nice if you could remember the adress of the

website

1552. Re: computer smps psu crt diag. wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 11:19:44 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0308310319.1b5094e3@posting.google.com>
Source record: 32919

"zindazenda" <zen@lineisp.co.uk> wrote in message
news:<1062274662.550459@auth2.dns.griffin.net.uk>...
> RE 28v switch mode psu see earlier..
> looking for crt diagrams of typical computer psu's...can anyone help,not had
> much luck finding so far...
> simon g0zen

Have a look at the MFJ Enterprises site and download the manual for
their 20amp and 40amp switchmode power supplies - they look like
fairly typical Taiwanese power supplies, and are the clearest complete
aones I have seen to date - nice of them to put them up there.
73 de VK3BFA Andrew

1553. ATX CONVERSION. any sugestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 13:21:09 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bissqakgo1@nic.grnet.gr>
Source record: 32920

For the passed few week I have been thinking (and looking into) computer power supply conversions into nice power supplies for my rigs.

Up to now there are two major way to do it (at least that's what I have found)

A) The first way is to put a load on the 5v so it can regulate the 12V tap, but as I can understand this does not utilize Max output

B) The second way is to strip all the unnecessary components (useless taps, -5v -12v est.) and leave the 12v for maximum out put

Any comment would be appreciated and personal experience on this matter.

I have a few atx supplies in the shack and would like to utilize them.

These are the sites I have found.

http://www.webx.dk/oz2cpu/radios/psu-pc1.htm

http://pavouk.comp.cz/hw/en_atxps.html

http://www.acs.comcen.com.au/atxps.html

http://www.qsl.net/aa3sj/Pages/PC-Supply.html

http://www.mattsrcstuff.com/PCPS.htm

--
http://www.qsl.net/sv1hao

1554. W5OMX Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 14:54:08 UTC
From: Howard James <howardwj@btinternet.com>
Message-ID: <bit26gcrd1@titan.btinternet.com>
Source record: 32921

Is there anybody that could copy and email me (jpg) the details of the W5OMX receiver as in the ARRL book Single Sideband starting on page 184.
Thanks.
Howard. G3UPZ

1555. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 16:09:25 UTC
From: fmmck@aol.com
Message-ID: <20030831120925.06003.00000239@mb-m07.aol.com>
Source record: 32922

<< I would like to put together a very simple QRP CW transceiver. The schematic I am using includes a 3.560MHz crystal oscillator.

Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators respectively and I am wodering will these do the job or should I be looking for a 3.560MHz crstal? The circuit does have a 65pF trimmer capacitor for tuning but I want to sure about the crystal before I order. >>

Chris-

I suggest you get a collection of crystals. I don't think you want a custom oscillator module unless it offers the option of changing crystals.

You should be able to find an inexpensive 3.579545 MHz "colorburst" crystal at Radio Shack. Your 65 pF capacitor may not quite pull it down to 3.560, but it might. Try it and see how it works.

Are there any upcoming hamfests in your area? There was one this weekend Shelby, NC. In a couple more there is one in Melbourne, FL. These are usually good sources for miscellaneous crystals.

73, Fred, K4DII

1556. Radar detector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 16:13:48 UTC
From: G&#65533;ry Duyck <gery@duyck-co.be>
Message-ID: <3f521ff2$0$8539$ba620e4c@reader0.news.skynet.be>
Source record: 32923

Does anyone have a shematic for building a radar detector, that can detect modern radar guns.

Any hint's tips or info is welcome.

73 --... ...--

Gery D.

1557. Radar detector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 16:21:03 UTC
From: G&#65533;ry Duyck <gery@duyck-co.be>
Message-ID: <3f521ff4$0$8539$ba620e4c@reader0.news.skynet.be>
Source record: 32924

Does anyone have a shematic for building a radar detector, that can detect modern radar guns.

Any hint's tips or info is welcome.

73 --... ...--

Gery D.

1558. Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 17:46:37 UTC
From: G&#65533;ry Duyck <gery@duyck-co.be>
Message-ID: <3f5233ff$0$8542$ba620e4c@reader0.news.skynet.be>
Source record: 32925

We have a little problem in our neighborhood.

Recently some *vulgar* people moved in a couple of houses away from mines.
There 2 family's of them in 2 different houses.

Every evening and night the whole street get to hear some very loud music.
It's hard to get some sleep over here !

We went several times to them to talk, and ask to put the volume down, but
they
don't wanna listen to us. (with us I mean me and the rest of the
neighborhood ...)
As a matter of fact they only turned it louder...

Calling the police won't help much too, the only thing they said is "go to
ask if they wanna
set there volume down" when I say we already done this they say "go ask
again"

It's really frustrating, and it's driving me bananas !!!

So now I'm looking for some good circuit to disturb there hi-fi equipment!

Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in the
power
supply in conduction, so he won't hear anything and shut his device off.
This will of course only work if he hasn't got a filter installed.

I also saw some thinges about transmitting static to disturb there devices.

Anyone who got's hint's and tip's for helping me to teach them a lesson are
greatly
appreciated.
I know this is maybe not the right way to do this but with some people you
don't have any other choise ...

73 --... ...--
Gery D.

1559. Oscillator reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 17:52:25 UTC
From: Torbj&#65533;rn Viksand <we-vi@online.no>
Message-ID: <zyq4b.18859$os2.259301@news2.e.nsc.no>
Source record: 32926

Hi everybody! (This is the place where you would say hi Dr.nick, but you don't)

I have two oscillators operating at the same frequency that I have salvaged from an really old computer =). I am trying to build a transmitter and a reciever around theese two oscillators. The transmitter should, as far as I have understood, be fairly simple to construct using one of the oscillators, but the reciever is giving me headaches =)

What I want is a simple reciever, not necessary audio, I only want to get a current flowing when there is a signal. Would it be possible to construct a simple one with the other oscillator?

I am fairly new to this sort of electronics and I would like easy explanations or some url's that might interest me :)

I have many capacitators and resistors and transistors. I also have a few coils with ferrite rods inside salvaged from old radio sets. The oscillators are at 1.8Mhz each I think. (I have a few others that match too, but I can't find them anywhere and if theese will work, then I won't bother looking), I might try to use an old AM reciever and try to tune it to 1800khz, but I would like to build it myself...

I have tried to search the newsgroup, but I had difficulities finding anything that really helped so please don't flame that much.

Mvh Torbj&#65533;rn, please excuse my English. You might understand that I'm not a native speaker =)

1560. Re: ATX CONVERSION. any sugestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 18:08:26 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F523977.DD8A67A2@earthlink.net>
Source record: 32927

Deos wrote:
>
> For the passed few week I have been thinking (and looking into) computer
> power supply conversions into nice power supplies for my rigs.
>
> Up to now there are two major way to do it (at least that's what I have
> found)
>
> A) The first way is to put a load on the 5v so it can regulate the 12V tap,
> but as I can understand this does not utilize Max output
>
> B) The second way is to strip all the unnecessary components (useless
> taps, -5v -12v est.) and leave the 12v for maximum out put
>
> Any comment would be appreciated and personal experience on this matter.

B): If you remove the 5 volt supply, it will not regulate. If you
"strip all the unnecessary components (useless taps, -5v -12v est.) and
leave the 12v for maximum output, the 12 volt winding will still limit
the available current. You have to re-design the whole regulator
circuit, rewind the transformer, and add more filtering to the 12 Volt
output.
--

Michael A. Terrell
Central Florida

1561. Re: Radar detector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 18:13:48 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <biteq7$ai0@library1.airnews.net>
Source record: 32928

You'd be better off buying a commercial unit that is actually KNOWN to work.
The Valentine One was the best, last I heard.

"G�ry Duyck" <gery@duyck-co.be> wrote in message
news:3f521ff2$0$8539$ba620e4c@reader0.news.skynet.be...
> Does anyone have a shematic for building a radar detector, that can detect
> modern radar guns.
>
> Any hint's tips or info is welcome.
>
> 73 --... ...--
>
> Gery D.
>
>

1562. OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 20:32:28 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <R6udnXGbm9wVxs-iU-KYgw@comcast.com>
Source record: 32929

Several good Ham swaps are coming up in my area and I would like to know what kind of used equipment I should be looking for to get my hands on good quality OXCO's units. Some high quality TCXO would do as well. I would love to get my hands on one of the HP units, particularly the HP-10811. I would like to find one OXCO at a standard frequency of like 10 MHz, 4 MHz, or 1 MHz.

I understand that HP has used three different OCXOs, E1938A, HP-10811, and the HP-10544. I haven't found any info on the first one.

So far the only thing I've found is a TXCO by "HY-Q" marked as "TCO-746", "20.117188" MHz I assume, that I recovered out of a old sat' down converter. From the web site it appears to be in the "D1" case style under customer oscillators with a frequency trim screw adjustment in one corner.

I also have two functional crystal oscillators in a PLL frequency multiplying design recovered from another sat' RX. One is a fixed 810.000 MHz. The second is switch selected between 710.000 MHz, 720.000 MHz, and 740.000 MHz. Both units need +/- 18 volts to operate. Neither unit is an oven controlled or temperature compensated unit however.

So what kind of used "junk" should I be looking at to maximize my chances of finding what I'm looking for?

--
Leland C. Scott
KC8LDO

ARRL Member
NCI Member

Charter member of the
Lawrence Technological University
Wireless Society W8LTU
--

==========
"I will not be frowned upon or be looked down upon
or be made to keep silent because I have these
beliefs and opinions. I thought this country
allowed
me that right. I will not conform or compromise
just
to keep from hurting somebody's feelings. "

Ted Nugent
==========

1563. Re: Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 20:56:20 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bitn8l$eu7$1@nic.grnet.gr>
Source record: 32930

point a yagi at the stereos direction,with a 200w brick ampor more with the
music YOU like.you will no solve the noise problem
this way but at leat you will be hearing the music you love.

--
http://www.qsl.net/sv1hao
"G&#65533;ry Duyck" <gery@duyck-co.be> wrote in message
news:3f5233ff$0$8542$ba620e4c@reader0.news.skynet.be...
> We have a little problem in our neighborhood.
>
> Recently some *vulgar* people moved in a couple of houses away from mines.
> There 2 family's of them in 2 different houses.
>
> Every evening and night the whole street get to hear some very loud music.
> It's hard to get some sleep over here !
>
> We went several times to them to talk, and ask to put the volume down, but
> they
> don't wanna listen to us. (with us I mean me and the rest of the
> neighborhood ...)
> As a matter of fact they only turned it louder...
>
> Calling the police won't help much too, the only thing they said is "go to
> ask if they wanna
> set there volume down" when I say we already done this they say "go ask
> again"
>
> It's really frustrating, and it's driving me bananas !!!
>
> So now I'm looking for some good circuit to disturb there hi-fi equipment!
>
> Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in
the
> power
> supply in conduction, so he won't hear anything and shut his device off.
> This will of course only work if he hasn't got a filter installed.
>
> I also saw some thinges about transmitting static to disturb there
devices.
>
> Anyone who got's hint's and tip's for helping me to teach them a lesson
are
> greatly

> appreciated.
> I know this is maybe not the right way to do this but with some people you
> don't have any other choise ...
>
> 73 --... ...--
> Gery D.
>
>
>

1564. Re: ATX CONVERSION. any sugestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 21:06:22 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vl4p9ocan02374@corp.supernews.com>
Source record: 32931

http://www.qsl.net/kc4mc/stlou.html
http://www.qsl.net/wj5o/project.htm
http://www.njqrp.org/qhbextra/6/6d.html
http://207.195.94.13/sart/radio_library/switcher-supply.pdf
http://www2.arrl.org/members-only/tis/info/pdf/0205035.pdf

..

"Deos" <lineoffiretoday@yahoo.com> wrote in message
news:bissqakgo1@nic.grnet.gr...
> For the passed few week I have been thinking (and looking into) computer
> power supply conversions into nice power supplies for my rigs.
>
>
>
> Up to now there are two major way to do it (at least that's what I have
> found)
>
>
>
> A) The first way is to put a load on the 5v so it can regulate the 12V
tap,
> but as I can understand this does not utilize Max output
>
> B) The second way is to strip all the unnecessary components (useless
> taps, -5v -12v est.) and leave the 12v for maximum out put
>
>
>
> Any comment would be appreciated and personal experience on this matter.
>
> I have a few atx supplies in the shack and would like to utilize them.
>
>
>
> These are the sites I have found.
>
>
>
> http://www.webx.dk/oz2cpu/radios/psu-pc1.htm
>
> http://pavouk.comp.cz/hw/en_atxps.html
>
> http://www.acs.comcen.com.au/atxps.html
>

> http://www.qsl.net/aa3sj/Pages/PC-Supply.html
>
> http://www.mattsrcstuff.com/PCPS.htm
>
> --
> http://www.qsl.net/sv1hao
>
>

1565. Re: Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 21:43:55 UTC
From: "WB3FUP (Mike Hall)" <wb3fup@msn.com>
Message-ID: <bitq6t$coucu$1@ID-204390.news.uni-berlin.de>
Source record: 32932

Deliberate interference, even in a good cause, is deliberate interference.
It can cost you your license. Not worth it to me.

I solved a situation very similar to yours a few years back, solved it
legally, permanently, and better yet I GOT SATISFACTION.

We had the party next door every night. Sunday through Thursday we could
obtain assistance from local law enforcement if we called after midnight,
and when they could break a car loose. Friday and Saturday nights we were
on our own. I had access to a 250 watt PA amplifier and speakers more than
capable of handling the full power output. I did not get into a war of the
decibels with them. I just decided that 06:30 in the morning was a better
time than most to listen to Sousa Marches followed by Overture 1812. They
were quick to complain about not being able to sleep. It only took two
mornings before they decided that if they wanted to sleep in the morning
they should allow us to be able to sleep at night.

Oh did I mention we are a townhouse community, and the sinners were not in
my building. Neither were the speakers, they were positioned in the
neighbors townhouse that adjoined the loud neighbors, positioned on the
party wall that was common to both master bedrooms.

--
73 es cul

wb3fup
a Salty Bear

"G�ry Duyck" <gery@duyck-co.be> wrote in message
news:3f5233ff$0$8542$ba620e4c@reader0.news.skynet.be...
> We have a little problem in our neighborhood.
>
> Recently some *vulgar* people moved in a couple of houses away from
mines.
> There 2 family's of them in 2 different houses.
>
> Every evening and night the whole street get to hear some very loud
music.
> It's hard to get some sleep over here !
>
> We went several times to them to talk, and ask to put the volume down,
but
> they
> don't wanna listen to us. (with us I mean me and the rest of the
> neighborhood ...)
> As a matter of fact they only turned it louder...

>
> Calling the police won't help much too, the only thing they said is "go
to
> ask if they wanna
> set there volume down" when I say we already done this they say "go ask
> again"
>
> It's really frustrating, and it's driving me bananas !!!
>
> So now I'm looking for some good circuit to disturb there hi-fi
equipment!
>
> Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in
the
> power
> supply in conduction, so he won't hear anything and shut his device off.
> This will of course only work if he hasn't got a filter installed.
>
> I also saw some thinges about transmitting static to disturb there
devices.
>
> Anyone who got's hint's and tip's for helping me to teach them a lesson
are
> greatly
> appreciated.
> I know this is maybe not the right way to do this but with some people
you
> don't have any other choise ...
>
> 73 --... ...--
> Gery D.
>
>
>

1566. 10Ghz TWTs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 22:14:47 UTC
From: Tom <Tom@sbrs.org.uk>
Message-ID: <3f527352$0$46008$65c69314@mercury.nildram.net>
Source record: 32933

Hi,
We, South Birmingham R.S, are looking for a 50W or there abouts 10Ghz
TWT and Power supply. Anybody got anything they would like to part with :)?
We also have a 15W 6Cm's SSPA for sale, simple 12V in jobby, no -V Biasing
required :). Comes on a VERY big heatsink.

Thomas
M3CBZ On behalf of SBRS

1567. Where are the parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-08-31 23:03:29 UTC
From: brokebob@aol.com
Message-ID: <20030831190329.21934.00000259@mb-m04.aol.com>
Source record: 32934

I now have time to build but it seems that no one is selling small parts
except with large minimum orders or low variety of stock. Right now looking
for ADC converter chips but next week might be something entirely different.
Who sells small quanties of small items?
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

1568. Re: Where are the parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 00:42:46 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F5295DF.880787CF@earthlink.net>
Source record: 32935

Brokebob wrote:
>
> I now have time to build but it seems that no one is selling small parts
> except with large minimum orders or low variety of stock. Right now looking
> for ADC converter chips but next week might be something entirely different.
> Who sells small quanties of small items?
> brokebob@aol.com (broke=not working, retired=not working, retired=broke)

A lot of chip makers now sell in small quantities on their website,
and a few will "sample" a chip or two for free. It helps to know what
you are looking for, if you want to know where to go. ;-)
--

Michael A. Terrell
Central Florida

1569. FA: Tubes:MP 6JB6's, 2A3 x2

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 01:56:27 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <fHx4b.123022$3o3.8648577@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32936
Cross-posted to: rec.radio.amateur.boatanchors,rec.ham-radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Search under seller heytubeguy or

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

1570. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 02:13:41 UTC
From: fmmck@aol.com
Message-ID: <20030831221341.26794.00000161@mb-m26.aol.com>
Source record: 32937

<< I understand that HP has used three different
OCXOs, E1938A, HP-10811, and the HP-10544. I
haven't found any info on the first one. >>

Leland-

My HP counter has a variation of the 10811 oscillator. To calibrate it, I bought a 10 MHz rubidium-controlled oscillator on E-Bay, and it is impressive how little drift the 10811 has over a long period of time. I use an oscilloscope to compare the two 10 MHz signals, and can count the number of seconds required for the sine wave to drift one division, where ten divisions equal one cycle.

I also bought the counter on E-Bay. The seller insisted it had been checked out and worked fine. What I found was that the 10 MHz oscillator could not be adjusted onto frequency, and it never quite stopped drifting. After an investigation that included purchasing a 10811A/B manual, I found that the 10811 had an open thermal fuse. Further, the HP/Agilent parts department was not able to determine the correct replacement part until I had the manual in hand, and could tell them the original part number!

It seems that the 10811 (and possibly the 10544) oscillator series was originally designed with too low a temperature rating on the thermal fuse. At some point a new higher value was chosen. If you happen to encounter the problem, there is a good chance that if it doesn't have a burned smell, all it needs is the new part. Mine has been working flawlessly for over a year now with the newer thermal fuse.

73, Fred, K4DII

1571. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 03:58:19 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <vtz4b.4321$Lk5.384@newsread3.news.pas.earthlink.net>
Source record: 32938

This link is to a webpage which shows quite a few PLL design program links. I am not sure which will best fit your application, but it is a place to start. Actually, many of them may be able to help sort things out.

http://www.circuitsage.com/pll.html

Jim Pennell
N6BIU

1572. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 04:20:09 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <MmidnXGGJcRnVc-iXTWJig@comcast.com>
Source record: 32939

"Fred McKenzie" <fmmck@aol.com> wrote in message
news:20030831221341.26794.00000161@mb-m26.aol.com.
..
> << I understand that HP has used three different
> OCXOs, E1938A, HP-10811, and the HP-10544. I
> haven't found any info on the first one. >>
>
> Leland-
>
> My HP counter has a variation of the 10811
oscillator. To calibrate it, I
> bought a 10 MHz rubidium-controlled oscillator
on E-Bay,

What did that cost you? Also how long are the
lamps good for anyway? I imagine they are
expensive to replace.

> and it is impressive
> how little drift the 10811 has over a long
period of time. I use an
> oscilloscope to compare the two 10 MHz signals,
and can count the number of
> seconds required for the sine wave to drift one
division, where ten divisions
> equal one cycle.
>
> I also bought the counter on E-Bay. The seller
insisted it had been checked
> out and worked fine. What I found was that the
10 MHz oscillator could not be
> adjusted onto frequency, and it never quite
stopped drifting. After an
> investigation that included purchasing a
10811A/B manual, I found that the
> 10811 had an open thermal fuse. Further, the
HP/Agilent parts department was
> not able to determine the correct replacement
part until I had the manual in
> hand, and could tell them the original part
number!
>
> It seems that the 10811 (and possibly the 10544)
oscillator series was
> originally designed with too low a temperature

rating on the thermal fuse. At
> some point a new higher value was chosen. If
you happen to encounter the
> problem, there is a good chance that if it
doesn't have a burned smell, all it
> needs is the new part. Mine has been working
flawlessly for over a year now
> with the newer thermal fuse.

I assume if the thermal fuse is shot the
oscillator won't draw any oven current? I did find
a page that shows how to disassemble the 10811. It
doesn't look all that inviting. Seems the author
of that page had most of his problems dealing with
the sticky tape they use internally. He had by the
way also reported a drifting problem. That's why
he took it apart. But he did say he couldn't find
anything wrong with the unit either.

Thanks for the heads up about a known problem with
the 10811.

--
Leland C. Scott
KC8LDO

Saw this on a Tee-shirt:

"I am a
bomb
technician
if you see me
running
try to keep up "

1573. Re: XRF or MRF?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 07:04:17 UTC
From: Christian Bauer <christian.j.bauer@nospam.t-online.at>
Message-ID: <biur1intc1@news.siemens.at>
Source record: 32940

Hi Harke,

you are right with your assumption that the XRF is a pre-production sample.
After full qualification at the Motorola factory the transistores are named
MRF.

The MRF18085A is a 1800MHz final transistor for DCS-Basestation power
stages.
That means that Motorola is testing the parameters of this parts after
production
at this and only at this frequency (linearity, output power, compression,
...).

It should be no problem to use this parts at lower frequencies, it's still a
normal ldmos-trans.
What you can expect is more gain and a higher output resistance.
I had designed a 2m low power stage (3W) with the MRF281 which is built for
900MHz and higher
and it worked well.
The only problem could be to get the S-parameters for your frequencies, but
if you have
a good test equipment you should can do this job.

Chris OE3CJB

"Yrrah" <harke.smits@hccnet.nl> wrote in message
news:bis9gd$b0o$1@news.hccnet.nl...
> Hi all,
>
> We have a couple of XRF18085A LDMOS transistors here. Seem to be
> pre-production samples of the MRF18085A by Motorola. But as the famous
> M-logo is on the package I guess (hope) that these are full spec. samples.
> They are to be used at around 1800 MHz and prematched for that band. I
can't
> find data for other frequencies. Has anyone tried these units (a solid 80
> Watts out) on 23 cm?
> Please advise.
> Regards,
> Harke PA0HRK
>
>

1574. Re: Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 07:56:55 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <biuu47$9iu$2@208.206.142.68>
Source record: 32941

THEY gotta sleep sometime. Find out when that is, and give them the same in return,.only louder!

Dick

"Gï¿½ry Duyck" wrote:

> We have a little problem in our neighborhood.
>
> Recently some *vulgar* people moved in a couple of houses away from mines.
> There 2 family's of them in 2 different houses.
>
> Every evening and night the whole street get to hear some very loud music.
> It's hard to get some sleep over here !
>
> We went several times to them to talk, and ask to put the volume down, but
> they
> don't wanna listen to us. (with us I mean me and the rest of the
> neighborhood ...)
> As a matter of fact they only turned it louder...
>
> Calling the police won't help much too, the only thing they said is "go to
> ask if they wanna
> set there volume down" when I say we already done this they say "go ask
> again"
>
> It's really frustrating, and it's driving me bananas !!!
>
> So now I'm looking for some good circuit to disturb there hi-fi equipment!
>
> Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in the
> power
> supply in conduction, so he won't hear anything and shut his device off.
> This will of course only work if he hasn't got a filter installed.
>
> I also saw some thinges about transmitting static to disturb there devices.
>
> Anyone who got's hint's and tip's for helping me to teach them a lesson are
> greatly
> appreciated.
> I know this is maybe not the right way to do this but with some people you
> don't have any other choise ...
>
> 73 --... ...--
> Gery D.

1575. Re: Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 08:48:27 UTC
From: Rick Frazier <rick@rickfrazier.com>
Message-ID: <3F5307DB.9F8B339@rickfrazier.com>
Source record: 32942

Well, there are a lot of things you _COULD_ do, but most of them are illegal and/or immoral. If you are a licensed Ham, there are even more things you could probably do, some of which would definitely disrupt their little parties, but again they wouldn't do your self or license much good.

If you don't have a reasonable response from your local law enforcement, you may have to get a bit creative. Before you do, however, make sure that every time there is loud and/or vulgar noise after 10:00 pm, call the police. Get everyone else in your area together and have them call too. Soon, they (the local police) won't be able to ignore the complaints, and will have to respond to take care of the problem. After enough calls and enough responses from the local constabulary, most reasonable people will tone it down....

Of course, there are some people that "can't take a hint" and you may need to take other steps... like perhaps dropping by the local "biker bar" and putting a little business card on every bike outside, giving the address of the objectionable neighbor and offering free beer to all "biker brothers" that come by... You'd be surprised how this will curb parties for some people. If the offending neighbor has a real business card, perhaps one could "accidentally" knock over a bike at the local biker bar, leaving his business card with a scribbled apology with the offer to pay for damages and giving his home address to come by for the money.... When the biker and his "buds" arrive, the bad neighbor may not get the point, but he will surely be distracted enough he may not want to have any more noisy parties....

There are numerous other things you can do, but the biggest thing is to distance yourself from the actions so you aren't tagged as the cause of his new problems...

If all else fails, perhaps reading a series of books penned by someone using "hayduke" as his pseudonym, titled Getting Even and More Getting Even" (or something to that effect) will give you some ideas. Beware that many of the things Hayduke suggests are illegal and could get you in more trouble than you'd imagine, but it may give you a fresh approach to dealing with your problem.....

There are gross, direct ways to take care of a problem, and subtle ways. Which you choose is up to you, and the risk you are willing to take to rid yourself of this thorn in your side. For myself, I prefer subtlety and letting the universe take care of things.... Of course, I've been successful with subtlety in the past, so of course, I'd think ti would be the best way, but you have to determine which is best for you...

Good Luck!
-- Rick AH7H

"Gï¿½ry Duyck" wrote:

> We have a little problem in our neighborhood.
>
> Recently some *vulgar* people moved in a couple of houses away from mines.
> There 2 family's of them in 2 different houses.
>
> Every evening and night the whole street get to hear some very loud music.
> It's hard to get some sleep over here !
>
> We went several times to them to talk, and ask to put the volume down, but
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> don't wanna listen to us. (with us I mean me and the rest of the
> neighborhood ...)
> As a matter of fact they only turned it louder...
>
> Calling the police won't help much too, the only thing they said is "go to
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> set there volume down" when I say we already done this they say "go ask
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> So now I'm looking for some good circuit to disturb there hi-fi equipment!
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> Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in the
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> supply in conduction, so he won't hear anything and shut his device off.
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> I also saw some thinges about transmitting static to disturb there devices.
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> Anyone who got's hint's and tip's for helping me to teach them a lesson are
> greatly
> appreciated.
> I know this is maybe not the right way to do this but with some people you
> don't have any other choise ...
>
> 73 --... ...--
> Gery D.

1576. Re: Where are the parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 12:47:39 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vl6gel44mg9cfd@corp.supernews.com>
Source record: 32943

My main source for parts is DigiKey (http://www.digikey.com). They are not the cheapest in the world, but they are quick, and they have the largest selection, and their customer service is second to none. They do have a $25 minimum order and you need to be careful to specify UPS Ground or you will end up paying expensive shipping.

Their selection of RF parts is a little limited, however. If you have time, and he has what you happen to need, Dan's Small Parts and Kits (http://www.danssmallpartsandkits.net/) has a lot of what you need for amateur radio related construction, and he typically has prices that are lower than anywhere. But he only deals by snail mail, which means at least two weeks round trip.

http://www.kitsandparts.com (W8DIZ) has the best prices anywhere for toroids, and he also stocks a limited supply of oddball parts at very good prices. His stuff is small so he can generally ship by Priority Mail (which generally translates into cheap).

http://www.bgmicro.com has a changing supply of parts, but for some things they can be very cheap, in particular, LCD displays and connectors, if they happen to have what you want. Be aware, however, that much of their stuff is used or pulls, so be sure you read the description carefully. Also, for some things, they are quite expensive. But there are items where they are the best choice. I also put Mendelsohn's (http://www.meci.com/) in about the same category. They have more stuff but it tends more toward the mechanical.

Finally, if you need an RF power transistor or a large variable cap, http://www.rfparts.com seems to be the only game in town. They are expensive, though, and they have a $25 minimum order. However, unlike DigiKey, it's tough to find $25 worth of stuff you want to buy there, partly because if anyone else has something they have, it will be cheaper elsewhere.

So a big part of the answer is shopping around and planning. Unless you buy to stock your parts drawers, you can easily spend more on shipping than parts for any given project. You need to work out the total package. You could easily save 6 or 7 dollars getting an LCD display from BG instead of DigiKey, but the shipping is going to cost you $9, so unless you are buying a something else, it might not be worth it.

As usual, no connection to any of these perps except that they are key contributors to lightening my wallet! Oh, yeah, and I've met W8DIZ a bunch of times, he's a cool guy, chief perp of the Flying Pigs and a member of ARCI.

..

"Brokebob" <brokebob@aol.com> wrote in message
news:20030831190329.21934.00000259@mb-m04.aol.com...
> I now have time to build but it seems that no one is selling small parts
> except with large minimum orders or low variety of stock. Right now
looking
> for ADC converter chips but next week might be something entirely
different.
> Who sells small quanties of small items?
> brokebob@aol.com (broke=not working, retired=not working, retired=broke)

1577. RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 13:16:51 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <geh6lv891sogtkfuohsrirhot2ftmlst8i@4ax.com>
Source record: 32944
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Is a tuned load (tank circuit) a viable load for an RF amplifier
operating in class A? Or is this type of load only really suitable for
class C?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1578. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 13:24:52 UTC
From: Don Pearce <donald@pearce.uk.com>
Message-ID: <02i6lv4q3hoqar2727jemmpk8bgcr6cfq6@4ax.com>
Source record: 32945
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 01 Sep 2003 14:16:51 +0100, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>
>Is a tuned load (tank circuit) a viable load for an RF amplifier
>operating in class A? Or is this type of load only really suitable for
>class C?

Of course you can use a tuned load with class A. But the nice thing
about a tuned load is that you don't *have* to use class A to achieve
a clean output. Of course, if you are using an amplitude modulated
signal, then you will need class A.

d

---

http://www.pearce.uk.com

1579. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 14:51:36 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <Y1J4b.177$vj4.28940@nnrp1.ptd.net>
Source record: 32946

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:birq7m$c3f$1@freenet9.carleton.ca...
> "Michael A. Terrell" (mike.terrell@earthlink.net) writes:
> > Damien Teney wrote:
> >>
> >> Hello al
> >> I 've built PLL in order to command the VCO of a VHF receiver.
Unfortunately
> >> it doesn't work very well: the VCO output is on average equal the same
as
> >> the frequency programmed in the PLL, but it is constantly varying a bit
> >> around it. I guess the problem comes from the output filter, but I've
> >> re-calculated it and it should be okay. Where could the problem come
from ??
> >>
> >> FYI, the PLL is build from a schematic of the Motorola application note
980
> >>
(http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
> >> 0.gif).
> >>
> >> Thank you in advance for your answers ;-)
> >
> > How clean is the power supply? Any noise, ripple or hum will appear
> > in the output of the VCO.
>
> And of course, one reason three terminal regulators were invented
> was so small sections could have their own regulators.
>
> They are cheap enough that it's hardly worth not having a separate
> regulator for the VCO. And maybe even a separate regulator for
> the phase detector (and any amplifier) section.
>
> Michael VE2BVW

In addition to proper loop filter parameters, separate supply regulation,
etc., a VCO needs to be placed and usually shielded to keep outside
noise from perturbing the control voltage ... you could be getting stray
pickup of RF, digital noise, etc. onto the control voltage ...

Carl - wk3c

1580. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 15:02:24 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <4cJ4b.988$9t1.190@newsfep1-gui.server.ntli.net>
Source record: 32947
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Don Pearce wrote:
> On Mon, 01 Sep 2003 14:16:51 +0100, Paul Burridge
> <pb@osiris1.notthisbit.co.uk> wrote:
>
>>
>> Is a tuned load (tank circuit) a viable load for an RF amplifier
>> operating in class A? Or is this type of load only really suitable
>> for class C?
>
> Of course you can use a tuned load with class A. But the nice thing
> about a tuned load is that you don't *have* to use class A to achieve
> a clean output. Of course, if you are using an amplitude modulated
> signal, then you will need class A.

That is, if the input signal is already AM, you need a class A or linear amplifier. If the AM is to be done at that stage itself, then its the class c non-linear bit that makes the multiplication modulation work.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1581. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 15:23:56 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bivoii$pq1$1@reader08.wxs.nl>
Source record: 32948

Yes but the VCO, if I control it manually (with a potmeter instead of the PLL), it is quite stable (enough for me ;-). So the main problem I have now would not be solved with a shield, I think.

1582. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 15:43:53 UTC
From: Don Pearce <donald@pearce.uk.com>
Message-ID: <j8q6lvo7iml3k634abl3pctkgkq2cv3bfm@4ax.com>
Source record: 32949
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 1 Sep 2003 16:02:24 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>Don Pearce wrote:
>> On Mon, 01 Sep 2003 14:16:51 +0100, Paul Burridge
>> <pb@osiris1.notthisbit.co.uk> wrote:
>>
>>>
>>>> Is a tuned load (tank circuit) a viable load for an RF amplifier
>>>> operating in class A? Or is this type of load only really suitable
>>>> for class C?
>>
>> Of course you can use a tuned load with class A. But the nice thing
>> about a tuned load is that you don't *have* to use class A to achieve
>> a clean output. Of course, if you are using an amplitude modulated
>> signal, then you will need class A.
>
>That is, if the input signal is already AM, you need a class A or linear
>amplifier. If the AM is to be done at that stage itself, then its the
>class c non-linear bit that makes the multiplication modulation work.
>
True - I was considering only the "carrying the signal" case. Anode
modulation of a PA is a different matter.

d

---

http://www.pearce.uk.com

1583. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 18:13:48 UTC
From: fmmck@aol.com
Message-ID: <20030901141348.06073.00000220@mb-m07.aol.com>
Source record: 32950

<< > My HP counter has a variation of the 10811 oscillator. To calibrate it, I
> bought a 10 MHz rubidium-controlled oscillator on E-Bay,

What did that cost you? Also how long are the lamps good for anyway? I imagine they are expensive to replace. >>

Leland-

I paid $225 plus shipping for the used rubidium-controlled oscillator. I had to build a 24 volt DC power supply for it. I have read various articles about lamp life. It seems that E-Bay sellers will claim that they were designed for several years of continuous use. The trouble is that you don't know how many years a second hand unit has already been used! They are most likely being sold after having been replaced as preventive maintenance. I only run mine when I need it for calibrating an oscillator. I would expect it to be cheaper to buy another used rubidium oscillator than to repair the one I have. If it does go bad, I will look into one of the HP GPS-synchronized oscillators that are available on E-Bay.

<< I assume if the thermal fuse is shot the oscillator won't draw any oven current? I did find a page that shows how to disassemble the 10811. It doesn't look all that inviting. Seems the author of that page had most of his problems dealing with the sticky tape they use internally. He had by the way also reported a drifting problem. That's why he took it apart. But he did say he couldn't find anything wrong with the unit either. >>

The oven won't draw current but the oscillator will. An Ohm meter check between the oven power lead and ground should be relatively low, maybe a few hundred Ohms?

You DO NOT want to disassemble the oven! All you need to do is remove the end plate. As I recall, there is a flexible cable near the card-edge connector, that hides the thermal fuse. The original thermal fuse looked like a tiny electrolytic capacitor, and plugged into tiny pin-sockets on a circuit board. The new version looks more like a ceramic quarter or half watt resistor.

If you are interested, I wrote up my experience and E-Mailed it to ARRL's Hints and Kinks. It was published on Page 68 of the November, 2002, issue of QST.

Please do not take this as a condemnation of the 10811 oscillator. I am very impressed with how stable it has been over a long period of time.

73, Fred, K4DII

1584. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 18:49:56 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1062442400.609162@auth2.dns.griffin.net.uk>
Source record: 32951

and your filter values Damien?
i use those pll chips myself in various tx's..6.25khz to 100khz steps and
have no problems so will dig out the values for 6.25khz for you tonight to
compare.(using LF351/(6) (i think) as filter.
also pll built on double sided pcb (1w exciter.)
no seperate screening apart from vco coil,vco regulated with 78L08,(which
also supplies the 145152) noise is not a problem.sounds like as you suspect
really bad vco overshoot.
"Jim Pennell" <NoSpam@killspam.com> wrote in message
news:vtz4b.4321$Lk5.384@newsread3.news.pas.earthlink.net...
> This link is to a webpage which shows quite a few PLL design program
> links. I am not sure which will best fit your application, but it is a
> place to start. Actually, many of them may be able to help sort things
> out.
>
>
> http://www.circuitsage.com/pll.html
>
>
>
> Jim Pennell
> N6BIU
>
>

1585. Re: computer psu crt dia..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 18:55:23 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1062442522.440382@auth2.dns.griffin.net.uk>
Source record: 32952

your link appears to be an email address..???
<mkelly@powerup.com.au> wrote in message
news:3F51940E.5DDA34BA@powerup.com.au...
> The only major difference is in the standby
> supply. The AT has none.
>
> Have a look at this for starters
>
> w8mia@antennex.com
>
> zindazenda wrote:
> >
> > oh really looking for AT rather than ATX diagrams..
> > thanks simon. (see previous post.)
> Murray Kelly vk4aok

1586. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 19:38:18 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bj07arbrl1@reader10.wxs.nl>
Source record: 32953

Okay thank you. I don't know well what values you want; I took what was advised in the motorola application note
loop damping factor = 0,707
VCO gain = 25 132 741 rad/V
VCO center frequency = 77 MHz
PLL supply voltage = 5V
etc.

The values of the components of the filter are given in a previous post.

"zindazenda" <zen@lineisp.co.uk> a crit dans le message de news: 1062442400.609162@auth2.dns.griffin.net.uk...
> and your filter values Damien?
> i use those pll chips myself in various tx's..6.25khz to 100khz steps and
> have no problems so will dig out the values for 6.25khz for you tonight to
> compare.(using LF351/(6) (i think) as filter.
> also pll built on double sided pcb (1w exciter.)
> no seperate screening apart from vco coil,vco regulated with 78L08,(which
> also supplies the 145152) noise is not a problem.sounds like as you suspect
> really bad vco overshoot.

1587. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 20:24:45 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <RZN4b.1334$9t1.546@newsfep1-gui.server.ntli.net>
Source record: 32954
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Don Pearce wrote:
> On Mon, 1 Sep 2003 16:02:24 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>
>> Don Pearce wrote:
>>> On Mon, 01 Sep 2003 14:16:51 +0100, Paul Burridge
>>> <pb@osiris1.notthisbit.co.uk> wrote:
>>>
>>>>
>>>> Is a tuned load (tank circuit) a viable load for an RF amplifier
>>>> operating in class A? Or is this type of load only really suitable
>>>> for class C?
>>>
>>> Of course you can use a tuned load with class A. But the nice thing
>>> about a tuned load is that you don't *have* to use class A to
>>> achieve a clean output. Of course, if you are using an amplitude
>>> modulated signal, then you will need class A.
>>
>> That is, if the input signal is already AM, you need a class A or
>> linear amplifier. If the AM is to be done at that stage itself, then
>> its the class c non-linear bit that makes the multiplication
>> modulation work.
>>
> True - I was considering only the "carrying the signal" case. Anode
> modulation of a PA is a different matter.

Yes, I know you knew, I was just tiding up the description a bit for
others.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
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Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1588. Re: Radar detector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 22:25:05 UTC
From: IanV <i.v@hotmail.com>
Message-ID: <2HP4b.3775$c12.46797@newsfep4-glfd.server.ntli.net>
Source record: 32955

Hello,

I wouldn't waste your money, by the time your detector has gone off it's too late anyway if you're speeding.
I bought a radar detector as a toy to play about with. It detects traffic lights, shop doorways and the odd speed camera. It also has a laser detector built in which DOES NOT work. I tested this with a police man on the A41, he was happy to show me the unit was a load of junk. I was amazed that it didn't trigger when the police man was standing there with a laser trap on a tripod!
Mine is a SNOOPER as sold in car shops etc. It is a waste of time from what i have experienced - it's just a toy.
It does sometimes detect the microwave stuff if I drive past a PMR site which is interesting.

Sorry, can't help you with a diagram, the detectors are overpriced toys.

"G�ry Duyck" <gery@duyck-co.be> wrote in message
news:3f521ff2$0$8539$ba620e4c@reader0.news.skynet.be...
> Does anyone have a shematic for building a radar detector, that can detect
> modern radar guns.
>
> Any hint's tips or info is welcome.
>
> 73 --... ...--
>
> Gery D.
>
>

1589. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 22:32:19 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <gludnY_NrMC_VM6iU-KYgw@comcast.com>
Source record: 32956

"Fred McKenzie" <fmmck@aol.com> wrote in message
news:20030901141348.06073.00000220@mb-m07.aol.com.
..
> Please do not take this as a condemnation of the
10811 oscillator. I am very
> impressed with how stable it has been over a
long period of time.

Thanks again for the info.

--
Leland C. Scott
KC8LDO

Saw this on a Tee-shirt:

"I am a
bomb
technician
if you see me
running
try to keep up "

1590. Re: Oscillator reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-01 22:46:26 UTC
From: Williams <spikewilliams@qx.net>
Message-ID: <vl7j2pai8c582b@corp.supernews.com>
Source record: 32957

try rec.antiques.radio+phono for urls

1591. FA:RCA 7360,Radio Dial Belts NOS...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 00:14:08 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <khR4b.122546$0v4.8850651@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32958
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On Ebay now:

RCA 7360 tube,

A small lot of 10 antique Radio Dail Belts, NOS.

+ other items: search under seller: heytubeguy or

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

73 Joe

1592. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 00:14:43 UTC
From: Michael Ardai <n1ist@comcast.net>
Message-ID: <3F53E0F2.F9213B0A@comcast.net>
Source record: 32959

Richard wrote:
>
> As Mr Strohm indicated, Ramsey Electronics is a good one. Go to
> www.ramseyelectronics.com/ for a selection.
> Richard West, KF6KE

Watch it - many of their kits (at least when I last built one a
few years ago) were marginal designs, sometimes illegal, and
used components of questionable quality. Two transmitters -
one enabled the PA before the PLL locked, so it swept noise
across the band, and one was a multiplier design with *no*
filtering so it splattered every 12 MHz up and down from 2M,
an amp with a long thin ground trace for the final, etc.

/mike

1593. Re: Prescaler? Suggestions anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 04:06:32 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F5417B7.8B45BA78@bellatlantic.net>
Source record: 32960
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur

Frank Gilliland wrote:
>
> In <bhhu7h$3sb$1@newstree.wise.edt.ericsson.se>, "Harry \(SM0VPO\)"
> <john.smith@micro$oft.com> wrote:
>
> >Hi all,
> >I am having a spot of bother with prescaler chips. Basically I need to find
> >one at the right price and availability. US$5 each is reasonable, but where
> >from? Is there one available that is not obsolete?
> >
> >I live in Sweden and my local component shop is ELFA (Swedens answer to RS).
> >They don't sell ANY digital divider that operates above 50MHz, except for
> >the 74F163 and I cannot come up with a reliable interface circuit to couple
> >an oscillator into it at over 100MHz.
> >
> >I found the MB501 (MC12022, SP8704) but it is obsolete and cannot find a
> >reliable source. I bought a couple, but that source dried up. All I need is
> >a divider chip that will accept a small signal up to 150MHz, is available,
> >cheap(ish) and will divide down to under 10MHz so that I can use CMOS to
> >process a synthesiser. A parallel-load synthesiser chip with in-built 150MHz
> >prescaler would do.
> >
> >I have used "Teleport" to download over 50,000 pdf datasheets without any
> >luck. I have gone through most of them, but it takes a fair bit of time. If
> >anyone has a helpful suggestion I would appreciate it.
> >
> >BR from Harry - SM0VPO
> >
> >http://w1.859.telia.com/~u85920178/
> >harryvpo (at) hotmail (dot) com
> >
>
> Man, if THIS ain't a trip -- a well-known, over-rated internet homebrew tech
> asking for help for a simple prescaler.

Over-rated?? Well, Harry's homebrew website is infinitely
better than yours ...

1594. Re: computer psu crt dia..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 04:14:59 UTC
From: "mkelly@powerup.com.au" <mkelly@powerup.com.au>
Message-ID: <3F541943.CAD36ABC@powerup.com.au>
Source record: 32961

True - do a google for his site.

Also see

http://www.qsl.net/kc4mc/stlou.html
http://www.qsl.net/wj5o/project.htm
http://www.njqrp.org/qhbextra/6/6d.html
http://207.195.94.13/sart/radio_library/switcher-supply.pdf
http://www2.arrl.org/members-only/tis/info/pdf/0205035.pdf
http://www.webx.dk/oz2cpu/radios/psu-pc1.htm
http://pavouk.comp.cz/hw/en_atxps.html
http://www.acs.comcen.com.au/atxps.html
http://www.qsl.net/aa3sj/Pages/PC-Supply.html
http://www.mattsrcstuff.com/PCPS.htm
http://www.qsl.net/sv1hao

zindazenda wrote:
>
> your link appears to be an email address..???
> <mkelly@powerup.com.au> wrote in message
> news:3F51940E.5DDA34BA@powerup.com.au...
> > The only major difference is in the standby
> > supply. The AT has none.
> >
> > Have a look at this for starters
> >
> > w8mia@antennex.com
> >
> > zindazenda wrote:
> > >
> > > oh really looking for AT rather than ATX diagrams..
> > > thanks simon. (see previous post.)
> > Murray Kelly vk4aok

--
****
* Murray Kelly vk4aok
mailto://mkelly@powerup.com.au *
* 6 Spyglass Place, Oxley Ridge QLD. 4075.
Australia *
* ph/fax Intl+ 61 7 3879
7968 *
****

1595. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 04:21:03 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F541AAF.606FA4B3@clifto.com>
Source record: 32962
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Winfield Hill wrote:
> ï¿½nï¿½nï¿½mï¿½uï¿½ wrote...
> > It was one of those twist
> > on black cap ones, that held the fuse inside it. Well, I pulled
> > it out and without thinking just shoved a new fuse in and wham!
> > Ya! I'm up! That worked better that 10 cups of coffee!
>
> I'm glad you're OK. But that fuse-holder was mis-wired, with the
> ac input on the outer ring rather than on the inner end connection.
> Properly wired, a user won't be exposed to a dangerous hazard, as
> we point out on page 328 of our book, The Art of Electronics.

I like my method better. The twist-in cap usually will hold the fuse
well enough that one doesn't have to be touching any metal when the
fuse is pushed into the holder and screwed in. He who doesn't touch a
conductor doesn't become one.

--
"Here, Outlook Express, run this program." "Okay, stranger."

1596. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 08:30:38 UTC
From: Ian Buckner <Ian_Buckner@agilent.com>
Message-ID: <1062491441.847975@cswreg.cos.agilent.com>
Source record: 32963
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Kevin Aylward" <kevin@anasoft.co.uk> wrote in message
news:RZN4b.1334$9t1.546@newsfep1-gui.server.ntli.net...
> Don Pearce wrote:
<snip> >>
> > True - I was considering only the "carrying the signal" case.
Anode
> > modulation of a PA is a different matter.
>
> Yes, I know you knew, I was just tiding up the description a bit for
> others.
>
> Kevin Aylward
> salesEXTRACT@anasoft.co.uk
> http://www.anasoft.co.uk
> SuperSpice, a very affordable Mixed-Mode
> Windows Simulator with Schematic Capture,
> Waveform Display, FFT's and Filter Design.
>
>
But did Don know you knew he knew?

Regards
Ian

;-)

1597. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 08:51:43 UTC
From: Don Pearce <donald@pearce.uk.com>
Message-ID: <afm8lvck0bud9c1clpe7772bm5hn7mm9dj@4ax.com>
Source record: 32964
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 2 Sep 2003 09:30:38 +0100, "Ian Buckner"
<Ian_Buckner@agilent.com> wrote:

>
>"Kevin Aylward" <kevin@anasoft.co.uk> wrote in message
>news:RZN4b.1334$9t1.546@newsfep1-gui.server.ntli.net...
>> Don Pearce wrote:
><snip> >>
>> > True - I was considering only the "carrying the signal" case.
>Anode
>> > modulation of a PA is a different matter.
>>
>> Yes, I know you knew, I was just tiding up the description a bit for
>> others.
>>
>> Kevin Aylward
>> salesEXTRACT@anasoft.co.uk
>> http://www.anasoft.co.uk
>> SuperSpice, a very affordable Mixed-Mode
>> Windows Simulator with Schematic Capture,
>> Waveform Display, FFT's and Filter Design.
>>
>>
>But did Don know you knew he knew?
>
>Regards
> Ian
>
>;-)
>I had a suspicion that he had an inkling that I might have known that he had a fair idea
that I may have had a rough idea.

d

---

http://www.pearce.uk.com

1598. Ground Clip

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 13:28:10 UTC
From: Bart25 <bart25@hvaccess.com>
Message-ID: <kOCcnWblFMuzB8miXTWJjA@linkupamerica.com>
Source record: 32965

I have some very nice Hammarlund variable caps. The only problem is that the ground clip on the end of the rotor shaft is missen on them. Does anyone sell these clips?

1599. Re: Kit for kids ITEA ARRL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 16:43:25 UTC
From: James <James@nospam.com>
Message-ID: <3F54C8AB.681550A8@nospam.com>
Source record: 32966

Hi,

Passed an earlier post about ITEA and ARRL on to the ARRL and here is the reply I rec'd
from Mark at arrl. He has some good infomation

73 james

Lots of fragmented e-mails attached before it made it
to me, so I hope I can
address the essence of your questions. Perhaps you
can pass the information
along to the initial query.

The ARRL participates in the ITEA annual conference
with a booth that displays
the virtues of ham radio in the classroom and the
ARISS program. ITEA as well
as the national science and math teacher's
associations operate on tight budgets
and therefore it is expensive to participate in their
programs an to gain
exposure through their programs. If it were not for
the generosity of NASA, who
pays for the booths and invite us to participate with
them, the league could not
afford to gain access to these organizations. They
are aware of the Project and
the ARRL, but as of yet, I have not seen them actively
push schools to consider
participation. Hopefully over time, that will change.

As far as kits are concerned, there are lots of them
available. It really
depends on the goals of the teacher, how the kits are
to fit into their
curriculum, and what is the ability level of the
students (as well the
teacher's/school's sensitivity to sticker shock).
Local ham clubs could be a
source of funding and help. Some of the kits are
elaborate and expensive,
others are inexpensive. An Internet search for
electronic kits will produce a
mound of hits that the teacher can explore. FAR
Circuits and RAMSEYS are a

couple of commercial outfits that provide a variety of kits. Crystal radios are inexpensive and simple, can be made for a few dollars above the cost of a set of high impedance earphones, but they require careful construction and observation to gain any real value out of them. In the Project curriculum, I have a few circuits that demonstrate electronic principles. These circuits use common Radio Shack parts and should be an inexpensive learning tool. Jameco offers some education kits that might be interesting. Parallax offers a robotics curriculum with lots of hands-on activities, but they tend to be as expensive as they are powerful.

One final suggestion in working with 6th graders. When I taught electronics to that level I found a project that really peeked their interest: a remote, wireless transmitter. This little project broadcast a signal over a standard FM receiver. The teaching possibilities are numerous, and the direction the teacher takes with this concept can go all over the place. The kids really loved it....but there were a few parents that wanted my neck. The criticism of some parents was that I was teaching their kids to spy and listen-in where they shouldn't (i.e. parents and sister's bed rooms). (part of this problem came from my background before going into teaching). The thing is, that even though there is a potential problem in this regard, this issue raised a whole new area of instruction...ethics of electronics... that I turned into additional lessons.

Hope I hit on some of your questions.

Mark Spencer, WA8SME
Project Coordinator
860-594-0396

1600. Re: Kit for kids ITEA ARRL

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 17:05:02 UTC
From: James <James@nospam.com>
Message-ID: <3F54CDBD.543BC472@nospam.com>
Source record: 32967

Repost for easier reading.

73 jimbo

Lots of fragmented e-mails attached before it made it to me, so I hope I can address the essence of your questions. Perhaps you can pass the information along to the initial query.

The ARRL participates in the ITEA annual conference with a booth that displays the virtues of ham radio in the classroom and the ARISS program. ITEA as well as the national science and math teacher's associations operate on tight budgets and therefore it is expensive to participate in their programs an to gain exposure through their programs. If it were not for the generosity of NASA, who pays for the booths and invite us to participate with them, the league could not afford to gain access to these organizations. They are aware of the Project and the ARRL, but as of yet, I have not seen them actively push schools to consider participation. Hopefully over time, that will change.

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high impedance earphones, but they require careful
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shouldn't (i.e. parents and sister's bed rooms).
(part of this problem came
from my background before going into teaching). The
thing is, that even though
there is a potential problem in this regard, this
issue raised a whole new area
of instruction...ethics of electronics... that I
turned into additional lessons.

Hope I hit on some of your questions.

Mark Spencer, WA8SME
Project Coordinator
860-594-0396

1601. Re: Anyone ever had a fatal electric shock?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 17:26:12 UTC
From: ï¿½nï¿½nï¿½mï¿½uï¿½ <respond@in.conference.com>
Message-ID: <qek9lvoor7fhed2b126od7a20dbdb4hlnv@4ax.com>
Source record: 32968
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 01 Sep 2003 23:21:03 -0500, "Clifton T. Sharp Jr." <clifto@clifto.com> wrote:

>Winfield Hill wrote:
>> ï¿½nï¿½nï¿½mï¿½uï¿½ wrote...
>> > It was one of those twist
>> > on black cap ones, that held the fuse inside it. Well, I pulled
>> > it out and without thinking just shoved a new fuse in and wham!
>> > Ya! I'm up! That worked better that 10 cups of coffee!
>>
>> I'm glad you're OK. But that fuse-holder was mis-wired, with the
>> ac input on the outer ring rather than on the inner end connection.
>> Properly wired, a user won't be exposed to a dangerous hazard, as
>> we point out on page 328 of our book, The Art of Electronics.
>
>I like my method better. The twist-in cap usually will hold the fuse
>well enough that one doesn't have to be touching any metal when the
>fuse is pushed into the holder and screwed in. He who doesn't touch a
>conductor doesn't become one.
Exactly!

1602. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 22:08:13 UTC
From: "Henry A. Pasternack" <hpasternack@rcn.dot.com>
Message-ID: <bj34cr$p48$1@bob.news.rcn.net>
Source record: 32969

"Leland C. Scott" <no-spam@junk-mail.net> wrote in message
news:gIudnY_NrMC_VM6iU-KYgw@comcast.com...
> Thanks again for the info.

Exactly the same thing happened to me. It's fortunate I found a service manual for my frequency counter on eBay or I might never have diagnosed the problem. The manual states that the normal operating temperature for the oscillator is 80-84C. I bought new thermal fuses from Digi-Key. Investigating the properties of these devices I found that the exact temperature at which they open isn't a simple thing to determine. To be safe but avoid the fuse opening again under normal conditions, I selected a Panasonic "N124" type rated at 130C. The Digi-Key catalog number is P10922-ND. This turned out to be a bit larger than the original part. I suggest you try the smaller "F130" part, catalog number P10913-ND. Just to be safe, of course, verify these part numbers before ordering.

Taking apart the oscillator is a bit nerve-wracking if you don't know what to expect, but the fuse replacement isn't at all hard to do.

Have fun.

-Henry

1603. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 22:29:32 UTC
From: k7itm@aol.com
Message-ID: <3200347.0309021429.7bd2ba5a@posting.google.com>
Source record: 32970

"Leland C. Scott" <no-spam@junk-mail.net> wrote in message
news:<gIudnY_NrMC_VM6iU-KYgw@comcast.com>...
> "Fred McKenzie" <fmmck@aol.com> wrote in message
> news:20030901141348.06073.00000220@mb-m07.aol.com.
> ..
> > Please do not take this as a condemnation of the
> 10811 oscillator. I am very
> > impressed with how stable it has been over a
> long period of time.
>
Leland,

Your email return address is a bit too munged (;-) to be useful, so I
have to post...drop me an email and let me know what characteristics
you are looking for in an OCXO and maybe I can help you out.

Cheers,
Tom

1604. FS: 1N5408 Diodes,1kv,1.5A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 23:42:49 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <ZV95b.123571$0v4.8957962@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32971
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Have a great supply of NOS 1N5408 diodes at 1kv, 1.5A at $0.10 each.

73 Joe in MO

1605. FS:24v at 1 Amp xfmrs,NOS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-02 23:47:52 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <I_95b.123583$0v4.8958975@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32972
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Have a nice supply of NOS 24vct 1 Amp Mouser transformers for just $1.99
each.
Weight is 1 lb 4.1oz each unpacked. 73 Joe in MO

1606. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 05:42:22 UTC
From: fmmck@aol.com
Message-ID: <20030903014222.07673.00000527@mb-m17.aol.com>
Source record: 32973

<< Exactly the same thing happened to me. It's fortunate I found a service manual for my frequency counter on eBay or I might never have diagnosed the problem. The manual states that the normal operating temperature for the oscillator is 80-84C. >>

Henry-

I had the service manual for my counter, but it did not have sufficient information about the 10811-series OCXO, for the HP/Agilent parts department to identify the thermal fuse. I had to obtain a separate manual for slightly different oscillators in that series.

The temperature of the oven is chosen to match each specific crystal. The thermal fuse should be sufficiently high that it won't open in normal operation, but will if there is a problem. The original part for my oscillator was rated at 108 degrees C. The revised part is rated at 115 degrees C. It is HP/Agilent part number 10811-80008. Last year the price was $10.50 plus tax.

I also found a 117 Degree C "Thermal Cut-Off", NTE Electronics NTE8115. Radio Shack has a #270-1322A thermal fuse rated at 128 degrees C. Both of these are larger than the original part, and their leads are too fat to fit in the original pin sockets. I solved that by finding a high value resistor with the correct lead diameter, and soldering it in parallel with the thermal fuse. It was necessary to use a heavy pair of pliers as a heat sink to avoid melting the fuse element while soldering! The larger thermal fuse with its parallel resistor is a tight fit. I used some fiberglass tape to insulate it, to keep from shorting to nearby components.

I eventually replaced the substitute with the correct part, and it has been working for about a year now with less than a tenth of one Hertz drift at 10 MHz, or better than ten parts per billion compared to the Rubidium controlled oscillator.

73, Fred, K4DII

1607. Re: ATX CONVERSION. any sugestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 05:54:58 UTC
From: cirip <cirip@NOT_VALID.com>
Message-ID: <Smf5b.143949$_V.93212@news04.bloor.is.net.cable.rogers.com>
Source record: 32974

Hi Deos,

I am using a modified PC power supply for my transceiver and it works like a charm. What I had to do is as follows:

1) Remove the "missing voltage" protections that monitors +5, -5 and -12
2) Remove the 5V rectifier.
3) Remove the 5V voltage control loop.
4) Close the voltage control loop on the +12V only and recalculate the ratio in order to obtain 13.5V
5) Replaced the 12V rectifier with a higher amp capability. Do not use the 5V rectifier. I used a 100V 20Amp Schottky.

Let me know if you want more info.
Cirip

"Deos" <lineoffiretoday@yahoo.com> wrote in message news:bissqakgo1@nic.grnet.gr...
> For the passed few week I have been thinking (and looking into) computer
> power supply conversions into nice power supplies for my rigs.
>
>
>
> Up to now there are two major way to do it (at least that's what I have
> found)
>
>
>
> A) The first way is to put a load on the 5v so it can regulate the 12V tap,
> but as I can understand this does not utilize Max output
>
> B) The second way is to strip all the unnecessary components (useless
> taps, -5v -12v est.) and leave the 12v for maximum out put
>
>
>
> Any comment would be appreciated and personal experience on this matter.
>
> I have a few atx supplies in the shack and would like to utilize them.
>
>
>
> These are the sites I have found.
>

>
>
> http://www.webx.dk/oz2cpu/radios/psu-pc1.htm
>
> http://pavouk.comp.cz/hw/en_atxps.html
>
> http://www.acs.comcen.com.au/atxps.html
>
> http://www.qsl.net/aa3sj/Pages/PC-Supply.html
>
> http://www.mattsrcstuff.com/PCPS.htm
>
> --
> http://www.qsl.net/sv1hao
>
>

1608. Re: Oscillator reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 06:09:43 UTC
From: "Administrator <Guest user login>" <john.smith@micro$oft.com>
Message-ID: <bj40b6$h0h$1@newstree.wise.edt.ericsson.se>
Source record: 32975

Hejsan Torbj&#65533;rn,
You are indeed quite correct in that the transmitter is easy. 50 turns on a
ferrite rod with a 250pf tuning cap and a low impedance coil (say, 10 turns)
from the oscillator module. Tune for maximum "smoke".

A simple diode ring mixer or in fact any old mixer will take an antenna and
oscillator to make a receiver. (such as
http://w1.859.telia.com/~u85920178/rx/quickrx.htm).

You do have a problem. If the TX and RX are on exactly the same frequency
then the difference frequency is zero. So you will be receiving 0Hz
modulation from the TX. If you had a 800Hz frequency difference then you
would hear or be able to detect something. You need two oscillators of
different frequencies.

Finally, to operate at 1.8MHz may not be very nice for other users. Even a
few mW from a ferrite rod can give surprisingly large distances. I certainly
will not hear you in Stockholm, but you could have a few nasty surprises.
For example, many of the older chordless telephones used this sort of
frequency, but I think it may perhaps a little lower. Depending upon the
selectivity of these phones, you may quickly find yourself detected.

Another point is that it is a bit unsuitable to do tests in a radio amateur
band. Amateurs are proud of their licenses and even if they heard someone
"just playing" with low powers in their bands, then you would find yourself
reported. There are other bands you could experiment with where the users
are not so many or object to "intruders".

A suitable band would be light. An infra-red diode can have a standing DC
current fed into it, then you can couple your oscillator in there to
modulate the light. Any IR-LED receiver will receive that frequency, in fact
you can have your own legal HF band, right there in your home without fear
of annoying anyone. You can even connect IR-LEDs to the antenna socket of
communications receivers and get up to 50 - 100 metres range (line of
sight).

BR - Harry

"Torbj&#65533;rn Viksand" <we-vi@online.no> wrote in message
news:zyq4b.18859$os2.259301@news2.e.nsc.no...
> Hi everybody! (This is the place where you would say hi Dr.nick, but you
> don't)
>
> I have two oscillators operating at the same frequency that I have
salvaged
> from an really old computer =). I am trying to build a transmitter and a

> reciever around theese two oscillators. The transmitter should, as far as
I
> have understood, be fairly simple to construct using one of the
oscillators,
> but the reciever is giving me headaches =)
>
> What I want is a simple reciever, not necessary audio, I only want to get
a
> current flowing when there is a signal. Would it be possible to construct
a
> simple one with the other oscillator?
>
> I am fairly new to this sort of electronics and I would like easy
> explanations or some url's that might interest me :)
>
> I have many capacitators and resistors and transistors. I also have a few
> coils with ferrite rods inside salvaged from old radio sets. The
oscillators
> are at 1.8Mhz each I think. (I have a few others that match too, but I
can't
> find them anywhere and if theese will work, then I won't bother looking),
I
> might try to use an old AM reciever and try to tune it to 1800khz, but I
> would like to build it myself...
>
> I have tried to search the newsgroup, but I had difficulities finding
> anything that really helped so please don't flame that much.
>
> Mvh Torbj�rn, please excuse my English. You might understand that I'm not
a
> native speaker =)
>
>

1609. Re: Need help with 6-pin mic connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 06:23:42 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bj415dhhm1@newstree.wise.edt.ericsson.se>
Source record: 32976

> I need a pinout for the microphone connector on my KDK FM-2033.

There is always a simple way to identify MIC connections, no-matter what rig you have.

Power-OFF - use Ohm-meter to identify the Gnd terminal pin (chassis)

(now power on):

Touch 470-Ohm between each pin and Gnd - identify the PTT pin.

Ground PTT, touch other pins with finger, listen to mod to identify MIC input pin.

RX, squelch open, touch high-impedance headphones (in series with 0.1uf cap) between Gnd and other pins in turn. Identify if there is a RX out.

+12v via 47K to any remaining pins, one at a time - see what happens.

BR Harry

1610. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 06:29:55 UTC
From: Harry - SM0VPO <john.smith@micro$oft.com>
Message-ID: <bj41h2$hn1$1@newstree.wise.edt.ericsson.se>
Source record: 32977

http://www.kitsrus.com see K18v2
http://w1.859.telia.com/~u85920178/ see V5

> 6th grade is WAY too late to try to get them interested.
Disagree!

I did quite a bit with scouts, even the older scouts wanted to learn how to build, just as a tool toward playing with their FM "bug". Anything that stimulates interest is good.

BR H

1611. FA: DC-12.4Ghz Coaxial Relay N Type connectors,28V DC Coil. 80dB Isolation at 5.760Ghz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 11:08:26 UTC
From: Tom <Tom@sbrs.org.uk>
Message-ID: <3f55cba2$0$46008$65c69314@mercury.nildram.net>
Source record: 32978

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3044609610&category=1502&rd=1

1612. microwave vco

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 11:37:09 UTC
From: payam79b@yahoo.com
Message-ID: <1e2005ff.0309030337.3594db00@posting.google.com>
Source record: 32979

Hi,I am student & curiously want to build a practical ,high frequency
spectrum analyzer ,
Do you have any comment about " matjaz vidmar,s53mv" articles on VHF
COMMUNICATION magazine ?
Has any one worked on it?
I've heard there are some problem on the " microwave vco" , which is
one of the those articles ?is it practical? Is it simple to build?
What is the epsilon (r) of glassfiber epoxyFR4 ?
Any comment?
Any help would be most appreciated.
Payam79b@yahoo.com

1613. Re: Lamps?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 14:17:48 UTC
From: Phil Munro <PcMunro@cc.ysu.edu>
Message-ID: <3f55f7fa$1@news.ysu.edu>
Source record: 32980
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew,rec.radio.swap

My limited experience with a group of exit lights is that they used
special expensive bulbs, but the electric supply place I went to find
replacements suggested some relatively new (at the time) replacements
which had a significantly long life spec. They were (are) neon bulbs as
I remember, and they have lasted many years. Well worth the money.
Exit fixtures have specs on what bulbs are to be used, I think.
Also, as someone stated wrongly about neon bulbs requiring high
voltage, they instead need series R to limit the current. --Phil

nobody wrote:
> In <3F5161C4.C008FDF1@bellatlantic.net> ehsjr@bellatlantic.net wrote:
>
>> But in 1978 I wired the 2 bulbs in the each of the EXIT lights in
>> the church in series.
>
> Congratulations, you probably bypassed a safety feature. If they're
> in parallel, if one burns out the other keeps going. In series, if
> one goes they're both out, and the exit sign is no longer visible.

--
Phil Munro Dept of Electrical & Computer Engin
mailto:PcMunro@cc.ysu.edu Youngstown State University
Youngstown, Ohio 44555

1614. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 14:21:35 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bj4th3$37$1@reader10.wxs.nl>
Source record: 32981

Woohoo ! I finally found, I had used 92 ohms resistors instead of 92 Kohms resistors... how inattentive I am sometimes ;-) But it isn't yet perfect, I've took a picture of the oscilloscope, showing the output signal that is fed into the VCO (http://www.mcarsweb.com/_divers/oscillo.jpg the vertical scale is enlarged). It is slightly varying, at a frequency of about 187 KHz. I don't know if I should change the filter values, or add a additional small filter, with a resistor and a capacitor between the output and the ground. What do you think about that ?

Damien

1615. Re: FS: 1N5408 Diodes,1kv,1.5A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 14:32:48 UTC
From: Leigh W3NLB <w3nlbREMOVETHIS@amsat.org>
Message-ID: <8qublvg48vdrdqbmr2sfc1c9sqfse9snk2@4ax.com>
Source record: 32982
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

The 1N5408 is rated 3 amps at 1kv PIV. See

http://www.fairchildsemi.com/pf/1N/1N5408.html

73 de Leigh W3NLB

On Tue, 02 Sep 2003 23:42:49 GMT, "Heytubeguy"
<heytubeguy@worldnet.att.net> wrote:

>Have a great supply of NOS 1N5408 diodes at 1kv, 1.5A at $0.10 each.
>
>73 Joe in MO
>

1616. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 14:37:13 UTC
From: Mike Allenson <mike@allenson.fsnet.co.uk>
Message-ID: <bj4uib$gt1$1@newsg3.svr.pol.co.uk>
Source record: 32983

Chris

I-Q Electronic Design had 3.560 MHz xtals in their advert in the summer edition of SPRAT the G-QRP club magazine - e-mail vincent@jakomin.fsnet.co.uk. There are also low power miniature 3.560 xtals and 3.68 MHz ceramic resonantors in the member sales for the G-QRP club. www.gqrp.com/ Some sale items are members only but at £6 pa membership is a bargain and you will get SPRAT magazine which covers just the kind of simple low power rigs that you are interested in.

Best regards

Mike G3TGD

"Chris" <chrismatchett@hotmail.com> wrote in message
news:vO22b.170$ml5.293361@newsfep1-win.server.ntli.net...
> This is my first visit to this newsgroup...I am a new MI3.
>
> I would like to put together a very simple QRP CW transceiver. The
schematic
> I am using includes a 3.560MHz crystal oscillator.
>
> Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators
> respectively and I am wodering will these do the job or should I be
looking
> for a 3.560MHz crstal? The circuit does have a 65pF trimmer capacitor for
> tuning but I want to sure about the crystal before I order.
>
> Thanks for your help.
>
> Chris
>
>

1617. Re: FS: 1N5408 Diodes,1kv,1.5A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 16:53:19 UTC
From: snarflemike@yahoo.com
Message-ID: <20619edc.0309030853.59726560@posting.google.com>
Source record: 32984
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

"Heytubeguy" <heytubeguy@worldnet.att.net> wrote in message
news:<ZV95b.123571$0v4.8957962@bgtnsc04-news.ops.worldnet.att.net>...
> Have a great supply of NOS 1N5408 diodes at 1kv, 1.5A at $0.10 each.
>
> 73 Joe in MO

Don't sell yourself (or your diodes) short -- those are 3A diodes:

http://www.fairchildsemi.com/ds/1N/1N5408.pdf

73,
Mike, KK6GM

1618. Re: Lamps?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 17:03:37 UTC
From: fmmck@aol.com
Message-ID: <20030903130337.18133.00000375@mb-m24.aol.com>
Source record: 32985

<< Now with the above facts in mind, which do you think is safer? >>

Ehsjr-

You are rationalizing. The need for the light is greatest in the event of a fire. With two bulbs in series, the resulting light is weaker and harder to see in dense smoke.

Most of the time you won't have a fire. You could carry your rationalization further by eliminating the lights and having zero chance of accidental electrocution or falling from the ladder, and save on the electric bill to boot.

Good Luck.

Fred

1619. Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 17:13:00 UTC
From: snarflemike@yahoo.com
Message-ID: <20619edc.0309030913.1906bc46@posting.google.com>
Source record: 32986

Another question resulting from too much time on my hands. Why do we have rectifier diodes (e.g. 1N4xxx, 1N54xx) with different voltage ratings? Other than the voltage rating I don't see any differences on the data sheets I've looked at. Why not just make and use 1kv diodes alone?

73,
Mike, KK6GM

1620. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 17:39:33 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <L9CdnVQT9uMYusuiRTvUqA@cnmnetwork.com>
Source record: 32987

Lower voltage rectifiers are easier to make and therefore cheaper. Further, they have lower forward drop and are faster. No point in using too high a rating if these other factors are worth considering.

1621. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 19:42:02 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bj5g1f$fj7$1@nic.grnet.gr>
Source record: 32988

the funnie this is that the $$$ diference is not seen at the costumers end.

do you realy care the the diode is 3 Cents more (making a 100$ project)from
the low votalge one.......(some stores some cases)

73's

--
http://www.qsl.net/sv1hao
"Bob" <balbert@cnmnetwork.com> wrote in message
news:L9CdnVQT9uMYusuiRTvUqA@cnmnetwork.com...
> Lower voltage rectifiers are easier to make and therefore cheaper.
Further,
> they have lower forward drop and are faster. No point in using too high a
> rating if these other factors are worth considering.
>
>

1622. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 19:58:19 UTC
From: dplatt@radagast.org
Message-ID: <vlchurj83l8ha3@corp.supernews.com>
Source record: 32989

>the funnie this is that the $$$ diference is not seen at the costumers end.
>
>do you realy care the the diode is 3 Cents more (making a 100$ project)from
>the low votalge one.......(some stores some cases)

You might be surprised.

In fact, cost reduction is a *big* issue in the manufacture of many
(most?) consumer electronic products.

Look at it this way: if you save three cents on a single part, of
which only one is used in a $100 device... and you manufacture a
million of these devices per year... then you've saved $30,000 per
year. That's not chump-change.

If you can save $.03 per part, and you use ten of these parts per
device, and you manufacture a million units per year - then you've
just saved $300,000, which will cover the cost (salary and overhead)
of at least one good engineer.

Yes, my friend, big electronics companies _do_ care - a lot - about
shaving the pennies out of the bill-of-materials cost of the devices
they manufacture.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1623. Re: OCXO Sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 20:55:14 UTC
From: "Henry A. Pasternack" <hpasternack@rcn.dot.com>
Message-ID: <bj5kg3eop1@bob.news.rcn.net>
Source record: 32990

"Fred McKenzie" <fmmck@aol.com> wrote in message
news:20030903014222.07673.00000527@mb-m17.aol.com...
> The temperature of the oven is chosen to match each specific crystal. The
> thermal fuse should be sufficiently high that it won't open in normal
> operation, but will if there is a problem. The original part for my
oscillator
> was rated at 108 degrees C. The revised part is rated at 115 degrees C.
It is
> HP/Agilent part number 10811-80008. Last year the price was $10.50 plus
tax.

Thanks for the info, Fred. Since the oven temperature is controlled by a thermistor circuit, the selection of the thermal fuse should have no effect on the normal operating temperature or oscillator stability (unless, of course, the fuse opens). Digi-Key's price for these devices is 45 cents each, a considerable cost savings.

The NTE part is definitely too big, but the smaller Panasonic F-series should fit perfectly.

I wanted to understand why the original thermal fuse opened if its rating was 105C. It turns out that the behavior of these devices depends both on the temperature, the rate of change of temperature, and the amount of current flowing through it. The spec sheets list three or four cutoff values for each device, depending on the test conditions, spanning a very wide range (30C or more!). The 130C unit I selected has a long-term maximum temperature rating of only 80C at 5A DC current. I figured this was a reasonable compromise given the nominal 82C operating temperature of the oven.

The thermal cutoff point will also change due to soldering heat. All in all, these are pretty complicated devices...

-Henry

1624. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 21:27:56 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bj5m7kkqm1@nic.grnet.gr>
Source record: 32991

the PROBLEM it that none of us own a big Company.
so it's better to stock up the shack with the best

--
http://www.qsl.net/sv1hao
"Deos" <lineoffiretoday@yahoo.com> wrote in message
news:bj5g1f$fj7$1@nic.grnet.gr...
> the funnie this is that the $$$ diference is not seen at the costumers
end.
>
> do you realy care the the diode is 3 Cents more (making a 100$
project)from
> the low votalge one.......(some stores some cases)
>
> 73's
>
>
> --
> http://www.qsl.net/sv1hao
> "Bob" <balbert@cnmnetwork.com> wrote in message
> news:L9CdnVQT9uMYusuiRTvUqA@cnmnetwork.com...
> > Lower voltage rectifiers are easier to make and therefore cheaper.
> Further,
> > they have lower forward drop and are faster. No point in using too high
a
> > rating if these other factors are worth considering.
> >
> >
>
>

1625. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-03 23:39:34 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bj5u3m$5l9$0@208.207.71.175>
Source record: 32992

W7TI wrote:

> On 3 Sep 2003 10:13:00 -0700, snarflemike@yahoo.com (Mike Silva) wrote:
>
> >Another question resulting from too much time on my hands. Why do we
> >have rectifier diodes (e.g. 1N4xxx, 1N54xx) with different voltage
> >ratings? Other than the voltage rating I don't see any differences on
> >the data sheets I've looked at. Why not just make and use 1kv diodes
> >alone?
> >
> >73,
> >Mike, KK6GM
>
> ----------
>
> $$$
>
> --
> Bill, W7TI

Yep. And I'd wager if one did breakdown tests on a variety of diodes many would show the same specs regardless of their different markings.

Another pet peeve-
Several times I've seen failure of low voltage capacitors which were run too close to their ratings for comfort, IMO. Like 16 vdc rated on a 13.8 DC line in mobile gear. Spikes are sure to take 'em out eventually, it would seem. Why designers do that I've never understood, and I never replace them as rated, but use 25 or 30 volt caps. Never had a problem from doing that, and no repeats.
I remember years ago troubleshooting a dead board in an Atlas 210 transciever that had a shorted - leaky 16 volt rated electrolytic across a 13.8 dc line on the board. But it still had enough internal resistance that it didn't smoke anything, just killed the operation of the board.

I cussed the (unknown) designer of that thing for awhile! /:-D))

Dick

1626. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 00:48:49 UTC
From: mikea@mikea.ath.cx
Message-ID: <bj625h$a1$1@puck.litech.org>
Source record: 32993

Deos <lineoffiretoday@yahoo.com> wrote:
> the PROBLEM it that none of us own a big Company.
> so it's better to stock up the shack with the best

Except that there's no one diode that is "the best" for everything,
and so you need more than one type of diode in your junk box.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

1627. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 02:04:40 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vld7e29qtegm37@corp.supernews.com>
Source record: 32995

> the PROBLEM it that none of us own a big Company.
> so it's better to stock up the shack with the best
>
I hate to be the one to break the news to you but the diode mfg
doesn't really care much about the 10 diodes you are going to buy -)
They are going to mfg what the big company wants to buy.

1628. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 02:04:46 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F569D9B.1D6E89@earthlink.net>
Source record: 32994

"Dick Carroll;" wrote:
>
> W7TI wrote:
>
> > On 3 Sep 2003 10:13:00 -0700, snarflemike@yahoo.com (Mike Silva) wrote:
> > >
> > > >Another question resulting from too much time on my hands. Why do we
> > > >have rectifier diodes (e.g. 1N4xxx, 1N54xx) with different voltage
> > > >ratings? Other than the voltage rating I don't see any differences on
> > > >the data sheets I've looked at. Why not just make and use 1kv diodes
> > > >alone?
> > > >
> > > >73,
> > > >Mike, KK6GM
> > >
> > > ----------
> > >
> > > $$$
> > >
> > > --
> > > Bill, W7TI
> >
> > Yep. And I'd wager if one did breakdown tests on a variety of diodes many would show the
> > same specs regardless of their different markings.
> >
> > Another pet peeve-
> > Several times I've seen failure of low voltage capacitors which were run too close to
> > their ratings for comfort, IMO. Like 16 vdc rated on a 13.8 DC line in mobile gear.
> > Spikes are sure to take 'em out eventually, it would seem. Why designers do that I've
> > never understood, and I never replace them as rated, but use 25 or 30 volt caps. Never
had
> > a problem from doing that, and no repeats.
> > I remember years ago troubleshooting a dead board in an Atlas 210 transciever that had a
> > shorted - leaky 16 volt rated electrolytic across a 13.8 dc line on the board. But it
> > still had enough internal resistance that it didn't smoke anything, just killed the
> > operation of the board.
> >
> > I cussed the (unknown) designer of that thing for awhile! /:-D))
> >
> > Dick

You have to consider the age of the unit, and the fact that the
higher voltage capacitors were larger, and sometimes there was no room
for a bigger part. Today's electrolytics are generally smaller, but you

want to watch the rated operating temperature, and the ESR of new
capacitors.
--

Michael A. Terrell
Central Florida

1629. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 02:42:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vld9l3ck30qh5e@corp.supernews.com>
Source record: 32996

There's something else important to know about electrolytic capacitors. After a long time, they *become* good only to just above the applied voltage, regardless of their ratings. The reason is that the insulating layer is formed by electrolysis, which requires current flow. The initial layer is grown at the factory, but it very slowly dissolves in the electrolyte. If, after a long period of time it gets too thin, a small leakage current flows, which re-grows the coating -- but only until it's thick enough that the current quits flowing. That's what you're doing when you "re-form" old electrolytic capacitors -- you apply a voltage until the coating gets thick enough for that voltage, then you increase it a little, causing leakage current to flow until it's thick enough for the new voltage, and so forth. But if it runs at a single fixed voltage for a very long time, that's all the thicker the coating gets -- just thick enough to sustain that voltage.

Aside from this, good design practice calls for using electrolytic capacitors at no more than half their rated voltage. But corners are sometimes cut, for either cost or size, or just due to a naive trust in the rating and ignorance of the effect of aging.

And boy, howdy, can you have some incredible voltage spikes -- with lots of energy -- in a vehicle system.

Roy Lewallen, W7EL

Michael A. Terrell wrote:
> "Dick Carroll;" wrote:
> . . .
>> Another pet peeve-
>> Several times I've seen failure of low voltage capacitors which were run too close to
>>their ratings for comfort, IMO. Like 16 vdc rated on a 13.8 DC line in mobile gear.
>>Spikes are sure to take 'em out eventually, it would seem. Why designers do that I've
>>never understood, and I never replace them as rated, but use 25 or 30 volt caps. Never
had
>>a problem from doing that, and no repeats.
>> I remember years ago troubleshooting a dead board in an Atlas 210 transciever that had a
>>shorted - leaky 16 volt rated electrolytic across a 13.8 dc line on the board. But it
>>still had enough internal resistance that it didn't smoke anything, just killed the
>>operation of the board.
>>
>> I cussed the (unknown) designer of that thing for awhile! /:-D))
>>
>>Dick
>
>

> You have to consider the age of the unit, and the fact that the
> higher voltage capacitors were larger, and sometimes there was no room
> for a bigger part. Today's electrolytics are generally smaller, but you
> want to watch the rated operating temperature, and the ESR of new
> capacitors.

1630. Re: Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 05:25:14 UTC
From: kavall@yahoo.com
Message-ID: <a393ed14.0309032125.53a64a9a@posting.google.com>
Source record: 32847
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

Battery matching.

Here is how I would go about it. Charge the cells individually untill their voltage starts to drop, aka. peak charge them. Measure the peak voltage. Then hook them to a fixed load and measure their discharge time to 0.9V. Let the cell rest. The next day repeat. Take the measurements and compare close discharge times and close peak voltages. If you could measure internal resistance it would be nice, but I don't know of a simple way. In my opinion the important qualities are.
1. Close discharge times
2. Close and low internal resistances
3. Close peak voltages

1631. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 05:50:14 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F56D296.900E5E82@ti.com>
Source record: 32848
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
>
> Don Pearce wrote:
> > On Mon, 01 Sep 2003 14:16:51 +0100, Paul Burridge
> > <pb@osiris1.notthisbit.co.uk> wrote:
> >
> >>
> >> Is a tuned load (tank circuit) a viable load for an RF amplifier
> >> operating in class A? Or is this type of load only really suitable
> >> for class C?
> >
> > Of course you can use a tuned load with class A. But the nice thing
> > about a tuned load is that you don't *have* to use class A to achieve
> > a clean output. Of course, if you are using an amplitude modulated
> > signal, then you will need class A.

That's what receivers would use since power consumption doesn't matter much. It would be true for low level TX'er stages too, again because of power consumption. But for things like "Ham linears" it is not necessarily true.

> That is, if the input signal is already AM, you need a class A or linear
> amplifier.

Let's be specific regarding the your word "linear" since "or" implies something else other than class-A may be possible. Single-ended "linear" narrow band amps may be biased class-B if the tank has a high enough Q. The missing half cycle is restored by the so-called "flywheel effect." In practice deep AB is also used.

> If the AM is to be done at that stage itself, then its the
> class c non-linear bit that makes the multiplication modulation work.

No. It can be done with class-A or class-B since the assumption is that the amp will be driven (or nearly so) to the rails by the carrier alone. The reason class-C was used was for efficiency. Nowadays, AM broadcast stations use class-D with some regularity.

1632. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 07:06:28 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <meidlv0b8deglbp37jqpv7qlib6l1p2k4v@4ax.com>
Source record: 32849

On Wed, 3 Sep 2003 10:39:33 -0700, "Bob" <balbert@cnmnetwork.com>
wrote:

>Lower voltage rectifiers are easier to make and therefore cheaper. Further,
>they have lower forward drop and are faster. No point in using too high a
>rating if these other factors are worth considering.

While the 1 kV 1N4007 is definitely a different creature (with some
PIN diode characteristics) compared to the lower voltage 1N4001-1N4006
rectifiers, I very much doubt that they make separate wafers for
1N4001, 1N4002 etc. but instead try to make, say a 500 V rectifier.

My guess is that they just measure the reverse leakage voltage at
various voltages and print a different label, based on these
measurements. Those passing only the 50 V test will be labelled 1N4001
and sold at a slightly lower price and so on.

If there is a huge order for 1N4001 and there is not enough 50 V units
produced, some units tested OK for 100-500 V are labelled 1N4001 to
full fill the large order. Thus, some selected 1N4001 parts may work
even above 100 V.

Paul OH3LWR

1633. Small Wonder Labs SW+ - schematic please?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 11:26:58 UTC
From: n1jpr@hotmail.com
Message-ID: <95a201e0.0309040326.418e3a22@posting.google.com>
Source record: 32850

I am considering getting back into ham radio
after a 6yr hiatus by building a Small Wonder Labs SW+.

I read the reviews, but I'd like to take a peek at the schematic.
Would someone scan it for me?

tnx es 73 de n1jpr/i2

n1jpr@hotmail.com

1634. Re: Small Wonder Labs SW+ - schematic please?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 13:28:44 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vlefjdkt232r1d@corp.supernews.com>
Source record: 32851

If you go to http://engphys.mcmaster.ca/~elmer101/ you can get a detailed, blow-by-blow of each circuit. Unfortunately, he linked to schematics at Chuck Adams' page, which are now gone. The QRP-L CD contains the same web page description of all the SW circuits, and in addition, all the discussion of the builders during the Elmer 101 project which was based on the SW-40+. You can get the QRP-L CD from the ARCI Toy Store.

There is also a similar description on http://home.earthlink.net/~hamkitbuilder/elmer101.html

The manual, translated to German, is available online at http://www.qrpproject.biz/manuals/SW40+Manualdeutsch.pdf. The schematic, however, is in English.

There is a bunch of more stuff at various qsl.net sites, which likely include the schematic. However, qsl.net seems to be down at the moment so I can't look.

I also found a schematic laying around on my hard drive. It may be a tad stale but I'll email it to you.

..

"SpamLover" <n1jpr@hotmail.com> wrote in message news:95a201e0.0309040326.418e3a22@posting.google.com...
> I am considering getting back into ham radio
> after a 6yr hiatus by building a Small Wonder Labs SW+.
>
> I read the reviews, but I'd like to take a peek at the schematic.
> Would someone scan it for me?
>
> tnx es 73 de n1jpr/i2
>
> n1jpr@hotmail.com

1635. Re: Battery matching solution?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 15:47:40 UTC
From: Joshua K Drumeller <lkfightr@swbell.net>
Message-ID: <w8J5b.69$dC6.47@newssvr23.news.prodigy.com>
Source record: 32852
Cross-posted to: rec.radio.amateur,alt.radio.amateur,alt.ham-radio,rec.ham-radio,rec.radio.amateur.homebrew

The internal resistance of the battery changes as the battery is discharged.
Also things like temperature, age and other factors effect it.
I think the proper way to test your battery is to fully charge it to the
manufacturer specification and discharge it at a given amp hour rate.
Compare your discharge curve with the manufacturer. Choose the same
discharge rate that the manufacturer does btw. If your curve is a little
less than what the manufacturer says then your probably ok. If it is much
less then you need a new battery.

Josh

"Kavall" <kavall@yahoo.com> wrote in message
news:a393ed14.0309032125.53a64a9a@posting.google.com...
> Battery matching.
>
> Here is how I would go about it. Charge the cells individually untill
> their voltage starts to drop, aka. peak charge them. Measure the peak
> voltage. Then hook them to a fixed load and measure their discharge
> time to 0.9V. Let the cell rest. The next day repeat. Take the
> measurements and compare close discharge times and close peak
> voltages. If you could measure internal resistance it would be nice,
> but I don't know of a simple way. In my opinion the important
> qualities are.
> 1. Close discharge times
> 2. Close and low internal resistances
> 3. Close peak voltages

1636. Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 15:50:24 UTC
From: qas@operamail.com
Message-ID: <64fa1080.0309040750.279ccfc4@posting.google.com>
Source record: 32853

Hi,
I am new to ham radio. Well I found lots of QRP receiver circuit on web, I tried to build some. Everything going to be OK, except making coil inductors. I don't know how to calculate them, with type I need (air core or slug tuned), what a difference between coil and RF choke. Let's assume I need a 100uH coil. How to star making it. I looked for factory made coil at my radio shack store, but I only found bobbin for coil.

If you know any interesting link on this topic, please let me know. I'll appreciate any comment or help.

Thanks in advice,
Edgar
73

1637. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 16:19:41 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <vWL5b.5085$Ci1.730814@newsfep2-win.server.ntli.net>
Source record: 32858
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Kevin Aylward wrote:
>>
>> Don Pearce wrote:
>>> On Mon, 01 Sep 2003 14:16:51 +0100, Paul Burridge
>>> <pb@osiris1.notthisbit.co.uk> wrote:
>>>
>>>>
>>>> Is a tuned load (tank circuit) a viable load for an RF amplifier
>>>> operating in class A? Or is this type of load only really suitable
>>>> for class C?
>>>
>>> Of course you can use a tuned load with class A. But the nice thing
>>> about a tuned load is that you don't *have* to use class A to
>>> achieve a clean output. Of course, if you are using an amplitude
>>> modulated signal, then you will need class A.
>
> That's what receivers would use since power consumption doesn't matter
> much. It would be true for low level TX'er stages too, again because
> of power consumption. But for things like "Ham linears" it is not
> necessarily true.
>
>> That is, if the input signal is already AM, you need a class A or
>> linear amplifier.
>
> Let's be specific regarding the your word "linear" since "or" implies
> something else other than class-A may be possible.

Yes.

> Single-ended
> "linear" narrow band amps may be biased class-B if the tank has a high
> enough Q. The missing half cycle is restored by the so-called
> "flywheel effect." In practice deep AB is also used.
>

>> If the AM is to be done at that stage itself, then its the
>> class c non-linear bit that makes the multiplication modulation work.
>
> No.

No. Its Yes. Non-linear action generates the multiplication products. I
was not drawing any real distinction between class c and b in this
context. The practical difference is minimal. They both do not amplifier

the waveform in a linear manner. I was not meaning to infer that it was an "only" c. I was referring to the fact that you need at least some method that generates non linarity.

>It can be done with class-A or class-B since the assumption is
> that the amp will be driven (or nearly so) to the rails by the carrier
> alone.

I agree, this is another method of generating x-product multiplication terms. However, arguable, a class A amplifier is not really a class A amplifier if it is driven to saturation. Its a really a switching amp or, a pulse amplitude modulator if its rails are varying.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1638. Re: Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 16:26:16 UTC
From: qas@operamail.com
Message-ID: <64fa1080.0309040826.4386627f@posting.google.com>
Source record: 32854

"Harold E. Johnson" <W4ZCB@mchsi.com> wrote in message
news:<6HdYa.81693$Ho3.10686@sccrnsc03>...
> > > I am building one transistor colpitts oscilator, it will act as BFO
> > > for my AM radio so I could receive SSB.
>
> Just use the primary of a IF can. Most already have the resonating cap built
> in to the bottom of the can. If it's for 455 KHz, and you don't have any,
> send me a snail mail address and I'll send you a couple.
>
> W4ZCB

My radio IF is 465kHz.
It is a old radio, Russian made.

1639. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 16:53:13 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bj7qlp$846$0@208.206.142.113>
Source record: 32855

Thanks, Roy. I never before heard "reforming" described that completely , and that does help
explain a few things seen in older gear. Sometimes old electrolytics come right up and act like
they were last turned on yesterday. Sometimes not!

This one goes to the 'saved' file.

73, Dick

Roy Lewallen wrote:

> There's something else important to know about electrolytic capacitors.
> After a long time, they *become* good only to just above the applied
> voltage, regardless of their ratings. The reason is that the insulating
> layer is formed by electrolysis, which requires current flow. The
> initial layer is grown at the factory, but it very slowly dissolves in
> the electrolyte. If, after a long period of time it gets too thin, a
> small leakage current flows, which re-grows the coating -- but only
> until it's thick enough that the current quits flowing. That's what
> you're doing when you "re-form" old electrolytic capacitors -- you apply
> a voltage until the coating gets thick enough for that voltage, then you
> increase it a little, causing leakage current to flow until it's thick
> enough for the new voltage, and so forth. But if it runs at a single
> fixed voltage for a very long time, that's all the thicker the coating
> gets -- just thick enough to sustain that voltage.
>
> Aside from this, good design practice calls for using electrolytic
> capacitors at no more than half their rated voltage. But corners are
> sometimes cut, for either cost or size, or just due to a naive trust in
> the rating and ignorance of the effect of aging.
>
> And boy, howdy, can you have some incredible voltage spikes -- with lots
> of energy -- in a vehicle system.
>
> Roy Lewallen, W7EL
>
> Michael A. Terrell wrote:
> > "Dick Carroll;" wrote:
> > . . .
> >> Another pet peeve-
> >> Several times I've seen failure of low voltage capacitors which were run too close to
> >>their ratings for comfort, IMO. Like 16 vdc rated on a 13.8 DC line in mobile gear.
> >>Spikes are sure to take 'em out eventually, it would seem. Why designers do that I've
> >>never understood, and I never replace them as rated, but use 25 or 30 volt caps. Never

had
> >>a problem from doing that, and no repeats.
> >> I remember years ago troubleshooting a dead board in an Atlas 210 transciever that had
a
> >>shorted - leaky 16 volt rated electrolytic across a 13.8 dc line on the board. But it
> >>still had enough internal resistance that it didn't smoke anything, just killed the
> >>operation of the board.
> >>
> >> I cussed the (unknown) designer of that thing for awhile! /:-D))
> >>
> >>Dick
> >
> >
> > You have to consider the age of the unit, and the fact that the
> > higher voltage capacitors were larger, and sometimes there was no room
> > for a bigger part. Today's electrolytics are generally smaller, but you
> > want to watch the rated operating temperature, and the ESR of new
> > capacitors.

1640. Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 17:34:07 UTC
From: gpatterson53@hotmail.com
Message-ID: <9c2b8e62.0309040934.1b984b44@posting.google.com>
Source record: 32856

Can someone explain to me how a rf carrier that is phase shift modulated, for lets say digital transmission, can be amplified in an amp with a tank circuit output. Why doesnt the tank "flywheel effect" prohibit or inhibit the abrupt phase changes in the signal. thanks
73

Gary
W4AF

1641. Re: Help I need a 490-510 uH coil

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 17:35:34 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <GJK5b.352402$Ho3.52638@sccrnsc03>
Source record: 32857

455-465, close enough that retuning the slug should work fine. If you still haven't found one, send me a mailing address and I'll "tune" one for you.

Regards

W4ZCB

> > > > I am building one transistor colpitts oscilator, it will act as BFO
> > > > for my AM radio so I could receive SSB.
> >
> > Just use the primary of a IF can. Most already have the resonating cap built
> > in to the bottom of the can. If it's for 455 KHz, and you don't have any,
> > send me a snail mail address and I'll send you a couple.
> >
> > W4ZCB
>
> My radio IF is 465kHz.
> It is a old radio, Russian made.

1642. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 19:01:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vlf30kjsb6hued@corp.supernews.com>
Source record: 32859

Although the bandwidth of a phase modulated signal is theoretically infinite, the vast majority of the energy is in a finite bandwidth. So if you filter signal components beyond that bandwidth, you can still recover the modulation information adequately. What you have to do, then, is to design the tank circuit so its response isn't too narrow to pass the modulation information. If it is too narrow, it will decrease and distort the modulating phase shift.

If you were to build a tank circuit that acted as a perfect "flywheel", i.e., had zero bandwidth, you wouldn't even be able to pass a code or voice waveform through it -- everything would come out as a single frequency, single amplitude sine wave, or nothing at all. (It would also take an infinite time for it to respond to a signal.) For amplifying some very broadband types of signals, tank and other tuned circuits are avoided altogether.

Roy Lewallen, W7EL

gary wrote:
> Can someone explain to me how a rf carrier that is phase shift
> modulated, for lets say digital transmission, can be amplified in an
> amp with a tank circuit output. Why doesnt the tank "flywheel effect"
> prohibit or inhibit the abrupt phase changes in the signal. thanks
> 73
>
> Gary
> W4AF

1643. Re: Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 19:06:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vlf3al9la7okba@corp.supernews.com>
Source record: 32860

Inductors have several different and important properties besides inductance -- loss (Q), stray capacitance, and temperature sensativity among them. If the coil is wound on a magnetic core and DC is passed through it, core saturation can be an important consideration. Which properties are important depends on the application. So you'll very often get badly reduced performance, or a non-working circuit, if you substitute one type of inductor for another without knowing much about them. Consequently, a decently written article should include details about how each inductor is made. If that information isn't provided, I suggest contacting the author of the article to find out what he used. That's just about the only way of insuring that you'll get the same performance the author did.

If you're interested in building QRP receivers, there are a number of sources where you can find good circuits which include the necessary information to build them. The very best, although perhaps a bit expensive for a beginner, is _Experimental Methods in RF Design_, available from the ARRL and other dealers. Less expensive, and a tremendous bargain, is a CD containing the contents of 109 issues of _Sprat_, the magazine of the G-QRP club. For only $25 + $4 shipping ($15 + $4 for G-QRP club members), you get an amazing amount and variety of information. It's available in the U.S. from Kanga US, contact Bill Kelsey at kanga@bright.net. To order from other contries, go to http://www.gqrp.com and click the "Club Sales" link.

Roy Lewallen, W7EL

Qas wrote:
> Hi,
> I am new to ham radio. Well I found lots of QRP receiver circuit on
> web, I tried to build some. Everything going to be OK, except making
> coil inductors. I don't know how to calculate them, with type I need
> (air core or slug tuned), what a difference between coil and RF choke.
> Let's assume I need a 100uH coil. How to star making it. I looked for
> factory made coil at my radio shack store, but I only found bobbin for
> coil.
>
> If you know any interesting link on this topic, please let me know.
> I'll appreciate any comment or help.
>
> Thanks in advice,
> Edgar
> 73

1644. Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 19:07:49 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000007b.0054fcac@btinternet.com>
Source record: 32861

Hi,

Whatever metal-working skills I acquired during my training as a radar fitter in the Royal Air Force so many year ago have evaporated it would seem (RAF Locking 1958). Just now I tried to cut some short strips from a 3mm aluminium sheet using a hacksaw and made the worst possible mess of it.

No matter how I tried, I couldn't stop the cut veering to the right. In the end I just cut out the pieces larger than required and filed them to shape. The end result was OK but what a waste of material.

So, what is the technique for hacksawing a straight-ish line by hand. I guess that as my cuts always went the same way it was something to do with how I was standing and holding the hacksaw. Any tips would be gratefully received.

All those years ago I passed the necessary trade tests so I must have had it down pat then.

73 de Joe, G3LLV

1645. hacking radio shack zip zaps cars?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 19:35:29 UTC
From: usenet@apple-o.com
Message-ID: <f7a2e0c5.0309041135.5ba31f3a@posting.google.com>
Source record: 32862

Does anyone know if it's easy to open up one of those little cars and get at the relays that control the car, to control other things than the car? (ie hack into a lego mindstorms set, turn on a TV, etc.)

1646. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 19:52:39 UTC
From: troglodite@aol.com
Message-ID: <20030904155239.14517.00000618@mb-m12.aol.com>
Source record: 32863

>
> No matter how I tried, I couldn't stop the cut veering to the
>right. In the end I just cut out the pieces larger than required
>and filed them to shape. The end result was OK but what a waste
>of material.
>
> So, what is the technique for hacksawing a straight-ish line
>by hand. I guess that as my cuts always went the same way it was
>something to do with how I was standing and holding the hacksaw.
>Any tips would be gratefully received.

Joe,

Of course, what would be nice for this job would be a high power laser, but I don't have one either. Lacking such sophisticated tools, we just do the best we can with what we have. Use a hacksaw blade with a fine pitch, make sure the blade is tight, and cut at a small angle so more of the blade is guided by the part you've already cut. (30 degrees good, 90 degrees bad.)

Some kinds of large tin snips are easier to control, but tend to curl the material more than a saw blade. A nibbling tool is OK for small pieces, but will quickly wear out your hand.

I've been hacking, punching, snipping and drilling holes in chassis since 1953.

Hope some of that helps.

Doug Moore KB9TMY (Formerly K6HWY)

1647. Re: hacking radio shack zip zaps cars?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 19:59:41 UTC
From: troglodite@aol.com
Message-ID: <20030904155941.14517.00000619@mb-m12.aol.com>
Source record: 32864

>Does anyone know if it's easy to open up one of those little cars and
>get at the relays that control the car, to control other things than
>the car? (ie hack into a lego mindstorms set, turn on a TV, etc.)
>

There aren't any relays these days. Stuff like motors and electromagnets (used to steer the little ones) are run directly from transistors or chip outputs.

The very tiny HO scale cars have only 3 outputs, all fairly low current and limited to about 3V. I'm not sure what's in the larger vehicles today, haven't fooled with one lately. RS used to show the circuit boards for the cars and transmitters as separate hobby items (with instructions) in their catalog, but may no longer do so. Why not check out someone like LINX on the Internet, who make transmitter and receiver modules. Their application notes show many interface examples.

Doug Moore

1648. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 20:02:05 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <3f579a3e$0$259$cc9e4d1f@news.dial.pipex.com>
Source record: 32865

"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.0000007b.0054fcac@btinternet.com...
> Hi,
>
> Whatever metal-working skills I acquired during my training as
> a radar fitter in the Royal Air Force so many year ago have
> evaporated it would seem (RAF Locking 1958). Just now I tried to
> cut some short strips from a 3mm aluminium sheet using a hacksaw
> and made the worst possible mess of it.
>
> No matter how I tried, I couldn't stop the cut veering to the
> right. In the end I just cut out the pieces larger than required
> and filed them to shape. The end result was OK but what a waste
> of material.
>
> So, what is the technique for hacksawing a straight-ish line
> by hand. I guess that as my cuts always went the same way it was
> something to do with how I was standing and holding the hacksaw.
> Any tips would be gratefully received.

Instead of sawing it, try scoring it on both sides with a Stanley knife,
then bend it backwards and forwards. It will snap along the scoring, quite
quickly.

Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

1649. Re: Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 20:17:43 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <3f579deb$0$273$cc9e4d1f@news.dial.pipex.com>
Source record: 32866

"Qas" <qas@operamail.com> wrote in message
news:64fa1080.0309040750.279ccfc4@posting.google.com...
> Hi,
> I am new to ham radio. Well I found lots of QRP receiver circuit on
> web, I tried to build some. Everything going to be OK, except making
> coil inductors. I don't know how to calculate them, with type I need
> (air core or slug tuned), what a difference between coil and RF choke.
> Let's assume I need a 100uH coil. How to star making it. I looked for
> factory made coil at my radio shack store, but I only found bobbin for
> coil.
>
> If you know any interesting link on this topic, please let me know.
> I'll appreciate any comment or help.

100 uH is quite a lot of inductance for a radio circuit, expecially at HF. Inductors around 10 uH or less are very easy to make using toroidal cores. For instance, a 5 uH inductor is about 32 turns on a T50-2 core. I use a simple Excel spreadsheet for this sort of thing.

RF chokes are basically inductors, but specifically intended for stopping RF from going somewhere unwanted. They are usually wound on ferrite cores, and tend to have fairly high inductance values. They are used on their own, usually, unlike coils, which tend to be used with capacitors. RF chokes have a self-resonant frequency due to their self-capcitance - this needs to be checked when using them and the self-resonant frequency avoided.

73, Leon
--
Leon Heller, G1HSM
leon_heller@hotmail.com
http://www.geocities.com/leon_heller

1650. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 20:54:30 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vlf9k9tcjlnr38@corp.supernews.com>
Source record: 32867

3mm is about .120" ...
reasonably thick stuff..
Al tends to gall so use a suitable blade and make sure tooth spacing is
significantly under 3mm..
Scribe a good line and clamp between two boards or plates..
Also try using oil or water as you cut with the saw at an angle..
Failing that find a place with a shear!
I was in the RCAF in 1959 and as best I can recall everything fit.
Mostly stuff from south of the border.
73
hank wd5jfr
"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.0000007b.0054fcac@btinternet.com...
> Hi,
>
> Whatever metal-working skills I acquired during my training as
> a radar fitter in the Royal Air Force so many year ago have
> evaporated it would seem (RAF Locking 1958). Just now I tried to
> cut some short strips from a 3mm aluminium sheet using a hacksaw
> and made the worst possible mess of it.
>
> No matter how I tried, I couldn't stop the cut veering to the
> right. In the end I just cut out the pieces larger than required
> and filed them to shape. The end result was OK but what a waste
> of material.
>
> So, what is the technique for hacksawing a straight-ish line
> by hand. I guess that as my cuts always went the same way it was
> something to do with how I was standing and holding the hacksaw.
> Any tips would be gratefully received.
>
> All those years ago I passed the necessary trade tests so I
> must have had it down pat then.
>
>
> 73 de Joe, G3LLV
>
>

1651. Re: Wanted: 4-Condr FEMALE Connector

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 21:51:02 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <bmcflvc4dtq949tak36imjqsguqhdp3k0k@4ax.com>
Source record: 32868
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.swap

On Sat, 30 Aug 2003 06:49:33 -0500, "Doug" <DeliverSpam@Landfill.Com>
wrote:

>"Norm VE3CZI" <ve3czi@arrl.net> wrote in message
>news:gg6_a.674$q9.47000@read1.cgocable.net...
>> Have a requirement to make an interface cable to connect an FT-90 to a
>> Motorcycle Helmet Sprkr/Mic Assy which has a MALE (tip-ring-ring-sleeve)
>> Plug on it.
>>
>> I need a Yaesu Female connector (tip-ring-ring-sleeve) and will connect
>> the other end of the cable to the FT-90 Mic & Ext Spkr jack.
>>
>The first couple years those radios were out you couldn't find them. I
>actually made a couple for myself. HOWEVER now they can be found abundantly
>at hamfests, just check with the big connector dealers (sorry no names come
>to mind) (possibly rainbow).
>
Sometime in the past year, there had been a similar request on one of
the radio groups, and I and several others had replied with specifics.

In ham radio, that connector is used on several Yaesu HTs, including
the FT-50/10/40, VX-150, VX-5, etc.

It is also used in some newer high-end video components.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1652. Re: Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 22:49:21 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vlfr9ldt0eoa85@corp.supernews.com>
Source record: 32876

I think most QRPers do this. (well, I actually have a spreadsheet like someone else mentioned). Although there are a dizzying array of toroidal forms available, you can cover almost everything you need for HF with just a few mixes. Generally, T50-2 below 10 MHz, T50-6 above for tuned circuits. Some FT50-43's will handle most of your broadband transformer needs. QRPers tend to like small, so they will also stock the 37 size as well, and sometimes even the 23. If you are a real fanatic, you would like to have a couple of T50-7's around for VFOs. The -7 mix has a little better temperature characteristic, but temperature stabilizing a VFO is a major pain no matter how you cut it. If you are the QRO type, you may want a few bigger ones, as well, especially for transformers.

Toroids have a bunch of advantages over helically wound coils, but you will get higher Q with air. The main problem with helical coils is that you need to leave a lot of space between them, and that makes the whole mechanical stability thing a lot harder because things are bigger. But, if size is no object, and your chassis is half inch thick steel, then air wound coils with huge wire will work better.

As always, all the equations are in the handbook. Paul Harden's "Data Book for Homebrewers and QRPers" has all the tables, without the explanations, and it's a lot more compact (and cheaper besides).

..

"W8LNA" <gwatts@frontiernet.net> wrote in message
news:3F57CF06.747CD97D@frontiernet.net...
>
>
> Qas wrote:
> > ...making
> > coil inductors...
>
> I use the info at
> http://www.amidoncorp.com/aai_ferritecores.htm
>
> then I buy some cores and start winding, putting a turn or two more than I
> calculate, and usually end up taking off a turn or three to get what I
need
> in a fixed value inductor.

1653. Re: Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 22:54:32 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <redflvs29shhtm06iofnc6dptgphid081g@4ax.com>
Source record: 32869

On Thu, 4 Sep 2003 21:17:43 +0100, "Leon Heller"
<leon_heller@hotmail.com> wrote:

>RF chokes are basically inductors, but specifically intended for stopping RF
>from going somewhere unwanted. They are usually wound on ferrite cores, and
>tend to have fairly high inductance values. They are used on their own,
>usually, unlike coils, which tend to be used with capacitors. RF chokes have
>a self-resonant frequency due to their self-capcitance - this needs to be
>checked when using them and the self-resonant frequency avoided.

True enough. But there's a sense running through this thread that
inductors are inherently imperfect whereas capacitors are perfect. It
seems appropriate at this point to put the record straight and say
that caps, like inductors, have their paracitic characteristics and
widely varying internal losses between different types of the same
value. Like a coil, a capacitor will also self-resonate and this
problem will generally be more noticeable if its leads are not cut
very short. At RF, both coils and caps display behaviour which is
totally unlike that when they are operated at DC or audio frequencies.
Caps really are no better than coils in this respect and of course,
the higher one goes up in frequency, the worse these problems become.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1654. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 23:14:14 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnblfhq5.1fo0.bit-bucket@localhost.config.com>
Source record: 32870

On Thu, 04 Sep 2003 20:07:49 +0100, Joe McElvenney hath writ:
> Hi,
>
> Whatever metal-working skills I acquired during my training as
> a radar fitter in the Royal Air Force so many year ago have
> evaporated it would seem (RAF Locking 1958). Just now I tried to
> cut some short strips from a 3mm aluminium sheet using a hacksaw
> and made the worst possible mess of it.
>
> No matter how I tried, I couldn't stop the cut veering to the
> right. In the end I just cut out the pieces larger than required
> and filed them to shape. The end result was OK but what a waste
> of material.
>
> So, what is the technique for hacksawing a straight-ish line
> by hand. I guess that as my cuts always went the same way it was
> something to do with how I was standing and holding the hacksaw.
> Any tips would be gratefully received.
>
> All those years ago I passed the necessary trade tests so I
> must have had it down pat then.

> 73 de Joe, G3LLV

I usually clamp a thick, "sacrificial" straight-edge along the line
to be cut. Use another "straight edge" on the back side -- but a wee
bit back from the scribed line. Clamp at as many points as practical.
Cut on the "outside" edge -- of course. Go slow , and , as another
poster mentioned: Cut at a 45-30 degree angle. "90 degrees == bad."

HTH es 73
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

1655. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 23:17:21 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F57CAE5.E1B9E1A@ieee.org>
Source record: 32871

gary wrote:

> Can someone explain to me how a rf carrier that is phase shift
> modulated, for lets say digital transmission, can be amplified in an
> amp with a tank circuit output. Why doesnt the tank "flywheel effect"
> prohibit or inhibit the abrupt phase changes in the signal. thanks
> 73
>
> Gary
> W4AF

It does. Small phase changes are not affected as much as a large
changes. For small changes (such as used for ham radio) the effect
is not noticeable.

Bill K7NOM

1656. Measuring small inductances using a return loss bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 23:34:42 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f57cc32$0$23610$5a62ac22@freenews.iinet.net.au>
Source record: 32872

My Friend Rod VK6KRG uses a snazzy method of calculating inductance using a return loss bridge
I have tried it to measure a 500nH inductance and the result agrees closely with the calculated result for an inductor of that physical size and number of turns.

Basically he uses the unknown inductor, in series with a known capacitor, in series with a 50 ohm load across the "unknown" arm of the bridge. When XC=XL, then the two reactances cancel (assuming they approximate to an ideal reactance) and load presented to the bridge by the RLC circuit = 50 ohms. Thus you tune the system to best return loss which is a null and calculate XL at this frequency You can even do this at the end of a section of 50 ohm coax, assuming the loss isnt too great

No doubt all you RF experts out there have known about this for a long time - has it been published as an idea before?

Richard

1657. Re: Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-04 23:47:12 UTC
From: W8LNA <gwatts@frontiernet.net>
Message-ID: <3F57CF06.747CD97D@frontiernet.net>
Source record: 32873

Qas wrote:
> ...making
> coil inductors...

I use the info at
http://www.amidoncorp.com/aai_ferritecores.htm

then I buy some cores and start winding, putting a turn or two more than I calculate, and usually end up taking off a turn or three to get what I need in a fixed value inductor.

1658. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 00:23:59 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bj8l2v$358$1@titan.btinternet.com>
Source record: 32874

A "nibler", a one-hand operated, very short-bladed shears is useful. You can
also guide this tool round curves in sheet metal similar to a pair of
sissors if needed.

--
=======================
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
=======================
"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.0000007b.0054fcac@btinternet.com...
> Hi,
>
> Whatever metal-working skills I acquired during my training as
> a radar fitter in the Royal Air Force so many year ago have
> evaporated it would seem (RAF Locking 1958). Just now I tried to
> cut some short strips from a 3mm aluminium sheet using a hacksaw
> and made the worst possible mess of it.
>
> No matter how I tried, I couldn't stop the cut veering to the
> right. In the end I just cut out the pieces larger than required
> and filed them to shape. The end result was OK but what a waste
> of material.
>
> So, what is the technique for hacksawing a straight-ish line
> by hand. I guess that as my cuts always went the same way it was
> something to do with how I was standing and holding the hacksaw.
> Any tips would be gratefully received.
>
> All those years ago I passed the necessary trade tests so I
> must have had it down pat then.
>
>
> 73 de Joe, G3LLV
>
>

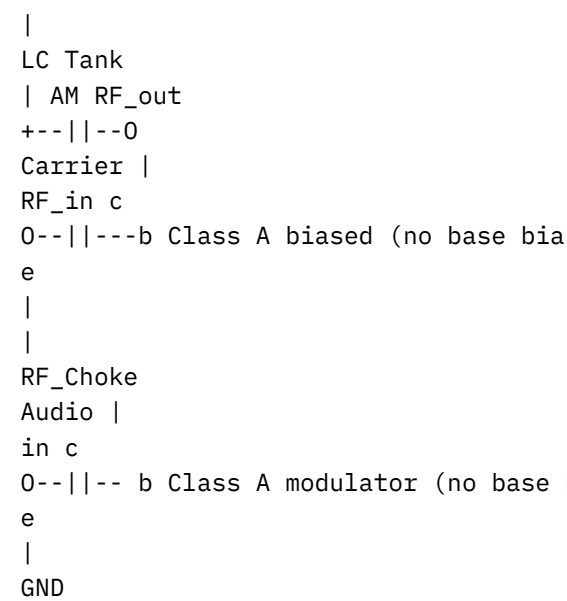
1659. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 00:25:05 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F57D7E1.151476DE@ti.com>
Source record: 32875
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
>
> gwhite wrote:
> > Kevin Aylward wrote:
> >>
> >> Don Pearce wrote:
> >>> On Mon, 01 Sep 2003 14:16:51 +0100, Paul Burridge
> >>> <pb@osiris1.notthisbit.co.uk> wrote:
> >>>
> >>>>
> >>>> Is a tuned load (tank circuit) a viable load for an RF amplifier
> >>>> operating in class A? Or is this type of load only really suitable
> >>>> for class C?
> >>>
> >>> Of course you can use a tuned load with class A. But the nice thing
> >>> about a tuned load is that you don't *have* to use class A to
> >>> achieve a clean output. Of course, if you are using an amplitude
> >>> modulated signal, then you will need class A.
> > >
> > > That's what receivers would use since power consumption doesn't matter
> > > much. It would be true for low level TX'er stages too, again because
> > > of power consumption. But for things like "Ham linears" it is not
> > > necessarily true.
> > >
> >> That is, if the input signal is already AM, you need a class A or
> >> linear amplifier.
> > >
> > > Let's be specific regarding the your word "linear" since "or" implies
> > > something else other than class-A may be possible.
> >
> > Yes.
> >
> > > Single-ended
> > > "linear" narrow band amps may be biased class-B if the tank has a high
> > > enough Q. The missing half cycle is restored by the so-called
> > > "flywheel effect." In practice deep AB is also used.
> > >
> >
> >> If the AM is to be done at that stage itself, then its the
> >> class c non-linear bit that makes the multiplication modulation work.
> > >
> > > No.
> >

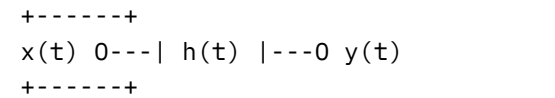
> No. Its Yes. Non-linear action generates the multiplication products. I
> was not drawing any real distinction between class c and b in this
> context. The practical difference is minimal. They both do not amplifier
> the waveform in a linear manner. I was not meaning to infer that it was
> an "only" c. I was referring to the fact that you need at least some
> method that generates non linarity.
>
> >It can be done with class-A or class-B since the assumption is
> > that the amp will be driven (or nearly so) to the rails by the carrier
> > alone.
>
> I agree, this is another method of generating x-product multiplication
> terms. However, arguable, a class A amplifier is not really a class A
> amplifier if it is driven to saturation. Its a really a switching amp
> or, a pulse amplitude modulator if its rails are varying.

Here's a "class-A" amplifier that can be amplitude modulated but yet not saturated (assumes a constant load R):



This is a single ended amplitude modulator. The top transistor could be driven to the switch mode by the carrier, but this is not necessary to produce AM. Practically, it will be driven to the switch mode for efficiency reasons.

Amplitude modulation can be "made" via linear methods. "Multipliers" cannot be generally stated to be either linear or non-linear. A system which includes a multiplier must be put through the linearity test to see if the configuration is linear or non-linear. IOW, it can be either.



linearity:

aï¿½x1(t) => aï¿½y1(t)
bï¿½x2(t) => bï¿½y2(t)

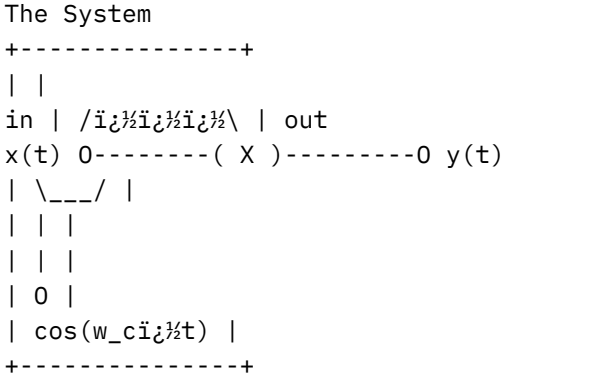
if x(t) = aï¿½x1(t) + bï¿½x2(t)

then

y(t) = aï¿½y1(t) + bï¿½y2(t)

If that is true, then the system is linear. This can be true for
systems with multipliers.

This system is linear and has a multiplier (it is not time invariant):



It produces a DSB signal (y(t)). w_cï¿½t could be "added in later"
(linearly) to y(t) in the proper amplitude and phase and the resultant
signal would for all practical purposes be indistiguishable from
standard AM. No non-linear circuit was used but yet AM was produced.
Not convenient, but it does dispel the "non-linearity is required"
myth. Also, a multiplier can be viewed as a MISO system.

1660. Re: Measuring small inductances using a return loss bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 06:25:15 UTC
From: no-span-pse@pse.com
Message-ID: <3f582b24.777693@news.free.fr>
Source record: 32877

Hello Richard,

I have seen this method one day in an QST and, as you, found the idea
very fine. Then keep the small diagram in my favorite notebook. ;-)
It was published in QST 1982/05.

73,
Francis
F6AWN

1661. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 06:43:52 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <OgW5b.5730$Ci1.976434@newsfep2-win.server.ntli.net>
Source record: 32878
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Kevin Aylward wrote:
>>
>> gwhite wrote:
>>> Kevin Aylward wrote:

>>
>>> It can be done with class-A or class-B since the assumption is
>>> that the amp will be driven (or nearly so) to the rails by the
>>> carrier alone.
>>
>> I agree, this is another method of generating x-product
>> multiplication terms. However, arguable, a class A amplifier is not
>> really a class A amplifier if it is driven to saturation. Its a
>> really a switching amp or, a pulse amplitude modulator if its rails
>> are varying.
>
>
> Here's a "class-A" amplifier that can be amplitude modulated but yet
> not saturated (assumes a constant load R):

Ho hummm...

>
> V+
> |
> LC Tank
> | AM RF_out
> +--||--O
> Carrier |
> RF_in c
> O--||---b Class A biased (no base bias details)
> e
> |
> |
> RF_Choke
> Audio |
> in c
> O--||-- b Class A modulator (no base bias details)
> e
> |
> GND
>
>

> This is a single ended amplitude modulator. The top transistor could
> be driven to the switch mode by the carrier, but this is not
> necessary to produce AM. Practically, it will be driven to the
> switch mode for efficiency reasons.

And you think that this is me to me? I suppose you aint read many of my
10,000+ posts.

Err..you've missed the cap from the top transistor emitter to ground. If
the bottom transistor circuit was a true current source at rf, the top
transistor could not effect the output current at all.

Oh, and its not very linear with required to audio input signal without
an emitter resister anyway. The distortion of an basic tranister amp for
2nd Harmonic = Vi(mv)%, that is 10 mv will get you 10% distortion.

>
> Amplitude modulation can be "made" via linear methods.

Nope. Not a chance.

>"Multipliers"
> cannot be generally stated to be either linear or non-linear.

If one input of a multiplier is held constant, the other input has a
linear response. If the other input is a function of time, the response
to the first input is non-linear. That is, it dose *not* satisfy a(f(t))
= f(at).

The above circuit relies on the fact that the "re" of the top
transistor, is a function of its emitter current set by the bottom
transistor, via the equation re=1/40.Ic. e.g. see
http://www.anasoft.co.uk/EE/index.html

> A system which includes a multiplier must be put through the linearity
> test to see if the configuration is linear or non-linear. IOW, it
> can be either.

Ho humm again. You confuse where the term linearity is to be applied.

>
> +------+
> x(t) O---| h(t) |---O y(t)
> +------+
>
>
> linearity:
>
> a•x1(t) => a•y1(t)
> b•x2(t) => b•y2(t)
>
> if x(t) = a•x1(t) + b•x2(t)
>

> then
>
> y(t) = a*y1(t) + b*y2(t)

Linearity can more easily be expressed as:

a(f(t)) = f(at)

>
> If that is true, then the system is linear. This can be true for
> systems with multipliers.

Nope. A signal being acted on by a multiplier is a non-linear system if
the second input is non constant with time. Your way of base on this
one.

>
>
> This system is linear and has a multiplier (it is not time invariant):
>

Nope, its not.

> The System
> +---------------+
> | |
> in | /***\ | out
> x(t) O--------(X)---------O y(t)
> | ___/ |
> | | |
> | | |
> | O |
> | cos(w_c*t) |
> +---------------+
>
>
> It produces a DSB signal (y(t)). w_c*t could be "added in later"
> (linearly) to y(t) in the proper amplitude and phase and the resultant
> signal would for all practical purposes be indistiguishable from
> standard AM.

This is not a linear circuit. You need to understand what linear means.
A linear system, cannot produce frequencies that are not in the input,
essentially, by definition. With all due respect, I would guess you
don't have an EE B.S. degree. This is all pretty basic stuff really.

>No non-linear circuit was used but yet AM was produced.

Nonsense. Your pretty misguided on this. You can not achieve
multiplication without a non-linear circuit. For example, Gilbert
multipliers use the fact that Id=Is.exp(vd/Vt). That is it logs, adds
and antilog. Balanced switching mixers use switches. Fet mixers use
their square law response.

> Not convenient, but it does dispel the "non-linearity is required"
> myth.

Its not a myth. I know of no way whatsoever to generate an analogue multiplication x product terms without having a device satisfying the property of a.f(t) != f(at), i.e. a non-linear device. Please feel free to suggest one, but file your patent first.

Oh, by the way...your trying to teach your granny to such eggs son.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1662. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 06:59:37 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <zvW5b.5740$Ci1.979341@newsfep2-win.server.ntli.net>
Source record: 32879
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:

>
> Oh, by the way...your trying to teach your granny to such eggs son.

Should have been:

Oh, by the way...your trying to teach your granny to suck eggs son.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
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1663. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 07:55:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vlggb0kr3q3e78@corp.supernews.com>
Source record: 32880
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

If you're really interested in getting it right, it should have been:

> Oh, by the way...you're trying to teach your granny to suck eggs son.

"You're" is a contraction for "you are".
"Your" is an adjective, meaning "of or relating to you or yourself".

And a comma would have been appropriate between "eggs" and "son", making
it better yet if it had read:

> Oh, by the way...you're trying to teach your granny to suck eggs, son.

Roy Lewallen, W7EL

Kevin Aylward wrote:
> Kevin Aylward wrote:
>
>
>>Oh, by the way...your trying to teach your granny to such eggs son.
>
>
> Should have been:
>
> Oh, by the way...your trying to teach your granny to suck eggs son.
>
> Kevin Aylward
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> Waveform Display, FFT's and Filter Design.
>
>

1664. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 10:37:48 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <VL_5b.268$cJ2.181@newsfep3-gui.server.ntli.net>
Source record: 32881

> Whatever metal-working skills I acquired during my training as
> a radar fitter in the Royal Air Force so many year ago have
> evaporated it would seem (RAF Locking 1958). Just now I tried to
> cut some short strips from a 3mm aluminium sheet using a hacksaw
> and made the worst possible mess of it.
>
> No matter how I tried, I couldn't stop the cut veering to the
> right. In the end I just cut out the pieces larger than required
> and filed them to shape. The end result was OK but what a waste
> of material.

==========

Joe , May I suggest you consider the following method :

--Take 2 pieces of angle iron (say 75 x 75 mm , 3x3 inches) ,or larger with a length of at least the length of the cut to be made.

-- Place the 2 lengths flange to flange and drill 2 or more holes (depending on overall length) and bolt them together with washers in between ; the total washer(s) thickness being a fraction more than that of the hack saw blade thickness .

-- Place the bolted flanges in a vice ,such that the other (spaced)flanges form a horizontal platform .

--- Clamp the sheet metal to be cut to the horizontal flanges and make your cut, using the opening as a guide

Note : With a normal U-frame hack saw you would cut the washers and bolts (depending on the blade operating angle), unless to move the clamped sheet metal .
However it is better to use a knife type holder for the hack saw blade , a low cost tool available from most DIY stores.
With this tool ,which only holds one end of the blade you avoid hitting the washers (and bolts) while making a straight cut

Good Luck

Frank GM0CSZ / KN6WH

1665. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 12:40:04 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f58821b.185474392@news.freeserve.net>
Source record: 32882

On Thu, 04 Sep 2003 20:07:49 +0100, Joe McElvenney
<ximac@btinternet.com> wrote:

>Hi,
>
> Whatever metal-working skills I acquired during my training as
>a radar fitter in the Royal Air Force so many year ago have
>evaporated it would seem (RAF Locking 1958). Just now I tried to
>cut some short strips from a 3mm aluminium sheet using a hacksaw
>and made the worst possible mess of it.
>
> No matter how I tried, I couldn't stop the cut veering to the
>right. In the end I just cut out the pieces larger than required
>and filed them to shape. The end result was OK but what a waste
>of material.
>
> So, what is the technique for hacksawing a straight-ish line
>by hand. I guess that as my cuts always went the same way it was
>something to do with how I was standing and holding the hacksaw.
>Any tips would be gratefully received.
>
> All those years ago I passed the necessary trade tests so I
>must have had it down pat then.
>
>
> 73 de Joe, G3LLV
>
>
Joe, I use a Stanley Knife and a straightedge. Score the aluminium
about 1 - 2 mm outside the finished line until you see a faint ripple
on the opposite side, the score is about 1/3rd the sheet thickness.
The ali will break along this fracture in a clean and tidy manner,
with big, 6 foot or so, sheets place the score on the bench edge
before breaking . No Noise, no fileings while cutting etc, and its a
lot quicker. you will need to finish off the edge with a file "to fit"
just my ha'penny worth.
atb Mike W

1666. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 13:07:19 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <gU%5b.7254$Ci1.1043072@newsfep2-win.server.ntli.net>
Source record: 32883
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Roy Lewallen wrote:
> If you're really interested in getting it right, it should have been:
>
> > Oh, by the way...you're trying to teach your granny to suck eggs
> son.
>
> "You're" is a contraction for "you are".
> "Your" is an adjective, meaning "of or relating to you or yourself".
>
> And a comma would have been appropriate between "eggs" and "son",
> making it better yet if it had read:
>
> > Oh, by the way...you're trying to teach your granny to suck eggs,
> son.
>
> Roy Lewallen, W7EL

I stand corrected, but maybe "sonny boy" may have made the point
stronger?

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
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Waveform Display, FFT's and Filter Design.

1667. Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 15:02:30 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bja8oo$2kk$1@reader11.wxs.nl>
Source record: 32884

Hello all,
I've already done a post a few days ago about a PLL system I had build. The initial problem was almost solved, but it isn't yet perfect.
In fact I made a PLL with a MC145152 IC, that I added to an existing VCO (see http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98). It works quite well but the output signal, that is fed into the VCO, is varying a bit at a frequency of about 187 KHz (http://www.mcarsweb.com/_divers/oscillo.jpg the vertical scale is enlarged). I don't know if I should adjust the filter values, or add a additional small filter just before the VCO (with a resistor and a capacitor between the output and the ground).

What do you think about that ?

Thanks in advance for your answers ;-)

Damien

1668. HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 15:39:18 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <bja948$h4l$1@news.hccnet.nl>
Source record: 32885

On a hot summer night the output of my 8640B suddenly disappeared. Later I learned that the output amp (marked 5086-7068) had failed. Any idea where to get a replacement? Apart from buying a second generator off course. Any help will be appreciated.
regards,
Harke PA0HRK

1669. want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 17:19:27 UTC
From: limitedselection@aol.com
Message-ID: <20030905131927.17988.00000282@mb-m24.aol.com>
Source record: 32886

Help!

I want to effectively "jam" CB reception on my property.
The "jammer" would need to be low power and cover an area about as large as a 'small' city block.

I have searched google, but I have only found references to schematics that were either posted to usenet as a picture (thus not saved in google archives), or located on web servers in domains that no longer exist.

Any information would be appreciated!

1670. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 17:24:30 UTC
From: Caveat Lector <CL@latin.com>
Message-ID: <iF36b.28605$S_.20371@fed1read01>
Source record: 32887

Golly -- FYI:
Jamming is illegal -- subject to an FCC fine

--
73 From The Signal In The Noise
Caveat Lector Ya All
"Limitedselection" <limitedselection@aol.com> wrote in message
news:20030905131927.17988.00000282@mb-m24.aol.com...
> Help!
>
> I want to effectively "jam" CB reception on my property.
> The "jammer" would need to be low power and cover an area about as large
as a
> 'small' city block.
>
> I have searched google, but I have only found references to schematics
that
> were either posted to usenet as a picture (thus not saved in google
archives),
> or located on web servers in domains that no longer exist.
>
> Any information would be appreciated!
>
>

1671. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 17:54:24 UTC
From: limitedselection@aol.com
Message-ID: <20030905135424.07383.00000642@mb-m27.aol.com>
Source record: 32888

To "Caveat Lector":

Thanks for your 'help'!

Apparently you are a lawyer (or play one on usenet)?

Somehow I don't think the FCC would fine me for jamming CB reception on my own property.
I specifically asked for a low power circuit that would only cover the area around my house - not powerful enough to reach the neighbors.
Since I would be jamming myself I would not complain.
Since it's my property the FCC would not know I was doing it - if they drove up to my gate it specifically says "No Trespassing - violaters will be prosecuted".

Since the signal would not leave my property, and there would be no complaints, and it would not interfere with anyone other than me, and to detect the jamming signal you would have to trespass on my land (at your peril) - I assume that I could 'get away' with it.

Again, any help (other than legal advice) would be greatly appreciated!

1672. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:06:42 UTC
From: gpatterson53@hotmail.com
Message-ID: <9c2b8e62.0309051006.678d8178@posting.google.com>
Source record: 32889

Thanks for your response. I am struggling with this. I still have trouble visualizing how a 180 or 270 degree change can occur in a single rf cycle and be able to overcome the "inertia" (probably a poor choice of words) of the rf circuits , feed line and antenna system. These are large abrupt changes, not more suttle changes like i would expect relative to voice modulation. I have read that in some amplifiers the tank provides the other half of a single rf cycle. Why wouldnt the same the action interfere with a phase shift in a rf cycle. I could understand being able to detect a phase shift after a given period of time with respect to a previous period. The period being relatively long compared to the rf cycle time.

Gary
W4AF

Roy Lewallen <w7el@eznec.com> wrote in message news:<vlf30kjsb6hued@corp.supernews.com>...
> Although the bandwidth of a phase modulated signal is theoretically
> infinite, the vast majority of the energy is in a finite bandwidth. So
> if you filter signal components beyond that bandwidth, you can still
> recover the modulation information adequately. What you have to do,
> then, is to design the tank circuit so its response isn't too narrow to
> pass the modulation information. If it is too narrow, it will decrease
> and distort the modulating phase shift.
>
> If you were to build a tank circuit that acted as a perfect "flywheel",
> i.e., had zero bandwidth, you wouldn't even be able to pass a code or
> voice waveform through it -- everything would come out as a single
> frequency, single amplitude sine wave, or nothing at all. (It would also
> take an infinite time for it to respond to a signal.) For amplifying
> some very broadband types of signals, tank and other tuned circuits are
> avoided altogether.
>
> Roy Lewallen, W7EL
>
> gary wrote:
> > Can someone explain to me how a rf carrier that is phase shift
> > modulated, for lets say digital transmission, can be amplified in an
> > amp with a tank circuit output. Why doesnt the tank "flywheel effect"
> > prohibit or inhibit the abrupt phase changes in the signal. thanks
> > 73
> >
> > Gary
> > W4AF

1673. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:08:58 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <_i46b.127070$0v4.9243273@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32891

"Limitedselection" <limitedselection@aol.com> wrote in message
news:20030905135424.07383.00000642@mb-m27.aol.com...

[snip]

> Since the signal would not leave my property

[snip]

Cool! How do you do that? And if you can keep your jammer signal limited to your own property, why can't you use the same trick to keep the CB signals off your property?

Frank Dresser

1674. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:09:41 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f58d0c5.205615513@news.freeserve.net>
Source record: 32890

On 05 Sep 2003 17:54:24 GMT, limitedselection@aol.com
(Limitedselection) wrote:

>To "Caveat Lector":
>
>Thanks for your 'help'!
>

>
>Since the signal would not leave my property, and there would be no complaints,
>and it would not interfere with anyone other than me, and to detect the jamming
>signal you would have to trespass on my land (at your peril) - I assume that I
>could 'get away' with it.
>
You are talking about the groundwave, think about the skywave.
I can assure you that even a low power jammer will be receivable over
most of the world at some stage or other, depending on propagation
conditions.

1675. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:10:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vlhkdinjho8u32@corp.supernews.com>
Source record: 32892

I won't offer legal advice, but I can offer technical advice.

There's no way to make a signal stop at your property line, short of putting a perfect shield around your property. And if you did that, you wouldn't be bothered by your neighbor's CB anyway.

It also looks like you might misunderstand what "jamming" does and how it works. There's no practical way to make interference go away by "jamming". "Jamming" is a masking technique. For example, the communist bloc nations used to jam Western broadcasts, with high-power transmitters placed close to the intended audience, and producing powerful noise-like signals. So all the intended audience could hear is the noise, and not the Western broadcasts. If you build a local jammer, you'll simply hear it instead of the CBer. That is, you'll just be replacing the interference he causes with interference you cause. You can accomplish the same thing by running the jamming signal modulation into some earphones, putting them on, and turning off the radio the CBer is interfering with.

Roy Lewallen, W7EL

Limitedselection wrote:
> To "Caveat Lector":
>
> Thanks for your 'help'!
>
> Apparently you are a lawyer (or play one on usenet)?
>
> Somehow I don't think the FCC would fine me for jamming CB reception on my own
> property.
> I specifically asked for a low power circuit that would only cover the area
> around my house - not powerful enough to reach the neighbors.
> Since I would be jamming myself I would not complain.
> Since it's my property the FCC would not know I was doing it - if they drove up
> to my gate it specifically says "No Trespassing - violaters will be
> prosecuted".
>
> Since the signal would not leave my property, and there would be no complaints,
> and it would not interfere with anyone other than me, and to detect the jamming
> signal you would have to trespass on my land (at your peril) - I assume that I
> could 'get away' with it.
>
> Again, any help (other than legal advice) would be greatly appreciated!
>
>

1676. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:18:30 UTC
From: limitedselection@aol.com
Message-ID: <20030905141830.07383.00000645@mb-m27.aol.com>
Source record: 32893

>From: mike@corn2.freeserve.co.uk (Mike W)
>You are talking about the groundwave, think about the skywave.
>I can assure you that even a low power jammer will be receivable over
>most of the world at some stage or other, depending on propagation
>conditions.

Ah, I had not thought of that. Is there any way to ensure that did not happen?
Locating the jammer inside the house?
The angle of the antenna?
Sheilding the jamming device?
Only operating at certain times?

I do NOT want to interfere with any reception (other than my own).

1677. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:24:09 UTC
From: limitedselection@aol.com
Message-ID: <20030905142409.07383.00000646@mb-m27.aol.com>
Source record: 32894

Frank,
In my post I was asking for a jammer that would only cover an area around the house - not powerful enough to reach the perimeter of the property.
So, the signal would stay on my property because it was radiating from the center at very low power - while the CB signals were broadcast at very high power and essentially cover my property.

Mike informed me that due to sky waves any signal - no matter how small - will be heard all over the place.

Thanks.

>From: "Frank Dresser" analogdial@worldnet.att.net

>Cool! How do you do that? And if you can keep your jammer signal limited
>to your own property, why can't you use the same trick to keep the CB
>signals off your property?

1678. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:27:51 UTC
From: limitedselection@aol.com
Message-ID: <20030905142751.07383.00000647@mb-m27.aol.com>
Source record: 32895

Roy,
Thanks - Mike posted about sky waves (I was unaware of), so even a very low power device centrally located in my property would apparently be heard world-wide - which is NOT what I want.

Actually, I did want to jam the reception of the existing CB signals on my property (at least in and around the house).

One of my neighbors uses rather 'salty' language and the local kids use some walkie talkies around the house - I fugured that jamming the outside signals would still allow the kids to talk due to their close proximity.

Thanks again.

>From: Roy Lewallen w7el@eznec.com

>There's no way to make a signal stop at your property line, short of
>putting a perfect shield around your property. And if you did that, you
>wouldn't be bothered by your neighbor's CB anyway.

1679. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:37:35 UTC
From: Caveat Lector <CL@latin.com>
Message-ID: <PJ46b.28616$S_.2416@fed1read01>
Source record: 32896

Well Jamming is defined as "Intentional Intereference" and as I advised you
it is illegal in case you didn't know.

Now it sounds like u are trying to keep the CB signal from entering your
property -- that is not jamming -- that is termed Shielding"

And there is no practical way to do that.

Further should you radiate a very low level signal -- when the 29MHz band
has good nproagation -- you will send even a low level milliwatt signal for
hundreds of miles via "skywave" (skip if you will)

So tell us what u are trying to do and why and perhaps we can help

And it is helpful to know what is legal and what is not !!

--
73 From The Signal In The Noise
Caveat Lector Ya All
"Limitedselection" <limitedselection@aol.com> wrote in message
news:20030905131927.17988.00000282@mb-m24.aol.com...
> Help!
>
> I want to effectively "jam" CB reception on my property.
> The "jammer" would need to be low power and cover an area about as large
as a
> 'small' city block.
>
> I have searched google, but I have only found references to schematics
that
> were either posted to usenet as a picture (thus not saved in google
archives),
> or located on web servers in domains that no longer exist.
>
> Any information would be appreciated!
>
>

1680. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:41:08 UTC
From: troglodite@aol.com
Message-ID: <20030905144108.17796.00000437@mb-m01.aol.com>
Source record: 32797

>One of my neighbors uses rather 'salty' language and the local kids use some
>walkie talkies around the house - I fugured that jamming the outside signals
>would still allow the kids to talk due to their close proximity.

Get FRS radios for the kids. They are cheap, reliable, and will NOT receive
standard CB transmissions.

1681. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:51:07 UTC
From: limitedselection@aol.com
Message-ID: <20030905145107.07383.00000648@mb-m27.aol.com>
Source record: 32798

Troglodite,
Actually - I purchased a few sets of FRS radios over the last few years.
At first FRS was great! After about a year it got to be very CB 'just after Christmas' like. Then it started getting kind of creepy.
I don't know what FRS is like where you are, but around here there seem to be a lot of grown men who know that children use FRS radios and like to talk to them and 'make friends' - scary.
Of course the kids are all online and know not to 'talk' to strangers or even give them their names/locations - but it's still a little creepy.
I was amazed last year I turned on one of the FRS radios and started playing around with it and heard activity on 4 different channels (and I don't live in a big city).

Recently we were driving and one of my kids were playing with an FRS radio as we were driving down the highway. He was talking to his cousin in another car. Suddenly we heard someone else talking - it turned out to be another car on the highway that was passing us! Too weird.

Anyway - the CB walkies also work better (signal wise) than the FRS radios. I was going to check out GMRS, but that seems to be as saturated as FRS.

Thanks.

Maybe MURS - but money is an issue too.
>From: troglodite@aol.com (Troglodite)

>Get FRS radios for the kids. They are cheap, reliable, and will NOT receive
>standard CB transmissions.

1682. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 18:54:17 UTC
From: limitedselection@aol.com
Message-ID: <20030905145417.07383.00000649@mb-m27.aol.com>
Source record: 32799

>From: "Caveat Lector" CL@latin.com

>Further should you radiate a very low level signal -- when the 29MHz band
>has good nproagation -- you will send even a low level milliwatt signal for
>hundreds of miles via "skywave" (skip if you will)

Caveat Lector,

Someone else posted about skywave - I was unaware.

I wouldn't be worried about thelegal issues if skywave was not an issue. But unfortunately it looks like with skywave any signal no matter how small can be heard world-wide.

Thanks.

1683. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 20:16:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vlhrq2c1b9vp7a@corp.supernews.com>
Source record: 32800

Hm, that is an interesting problem. The trick would be to have a signal that's always considerably stronger at the walkie-talkies than the CBer's, regardless of where they might be in the house or on the property, but always considerably weaker than the signal from the other walkie-talkie. That won't be easy, if it's possible at all. Your best shot would be to use another walkie-talkie, because it would be directly radiating on the right frequency. It'd also be legal, for what that's worth to you. You'd need to reduce its signal output by shielding, cutting down the antenna, reducing the battery voltage, or some other means like stringing ferrite cores over the antenna. But I wouldn't bet on its accomplishing what you're trying to do, unless the CB interference is pretty weak. Reducing the walkie-talkie receiver sensitivity is another option, if the receiver is separately accessible internally and you know enough about such things to do it. But I think the best idea, suggested by another poster, is to contact the FCC. The law can, occasionally, be used to your advantage.

Roy Lewallen, W7EL

Limitedselection wrote:
> Roy,
> Thanks - Mike posted about sky waves (I was unaware of), so even a very low
> power device centrally located in my property would apparently be heard
> world-wide - which is NOT what I want.
>
> Actually, I did want to jam the reception of the existing CB signals on my
> property (at least in and around the house).
>
> One of my neighbors uses rather 'salty' language and the local kids use some
> walkie talkies around the house - I fugured that jamming the outside signals
> would still allow the kids to talk due to their close proximity.
>
> Thanks again.
>
>
>>From: Roy Lewallen w7el@eznec.com
>
>
>>There's no way to make a signal stop at your property line, short of
>>putting a perfect shield around your property. And if you did that, you
>>wouldn't be bothered by your neighbor's CB anyway.
>
>
>

1684. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 20:18:10 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vlhrsfd72ot86c@corp.supernews.com>
Source record: 32801

> I do NOT want to interfere with any reception (other than my own).
>
How about just turning your CB receiver off?

1685. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 20:31:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vlhsm9okcuhe08@corp.supernews.com>
Source record: 32802

"Inertia" is a relative thing. Consider a one-cylinder motor with no flywheel at all (imagining it could still run). The crankshaft rotation would be very jerky, wouldn't it? Now put a small flywheel on it. The jerks wouldn't be as abrupt, but the rotation would still be jerky. As you make the flywheel bigger and bigger, the jerks smooth out, but the flywheel has to get really big before the rotational speed becomes, for all practical purposes, constant, without varying some during each rotation. That's a pretty good analogy. A low-Q tank circuit is like the little flywheel, and a high-Q tank like a big flywheel.

A tank that provides the other half of an RF cycle does interfere with abrupt phase changes. But the circuit can usually be designed to provide enough restoration of the carrier sine wave while retaining enough of the modulation characteristic to be useful. Also, a single-resonator tank circuit isn't the only trick in the engineer's bag. More complex filters, such as multiple pole bandpass and lowpass filters, can be designed that are much more selective in what they do than a simple single LC tank circuit.

The larger and more abrupt the changes, the more careful and clever the designer has to be. But the design of wideband modulation systems is well within the capabilities of a competent RF engineer.

If you have an oscilloscope and a signal generator capable of being frequency modulated, you can run some experiments with LC circuits and filters that should be quite educational. And a spectrum analyzer would enhance the educational value considerably.

Roy Lewallen, W7EL

gary wrote:
> Thanks for your response. I am struggling with this. I still have
> trouble visualizing how a 180 or 270 degree change can occur in a
> single rf cycle and be able to overcome the "inertia" (probably a
> poor choice of words) of the rf circuits , feed line and antenna
> system. These are large abrupt changes, not more suttle changes like
> i would expect relative to voice modulation. I have read that in some
> amplifiers the tank provides the other half of a single rf cycle. Why
> wouldnt the same the action interfere with a phase shift in a rf
> cycle. I could understand being able to detect a phase shift after a
> given period of time with respect to a previous period. The period
> being relatively long compared to the rf cycle time.
>
> Gary
> W4AF

1686. Re: HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 20:37:46 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vlht1232ikpae7@corp.supernews.com>
Source record: 32803

I've seen HP numbers cross referenced to 2Nxxxx, but where I can't recall.
Have you tried Google? Also ask on the boatanchor group.
good luck
73
hank wd5jfr
"Yrrah" <harke.smits@hccnet.nl> wrote in message
news:bja948$h4l$1@news.hccnet.nl...
> On a hot summer night the output of my 8640B suddenly disappeared. Later I
> learned that the output amp (marked 5086-7068) had failed. Any idea where
to
> get a replacement? Apart from buying a second generator off course. Any
help
> will be appreciated.
> regards,
> Harke PA0HRK
>
>

1687. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 20:50:57 UTC
From: limitedselection@aol.com
Message-ID: <20030905165057.07383.00000653@mb-m27.aol.com>
Source record: 32804

>From: Roy Lewallen w7el@eznec.com

>
>Hm, that is an interesting problem. The trick would be to have a signal
>that's always considerably stronger at the walkie-talkies than the
>CBer's, regardless of where they might be in the house or on the
>property, but always considerably weaker than the signal from the other
>walkie-talkie.

Roy,
Originally I was thinking build a small low-power jamming device and locate it in the center of the house. Then the field area being jammed would hopefully surround the house - but not extend out too far. Being as it was located inside I was assuming that the signal would not be as strong as the walkie to walkie signals outside.

Someone else suggested jamming the tranmitter's receiver (I like that idea!). They were talking about using a mobile with a car battery and a magnet antenna inside a garbage bag. Any CB jamming device schematics around (I would hate to lose a real radio).

Someone suggested via email that if the walkie talkies were crystal rather than PLL you could swap the two crystals and the radio would be below channel 1 on a 'funny' channel. I tried swapping crystals on one and it was definately on a different channel - I then swapped them in another one and the two could talk again - but I couldn't hear them on one I hadn't swapped the crystals on. I found them on my shortwave receiver down below channel 1. This may work out.

The FCC was not interested in the situation. It might be different if a bunch of people complained about the same person, I don't know - but apparently one person complaining means very little to them.

So far the crystal swapping may be the best way out - they get to keep the CB walkie talkies which are better than the FRS radios I have (range/reception) - but it is very quiet on the new channel!

I would still be interested in any schematics for jamming circuits though.

Thanks again.

1688. Re: HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 20:56:47 UTC
From: mikea@mikea.ath.cx
Message-ID: <bjatafrmt5@puck.litech.org>
Source record: 32805

Henry Kolesnik <wd5jfr@oklahoma.net> wrote:
> I've seen HP numbers cross referenced to 2Nxxxx, but where I can't recall.
> Have you tried Google? Also ask on the boatanchor group.
> good luck
> 73
> hank wd5jfr
> "Yrrah" <harke.smits@hccnet.nl> wrote in message
> news:bja948$h4l$1@news.hccnet.nl...
> > On a hot summer night the output of my 8640B suddenly disappeared. Later I
> > learned that the output amp (marked 5086-7068) had failed. Any idea where
> to
> > get a replacement? Apart from buying a second generator off course. Any
> help
> > will be appreciated.

A quick Google on "hp part cross-reference" was productive, and the
first hit may yield the answer Harke needs:

<http://www.sphere.bc.ca/test/hpparts.html>

--
[T]he average size of text documents doesn't double every 18
months except for MS Word users.
-- David Schultz, writing to the FreeBSD-stable list

1689. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 21:00:36 UTC
From: limitedselection@aol.com
Message-ID: <20030905170036.07383.00000654@mb-m27.aol.com>
Source record: 32806

>From: "-=jd=-" look@my.sig

>Now, I'm sure both my friend and the problem CB'er are both on the wrong
>side of the law. I do not endorse either participants behavior and leave
>the morality of the activity up to the reader. However, I do think it's
>humorous - especially to hear my friend tell it.

JD,
Thanks for the story. I would prefer to use some cheap throw-away little
circuit instead of 'good' equipment though.

An email I received told a story about a guy building a small jamming circuit
and then using a slingshot to launch it onto the target roof. The guy had made
a small parachute (like those little army men toys) to slow it's fall. The
circuit was encased in an egg shaped container (Silly Putty maybe) so it rolled
down and ended up in the rain gutter - where it sat. Apparently the gutter
sheilded the signal from the ground making it nearly impossible to locate the
device. According to the story they were searching for it with field strength
meters and such and never found it - until the next rain ... but by then it was
long dead anyway.

Thanks again.

1690. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 21:07:21 UTC
From: limitedselection@aol.com
Message-ID: <20030905170721.07383.00000655@mb-m27.aol.com>
Source record: 32807

>From: "Bob Lewis \(AA4PB\)"

>How about just turning your CB receiver off?
>

Bob,
Excellent advice!

Would it be okay with you if I hang on to your email address so I can contact you in the future when I need assistance solving what I believe to be complex problems - which you will be able to solve instantly by focusing your intellect on the exact nature of the problem and suggesting a wise, perceptive, and simple solution!

Thanks again.

1691. Re: HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 21:18:24 UTC
From: mikea@mikea.ath.cx
Message-ID: <bjauj0rmt6@puck.litech.org>
Source record: 32808

Yrrah <harke.smits@hccnet.nl> wrote:
> On a hot summer night the output of my 8640B suddenly disappeared. Later I
> learned that the output amp (marked 5086-7068) had failed. Any idea where to
> get a replacement? Apart from buying a second generator off course. Any help
> will be appreciated.
> regards,
> Harke PA0HRK

Looks like Agilent has a replacement part:

Part Part Description
Number Reference Used In Price Part
Category
5086-7068
[Obsolete] ORD-08640-67002
Status : No Longer Orderable.
Type : New support part for which Agilent
owns the design specifications.

Replaced By 08640-67002, which is no longer orderable. They'll
exchange for a (? refurbished) part.

I found this at <http://www.parts.agilent.com/>, after a little
digging.

If you _do_ do the exchange, please let us know how it turns
out and what neighborhood the price was in. My 8640B will die
one of these days, too.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin since 1964

1692. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 21:33:24 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19c2a0fb4c5586e2989683@news-central.giganews.com>
Source record: 32809

In article <VA.0000007b.0054fcac@btinternet.com>, ximac@btinternet.com
says...

> So, what is the technique for hacksawing a straight-ish line
> by hand. I guess that as my cuts always went the same way it was
> something to do with how I was standing and holding the hacksaw.
> Any tips would be gratefully received.

Dremel tool.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1693. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 21:35:45 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19c2a18a2a6a69c8989684@news-central.giganews.com>
Source record: 32810

In article <bja8oo$2kk$1@reader11.wxs.nl>, damien.teney@sobelairva.net
says...
> Hello all,
> I've already done a post a few days ago about a PLL system I had build. The
> initial problem was almost solved, but it isn't yet perfect.
> In fact I made a PLL with a MC145152 IC, that I added to an existing VCO
> (see
> http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98)
> . It works quite well but the output signal, that is fed into the VCO, is
> varying a bit at a frequency of about 187 KHz
> (http://www.mcarsweb.com/_divers/oscillo.jpg the vertical
> scale is enlarged). I don't know if I should adjust the filter values, or
> add a additional small
> filter just before the VCO (with a resistor and a capacitor between the
> output and the ground).
>
> What do you think about that ?
>
> Thanks in advance for your answers ;-)
>
>
> Damien
>

It's almost impossible to diagnose PLL misbehavior without a spectrum
analyzer, or at least a receiver that will let you listen to the output
signal. What does it sound like in a receiver?

What's the reference frequency (the frequency at which the phase
comparison is taking place?) It wouldn't be 187 kHz, would it?

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1694. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-05 22:11:15 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <jashlvs1hugic65r3aokllv20sk224lrqq@4ax.com>
Source record: 32811

On 05 Sep 2003 18:54:17 GMT, limitedselection@aol.com
(Limitedselection) wrote:

>>From: "Caveat Lector" CL@latin.com
>
>>Further should you radiate a very low level signal -- when the 29MHz band
>>has good nproagation -- you will send even a low level milliwatt signal for
>>hundreds of miles via "skywave" (skip if you will)
>
>Caveat Lector,
>
>Someone else posted about skywave - I was unaware.
>
>I wouldn't be worried about thelegal issues if skywave was not an issue. But
>unfortunately it looks like with skywave any signal no matter how small can be
>heard world-wide.

Indeed. There are amateurs that compete to contact every country in
the world on just one Watt or less, believe it or not. Radio is a most
amazingly efficient form of communication. There are differences,
however, between the CB frequencies, which are relatively low, and the
higher ones. CB frequency transmissions, even at very low power, can
go world-wide very readily during and around sunspot maxima. There's
much more to it than an outsider might imagine.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1695. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 00:48:15 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bjbasf$au3$0@208.206.142.79>
Source record: 32812

Limited, you're doing a LOT of a ass-uming here!

Limitedselection wrote:

> To "Caveat Lector":
>
> Thanks for your 'help'!
>
> Apparently you are a lawyer (or play one on usenet)?
>
> Somehow I don't think the FCC would fine me for jamming CB reception on my own
> property.
> I specifically asked for a low power circuit that would only cover the area
> around my house - not powerful enough to reach the neighbors.
> Since I would be jamming myself I would not complain.
> Since it's my property the FCC would not know I was doing it - if they drove up
> to my gate it specifically says "No Trespassing - violaters will be
> prosecuted".
>
> Since the signal would not leave my property, and there would be no complaints,
> and it would not interfere with anyone other than me, and to detect the jamming
> signal you would have to trespass on my land (at your peril) - I assume that I
> could 'get away' with it.
>
> Again, any help (other than legal advice) would be greatly appreciated!

1696. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 00:55:44 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bjbbag$au3$1@208.206.142.79>
Source record: 32813

Troglodite wrote:

> >One of my neighbors uses rather 'salty' language and the local kids use some
> >walkie talkies around the house - I fugured that jamming the outside signals
> >would still allow the kids to talk due to their close proximity.
>
> Get FRS radios for the kids. They are cheap, reliable, and will NOT receive
> standard CB transmissions.

And can be had for $15 a pair in some stores.

1697. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 01:38:41 UTC
From: limitedselection@aol.com
Message-ID: <20030905213841.24345.00000659@mb-m16.aol.com>
Source record: 32814

>Subject: Re: want circuit/schematic for CB "jammer"
>From: "Dick Carroll;"

>Limited, you're doing a LOT of a ass-uming here!
>

Dick,
That I am ... I ASSumed that it would not be a problem to ask for this. From a google search I had done I saw that this did come up from time to time - but usually the schematic was posted as a jpg - which google does not retain. Occassionally there was a URL pointing to the location of schematics - but these all refer to non-existant domains - or non-existant pages now. I ASSumed that I could just ask and someone might have the information.
Apparently giving this information to someone is a crime according to some of the replies I have received. Apparently asking for this information is a crime according to other replies I have received. Apparently even thinking about this topic is a crime according to some of the replies I have received.

So, to all who I did offend by asking for this information I apologize for my thought-crime.

Big Brother loves you all.

1698. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 04:01:20 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F595C10.7158ABF8@ti.com>
Source record: 32815
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

```
Kevin Aylward wrote:
>
> gwhite wrote:
> > Kevin Aylward wrote:
> >>
> >> gwhite wrote:
> >>> Kevin Aylward wrote:
>
> >>
> >>> It can be done with class-A or class-B since the assumption is
> >>> that the amp will be driven (or nearly so) to the rails by the
> >>> carrier alone.
> >>
> >> I agree, this is another method of generating x-product
> >> multiplication terms. However, arguable, a class A amplifier is not
> >> really a class A amplifier if it is driven to saturation. Its a
> >> really a switching amp or, a pulse amplitude modulator if its rails
> >> are varying.
> >>
> >
> > Here's a "class-A" amplifier that can be amplitude modulated but yet
> > not saturated (assumes a constant load R):
>
> Ho hummm...
>
> >
> > V+
> > |
> > LC Tank
> > | AM RF_out
> > +--||--O
> > Carrier |
> > RF_in c
> > O--||---b Class A biased (no base bias details)
> > e
> > |
> > |
> > RF_Choke
> > Audio |
> > in c
> > O--||-- b Class A modulator (no base bias details)
> > e
> > |
```

> > GND
> >
> >
> > This is a single ended amplitude modulator. The top transistor could
> > be driven to the switch mode by the carrier, but this is not
> > necessary to produce AM. Practically, it will be driven to the
> > switch mode for efficiency reasons.
>
> And you think that this is me to me? I suppose you aint read many of my
> 10,000+ posts.

I'm pretty sure I won't bother at this point.

> Err..you've missed the cap from the top transistor emitter to ground. If
> the bottom transistor circuit was a true current source at rf, the top
> transistor could not effect the output current at all.

True. It should be there.

> Oh, and its not very linear with required to audio input signal without
> an emitter resister anyway. The distortion of an basic tranister amp for
> 2nd Harmonic = Vi(mv)%, that is 10 mv will get you 10% distortion.

The point wasn't to design a perfect amp. The point was to illustrate
you're wrong.

> > Amplitude modulation can be "made" via linear methods.
>
> Nope. Not a chance.

Oh, but it can.

> >"Multipliers"
> > cannot be generally stated to be either linear or non-linear.
>
> If one input of a multiplier is held constant, the other input has a
> linear response. If the other input is a function of time, the response
> to the first input is non-linear. That is, it dose *not* satisfy a(f(t))
> = f(at).

No, false, or whatever negation pleases you best. You were already
given the answer. You confuse time-invariance with linearity. You need
not take my word for it. Consult any Signals and Sytems text, any
Linear Systems text, or any Communications text. IIRC, the following
was a homework problem in Stremler's text:

Determine linearity
Determine time-invariance

The System
+---------------+
| |
in | /ï¿½ï¿½ï¿½\ | out
x(t) O--------(X)---------O y(t)

```
| \___/ |
| | |
| | |
| O |
| cos(w_cï¿½t) |
+---------------+
```

http://www.amazon.com/exec/obidos/tg/detail/-/0201184982/qid=1062815444/sr=1-1/ref=sr_1_1/102-5544036-9325762?v=glance&s=books

I suppose if you want to make up your own definition of linearity, you can get whatever anwswer you wish.

> > A system which includes a multiplier must be put through the linearity
> > test to see if the configuration is linear or non-linear. IOW, it
> > can be either.
>
> Ho humm again. You confuse where the term linearity is to be applied.

I defined the system quite clearly. I mean, I don't think it can be made simpler.

You can stick with the formal definition given in pretty much every Signals and Sytems text, any Linear Systems text, or any Communications text, or you can make up your own and get the answer that pleases you.

> > +------+
> > x(t) O---| h(t) |---O y(t)
> > +------+
> >
> >
> > linearity:
> >
> > aï¿½x1(t) => aï¿½y1(t)
> > bï¿½x2(t) => bï¿½y2(t)
> >
> > if x(t) = aï¿½x1(t) + bï¿½x2(t)
> >
> > then
> >
> > y(t) = aï¿½y1(t) + bï¿½y2(t)
>
> Linearity can more easily be expressed as:
>
> a(f(t)) = f(at)

Except that isn't "the" definition (hey, but it is true if a = 1). It doesn't even meet you own description:
"A linear system, cannot produce frequencies that are not in the input, essentially, by definition." -- Kevin Aylward

I would like to see you apply this "definition."

> > If that is true, then the system is linear. This can be true for
> > systems with multipliers.
>
> Nope. A signal being acted on by a multiplier is a non-linear system if
> the second input is non constant with time. Your way of base on this
> one.

Again, you confuse linearity and time-invariance.

> > This system is linear and has a multiplier (it is not time invariant):
> >
>
> Nope, its not.

Oh, but it is. Some rather trivial math can lead you to understand what
linear means.

> > The System
> > +---------------+
> > | |
> > in | /ï¿½ï¿½ï¿½\ | out
> > x(t) O--------(X)---------O y(t)
> > | ___/ |
> > | | |
> > | | |
> > | O |
> > | cos(w_cï¿½t) |
> > +---------------+
> >
> >
> > It produces a DSB signal (y(t)). w_cï¿½t could be "added in later"
> > (linearly) to y(t) in the proper amplitude and phase and the resultant
> > signal would for all practical purposes be indistiguishable from
> > standard AM.
>
> This is not a linear circuit. You need to understand what linear means.
> A linear system, cannot produce frequencies that are not in the input,
> essentially, by definition.

You don't know what linear means. There it is.

> With all due respect, I would guess you
> don't have an EE B.S. degree.

Cut the chest puffing.

> This is all pretty basic stuff really.

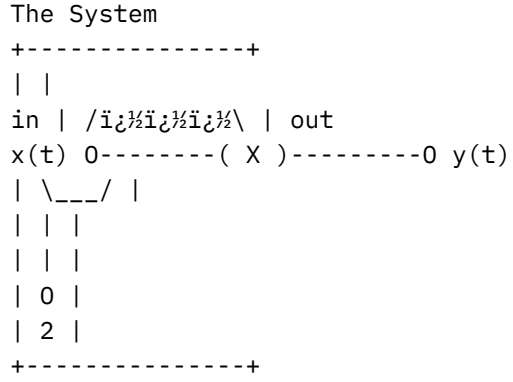
On that much we certainly agree, Comm101 ought to do it.

> >No non-linear circuit was used but yet AM was produced.
>
> Nonsense. Your pretty misguided on this.

Well I won't take you word for it, and you need not take mine. You
could make it easy just by applying the linearity test. That is,
linearity as it is defined in every Signals and Sytems text, any Linear
Systems text, or any Communications text. I'm not as "original" as you,
I simply trust the guys who wrote the books.

> You can not achieve
> multiplication without a non-linear circuit.

How about this one:



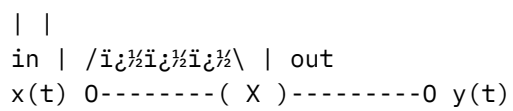
It looks functionally to be an amp with a gain of two. Is a "gain of 2"
circuit non-linear? Isn't that a multiplier in there?

> For example, Gilbert
> multipliers use the fact that Id=Is.exp(vd/Vt).

I think that descibes pretty much every bipolar. So I guess transistor
amps cannot be made linear, or at least function sufficiently linear for
the purpose of electronic designers. That is an "interesting"
contention.

> That is it logs, adds
> and antilog. Balanced switching mixers use switches. Fet mixers use
> their square law response.
>
> > Not convenient, but it does dispel the "non-linearity is required"
> > myth.
>
> Its not a myth. I know of no way whatsoever to generate an analogue
> multiplication x product terms without having a device satisfying the
> property of a.f(t) != f(at), i.e. a non-linear device. Please feel free
> to suggest one, but file your patent first.

Why not dispense with the snidery, and simply prove your contention by
applying the linearity test to this one:



```
| \___/ |
| | |
| | |
| O |
| cos(w_cï¿½t) |
+---------------+
```

Hey, I'll even give you a hint.

Let x1(t) = a1ï¿½cos(w1ï¿½t)
x2(t) = a2ï¿½cos(w2ï¿½t)

Then y1(t) = a1ï¿½cos([wc + w1]ï¿½t)/2 + a1ï¿½cos([wc - w1]ï¿½t)/2
y2(t) = a2ï¿½cos([wc + w1]ï¿½t)/2 + a2ï¿½cos([wc - w1]ï¿½t)/2

?
If x(t) = x1(t) + x2(t) does y(t) = y1(t) + y2(t)
(This *is* the linearity test.)

?
[x1(t) + x2(t)]ï¿½cos(wcï¿½t) = x1(t)ï¿½cos(wcï¿½t) + x2(t)ï¿½cos(wcï¿½t) = y(t)

The answer is yes: the system is linear, by the linearity test.

If x(t) = aï¿½cos(wï¿½t) is applied to the system,
and produces y(t), does x(t-to) applied to the
system result in y(t) except all the t's are
replaced by t-to? (May all the t's in
the y(t) case be replaced by t-to, and
have the system response reflect that the input
was x(t-to).) (This is the time-invariance test.)

y(t) = x(t)ï¿½cos(wcï¿½t) = aï¿½cos(wï¿½t)ï¿½cos(wcï¿½t)
= aï¿½cos([wc + w]ï¿½t)/2 + aï¿½cos([wc - w]ï¿½t)/2

Now put the "to" into the input and see what
comes out

What? = x(t-to)ï¿½cos(wcï¿½t) = aï¿½cos(wï¿½[t-to])ï¿½cos(wcï¿½t)
= aï¿½cos([wcï¿½t + wï¿½[t-to])/2 + aï¿½cos([wcï¿½t - wï¿½[t-to])/2
| |
+--------------------------+
not t-to,

So the system is *not* time-invariant.

This is Comm101 stuff, if you're ever interested enough to crack a book
open, and actually work the problems.

> Oh, by the way...your trying to teach your granny to such eggs son.

You're wrong about that one too: we have no relationship. I hope that
comforts you, as I know it does me.

1699. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 06:31:31 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f597f62$0$23605$5a62ac22@freenews.iinet.net.au>
Source record: 32816

Damien
There are two main possibilities (and a few others as John Miles says)
First the 187 KHz could be a reference spur if that is the comparison
frequency. I note you are using a 10.24 MHz clock. What is the R (reference
divider) ratio and main N ratio? These will be entered by software or
hardwiring/switching various pins. If the signal is a reference spur than it
could be attenuated by an additional pole (RC network) before the VCO
A single RC pole will attenuate at 6dB/octave above its corner (3dB) freq,
so to get any sort of attenuation, the pole will have to set at about 1/10
of the unwanted signal/reference (say 20 KHz) or lower.

Alternatively the signal could mean the loop is unstable, in which case you
might have to go back to design basics
How did you arrive at the values for the loop filter?

Richard

Damien Teney <damien.teney@sobelairva.net> wrote in message
news:bja8oo$2kk$1@reader11.wxs.nl...
> Hello all,
> I've already done a post a few days ago about a PLL system I had build.
The
> initial problem was almost solved, but it isn't yet perfect.
> In fact I made a PLL with a MC145152 IC, that I added to an existing VCO
> (see
>
http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98)
> . It works quite well but the output signal, that is fed into the VCO, is
> varying a bit at a frequency of about 187 KHz
> (http://www.mcarsweb.com/_divers/oscillo.jpg the vertical
> scale is enlarged). I don't know if I should adjust the filter values, or
> add a additional small
> filter just before the VCO (with a resistor and a capacitor between the
> output and the ground).
>
> What do you think about that ?
>
> Thanks in advance for your answers ;-)
>
>
> Damien
>
>

1700. Re: Kit for kids?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 06:47:09 UTC
From: Richard <rlwest@nethere.com>
Message-ID: <3F5982EC.A456E49B@nethere.com>
Source record: 32817

I wish I had thought of it earlier but there is a company that makes printed circuit boards call Far Circuits http://www.farcircuits.net/ The problem is they don't sell kits. Even if you don't have the construction article the project comes from, they will be happy to sell you a copy of the article for a small fee.
I have even seen books on electronic science fair projects and books electronic projects for beginners. Look around and ask around.
Richard, KF6KE

Matt wrote:

> What sort of kit can I get for 6th grade kids to interest them in
> radio/electronics? And where could I get same inexpensively (so I don't go
> broke if I got a bunch for a classful of kids)? Crystal radio? Something
> else? Does anyone have experience/stories of doing something like this with
> a group of kids?
>
> Thanks for your time.
>
> 73,
> Matt Thomas
> KD7PPK

1701. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 07:05:55 UTC
From: donut <none@none.com>
Message-ID: <Xns93EE4A57A9Edonut@216.102.43.227>
Source record: 32819

limitedselection@aol.com (Limitedselection) wrote in
news:20030905142751.07383.00000647@mb-m27.aol.com:

> Thanks - Mike posted about sky waves (I was unaware of), so even a
> very low power device centrally located in my property would
> apparently be heard world-wide - which is NOT what I want.

I hardly think this would be a problem. For one, you'd need an antenna
radiating a large proportion of skywave. Second, the CB bands are loaded
with all kinds of open carriers, whistlers, music players, etc. so your
tiny part in this would be unlikely to harm anyone.
>
> Actually, I did want to jam the reception of the existing CB signals
> on my property (at least in and around the house).
>
> One of my neighbors uses rather 'salty' language and the local kids
> use some walkie talkies around the house - I fugured that jamming the
> outside signals would still allow the kids to talk due to their close
> proximity.

Anything you might do to jam this CBer (like an oscillator to transmit an
OC) would also jam the walkie talkies.

1. Change the channel the walkie talkies operate on, or

2. Replace them with walkie talkies using another band. I believe there are
walkies talkies that also operate around 49 MHz.

1702. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 07:11:23 UTC
From: donut <none@none.com>
Message-ID: <Xns93EE1376FEBBdonut@216.102.43.227>
Source record: 32818

limitedselection@aol.com (Limitedselection) wrote in
news:20030905145417.07383.00000649@mb-m27.aol.com:

> I wouldn't be worried about thelegal issues if skywave was not an
> issue. But unfortunately it looks like with skywave any signal no
> matter how small can be heard world-wide.

This is ridiculous. Try talking skip even on a car CB putting out legal
power. It ain't gonna happen.

Beside, the solar cycle is on it's downward spiral, and skip openings on 29
MHz are going to become few and far between and the cycle deepens.

If your local CBer is primarily a "skip" talker, that in itself might take
him out.

1703. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 07:31:53 UTC
From: limitedselection@aol.com
Message-ID: <20030906033153.07311.00000385@mb-m27.aol.com>
Source record: 32820

>Subject: Re: want circuit/schematic for CB "jammer"
>From: donut none@none.com

>limitedselection@aol.com (Limitedselection) wrote in
>news:20030905142751.07383.00000647@mb-m27.aol.com:
>
>> Thanks - Mike posted about sky waves (I was unaware of), so even a
>> very low power device centrally located in my property would
>> apparently be heard world-wide - which is NOT what I want.
>
>I hardly think this would be a problem. For one, you'd need an antenna
>radiating a large proportion of skywave. Second, the CB bands are loaded
>with all kinds of open carriers, whistlers, music players, etc. so your
>tiny part in this would be unlikely to harm anyone.
>>

Donut,
Thanks for the info. Earlier someone suggested using a mobile CB with a car battery and a magnet antenna and a garbage bag - and placing this as close to the neighbor antenna as possible.
I think building a low-power jammer and placing it close to his antenna would be a better solution. Less expensive and totally disposable.
You are one of the few people on Earth (well, at least on usenet - on usenet so far since I posted yesterday) that seems to think that this would be relatively harmless. Other people are equating asking for a jammer schematic to asking for information on manufacturing chemical/biological/nuclear weapons (it probably sounds like I am kidding about this - but I am NOT).
Thank you for your rational/calm approach to this!

>Anything you might do to jam this CBer (like an oscillator to transmit an
>OC) would also jam the walkie talkies.
>
>1. Change the channel the walkie talkies operate on, or
>
>2. Replace them with walkie talkies using another band. I believe there are
>walkies talkies that also operate around 49 MHz.
>
At this point I am still looking for LOW POWER jammer schematics. Although someone told me that some are on the way.
Thank you for your information though, I appreciate it.

1704. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 07:35:33 UTC
From: limitedselection@aol.com
Message-ID: <20030906033533.07311.00000386@mb-m27.aol.com>
Source record: 32821

>Subject: Re: want circuit/schematic for CB "jammer"
>From: donut none@none.com

>limitedselection@aol.com (Limitedselection) wrote in
>news:20030905145417.07383.00000649@mb-m27.aol.com:
>
>> I wouldn't be worried about thelegal issues if skywave was not an
>> issue. But unfortunately it looks like with skywave any signal no
>> matter how small can be heard world-wide.
>
>This is ridiculous. Try talking skip even on a car CB putting out legal
>power. It ain't gonna happen.
>
>Beside, the solar cycle is on it's downward spiral, and skip openings on 29
>MHz are going to become few and far between and the cycle deepens.
>
>If your local CBer is primarily a "skip" talker, that in itself might take
>him out.
>
>
>
>

Donut,
Thanks for the info.

I am just looking for a low power, low cost (cheap) and disposable cb jammer
circuit.

A lot of amatuer radio operators and RF engineers are telling me that such a
device could wreak havoc world-wide even though it would be mere mw in power.
According to them 'skywaves' would allow the jammer to reach the entire planet
and jam communications world-wide.

I certainly don't want to jam world-wide communications, so unless someone has
a 'safe' schematic I am out of luck I guess.

Thanks again donut!

1705. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 07:46:28 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bjc3ku$f3v$1@reader08.wxs.nl>
Source record: 32822

Hello,
About the quartz, I haven't used a 10.24MHz one as in the given schematic, but a 5.12 MHz one. The R ratio is 1024, so the reference frequency is 5 KHz. The N ratio used is from 196 to 284 (with the 64/65 prescaler; VCO goes from 63 to 91 MHz). I don't think the loop is unstable, because the VCO output is quite clean (only a bit blur, see http://www.mcarsweb.com/_divers/vco.jpg).
The loop filter values have been calculated with the fomulas given in the motorola application note 980.

So, if you think I should use a additional RC network, could you tell me how to calculate the values :-$?
Thank you ;-)

Damien

1706. Debugging of LC Bandpass Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 09:23:49 UTC
From: brmadhukar@hotmail.com
Message-ID: <2c04c006.0309060123.7222e1bc@posting.google.com>
Source record: 32823

Hi all,
In the past many people on the board have help me solve some
related problems. Thanks to all.

I want to know what is the procedure to find the problem with a
fabricated and assembled board. I have two kinds of filters on my
board
1) Coupled resonator filter of 4 order (differential). I have
simulated the circuit in spice and checked the waveforms at all
points. They do not match. May be because of parasitics. (inductor SRF
is large) or may some other reason I dont know of. I am observing
through a single ended cable.
2) LC butterworth/cheby filter BPF: Should I check the waveforms at
the resonant frequecies. Should I assemble the board in particular
sequence.

Q) Are there any general methods of making sure that the LC BPF
circuits will work.

BR
Madhukar

1707. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 09:25:13 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <sLh6b.471$XV6.209482@newsfep2-gui.server.ntli.net>
Source record: 32824
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Kevin Aylward wrote:
>>

>
>>> "Multipliers"
>>> cannot be generally stated to be either linear or non-linear.
>>
>> If one input of a multiplier is held constant, the other input has a
>> linear response. If the other input is a function of time, the
>> response to the first input is non-linear. That is, it dose *not*
>> satisfy a(f(t)) = f(at).
>
> No, false, or whatever negation pleases you best.

No its correct. If the second input is time varying the output of the
system is *not* a linear function of the first input. Its that simple.

> You were already
> given the answer. You confuse time-invariance with linearity.

Not at all.

> You
> need not take my word for it.

I dont.

Consult any Signals and Sytems text,
> any Linear Systems text, or any Communications text. IIRC, the
> following was a homework problem in Stremler's text:
>

So, the book is out to lunch, or your interpretation of it is. So what.

> Determine linearity
> Determine time-invariance
>
> The System
> +---------------+
> | |
> in | /_/\ | out
> x(t) O--------(X)---------O y(t)
> | ___/ |
> | | |
> | | |

> | O |
> | cos(w_c*t) |
> +--------------+
>
>
http://www.amazon.com/exec/obidos/tg/detail/-/0201184982/qid=1062815444/sr=1-1/ref=sr_1_1/102-5544036-9325762?v=glance&s=books
>
> I suppose if you want to make up your own definition of linearity, you
> can get whatever anwswer you wish.

Indeed.

>>
>> Linearity can more easily be expressed as:
>>
>> a(f(t)) = f(at)
>
> Except that isn't "the" definition (hey, but it is true if a = 1). It
> doesn't even meet you own description:

I did not say it was. I was keeping it simple.

> "A linear system, cannot produce frequencies that are not in the
> input, essentially, by definition." -- Kevin Aylward
>
> I would like to see you apply this "definition."

I do. It makes a reasonably good practical definition.

>
>>> If that is true, then the system is linear. This can be true for
>>> systems with multipliers.
>>
>> Nope. A signal being acted on by a multiplier is a non-linear system
>> if the second input is non constant with time. Your way of base on
>> this one.
>
> Again, you confuse linearity and time-invariance.

Nope. I agree, if, for example, a second input is constant in time, a
circuit can be linear, however, if a second input changes the gain of
the first signal then the output is no longer a simple gain + offset,
therefore, the system in non-linear. The output is not a "simple"
function of the input.

However, I agree, "I suppose if you want to make up your own definition
of linearity you can get whatever answer you wish."

>
>>> This system is linear and has a multiplier (it is not time
>>> invariant):
>>>

>>
>> Nope, its not.
>
> Oh, but it is.

It is not...

Some rather trivial math can lead you to understand
> what linear means.

Ho hum sniped.

>
>>> No non-linear circuit was used but yet AM was produced.
>>
>> Nonsense. Your pretty misguided on this.
>
> Well I won't take you word for it, and you need not take mine.

I don't. Its 101 transistor electronics that the collector current
follows the base voltage by an exponential relation. The class A amp you
showed achieved multiplication because:

gm=40.Ic. because gm=di/dv, directly obtained from I=io.exp(Vb/Vt)

So that Vo=40.Ic.Vc

therefore

Vo = 40.Vc.Vi/Re

So, the modulation is achieved precisely because the transistor is
non-linear. This clearly contradicts your claim that your stated class A
amp is a modulator without using non linear properties.

Please present your detailed, alternative argument to support your claim
that your class A amp does not rely on non linearity to achieve
modulation, and why my 101 analysis, as given above, is false.

You
> could make it easy just by applying the linearity test. That is,
> linearity as it is defined in every Signals and Sytems text, any
> Linear Systems text, or any Communications text. I'm not as
> "original" as you, I simply trust the guys who wrote the books.

I don't. Furthermore, I don't trust your claim.

>
>> You can not achieve
>> multiplication without a non-linear circuit.
>
> How about this one:
>
> The System

> +--------------+
> | |
> in | /_/\ | out
> x(t) O--------(X)---------O y(t)
> | ___/ |
> | | |
> | | |
> | O |
> | 2 |
> +--------------+
>
> It looks functionally to be an amp with a gain of two. Is a "gain of
> 2" circuit non-linear? Isn't that a multiplier in there?

Your grasping at straws here. This is trivially not the point. Of course a fixed, or constant gain on a signal is linear. Jesus wept dude. No brownie points for you on this one, I'm afraid. It was clear from the start that one is referring to varying multiplication.

>
>> For example, Gilbert
>> multipliers use the fact that Id=Is.exp(vd/Vt).
>
> I think that descibes pretty much every bipolar. So I guess
> transistor amps cannot be made linear, or at least function
> sufficiently linear for the purpose of electronic designers. That is
> an "interesting" contention.

Out to lunch again. Of course transistors amps can be made as linear as desired, I made no such connotation. Again, your making up what I say as you go along because you arguments are so weak.

My point on the class A, non clipping, amp modulator you showed above, it that it *relies* *explicitly* on the non-linear transfer function to achieve multiplication.

Again, present your theoretical argument as to how AM modulation actually occurs in said amplifier, without using any properties derived from any non-linear behaviour.

>
>> That is it logs, adds
>> and antilog. Balanced switching mixers use switches. Fet mixers use
>> their square law response.
>>
>>> Not convenient, but it does dispel the "non-linearity is required"
>>> myth.
>>
>> Its not a myth. I know of no way whatsoever to generate an analogue
>> multiplication x product terms without having a device satisfying the
>> property of a.f(t) != f(at), i.e. a non-linear device. Please feel
>> free to suggest one, but file your patent first.

>
> Why not dispense with the snidery, and simply prove your contention by
> applying the linearity test to this one:

I must confess here I made a small error. Contrary to my claim of ignorance, I am in fact aware of a modulating technique that dose not rely, it would appear, on a devices non linearity, and have been so aware for a considerable time, but it slipped my mind. A light dependant resistor and a light bulb would seem to satisfy this requirement. I suspect the claim would have to be modified to a direct electrical method. I await you providing an example.

{pretentious drivel sniped}

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1708. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 10:34:59 UTC
From: Rick Frazier <rick@rickfrazier.com>
Message-ID: <3F59B853.E8D6DE7A@rickfrazier.com>
Source record: 32826

Weeeeellllll, if you are trying to avoid interference from a nasty and illegal high power CB transmitter nearby, perhaps a little story may help give you ideas.

Once upon a time, not so very long ago (about fifteen years or so) I lived in a large metropolitan area in the nation of Californica and enjoyed operating low power, and particularly liked shortwave dx listening. However, there was this miscreant that lived about a mile from me and below my location that had a large antenna in his yard, and seemed to be talking a lot of "good buddy" type of talk, along with a bunch of trash talk (using words I hadn't heard in anything near polite conversation in many a year), just about any time I was listening. It seemed as if he had no job and was on the radio 24 hours a day. It turned out I had some direction finding ham friends that were able to help me determine where he lived, and we did find his location. Of course, just driving around would have probably helped. He had a large quad array cut for 111 meters (CB) on a short tower in his back yard, with the tower bolted to the garage wall and roof.... Well, after monitoring his output and determining that he was indeed on the CB band, and having called and mailed the wonderful people at the FCC and the local constabulary for a couple of months running, no solution seemed apparent. Then one day, after more than a few beers, an unnamed friend was trying to listen to a ham across the valley (only some 20 miles away) on 10 meters, and the bad guy CB'er came on and trashed the whole band with his splatter. After a few more beers, the friend decided to do something about it, and a plan was hatched.... One day not so long after, someone unknown to both of us walked onto the property of the CB bad guy (probably illegally) and pushed some straight pins into his coax at several locations along the coax as it exited the house/garage and ran up the tower leg. Clipping the pins off at the surface of the coax jacket, he stealthily left the crime scene.

Several days later, upon discovering a party at the house next door, the same unnamed person invited himself in and had a conversation with the renter of the house. It seems that for the first time in months, he had been able to actually hear his stereo without trash talk emanating from it at odd hours, and was celebrating, treating (most of) the block to a good size keg of beer. It seems the CB neighbor had some sort of malfunction of a high power linear amp, and was threatening to sue the place that sold him the amp because it had failed quite spectacularly....

A month or so later, the area was still clear of the bad guy's interference, and as far as we know, no one ever found out why the amplifier failed...
<smile>

The moral? Don't go too far over the line, or there may be someone crazier than you that may cause you problems. Of course this works for the good guys too. Personally, I wouldn't condone this sort of behavior, and only found out later that the "pipe dream" of taking care of the bad guy had somehow become reality,

and how it had come about. Of course, given the current state of litigation in this country, you'd probably be arrested for _thinking_ about taking action against anyone, even if the "proper authorities" won't do diddly squat, not even thinking about actual physical action.

However, it may give one pause, especially if you happen to have some really crazy acquaintances..... and can positively identify the miscreant that is causing you a problem... of course, assuming he is actually beyond the bounds of legal operation...

Of course, jamming only complicates the issue, as it causes interference to all of _your_ neighbors too, as you cannot really contain any sort of jamming signal that would be effective in your area without putting signal beyond the boundaries of your own property. Even a fairly small signal can travel quite large distances. After all, there are people that regularly communicate thousands of miles on only a couple of watts! Adding your own jamming signal only adds to the problem, and what you need is probably a solution that subracts the problem from the airwaves...

--Rick

Limitedselection wrote:

> Help!
>
> I want to effectively "jam" CB reception on my property.
> The "jammer" would need to be low power and cover an area about as large as a
> 'small' city block.
>
> I have searched google, but I have only found references to schematics that
> were either posted to usenet as a picture (thus not saved in google archives),
> or located on web servers in domains that no longer exist.
>
> Any information would be appreciated!

1709. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 10:44:57 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <OUi6b.8281$Ci1.1366045@newsfep2-win.server.ntli.net>
Source record: 32825
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
> gwhite wrote:
>> Kevin Aylward wrote:

In summary, there are differing concepts of what linearity is being understood to mean in the real world. A point was made that a class A transistor amp modulator achieves modulation via completely linear means. This is clearly not correct as was showed in my last post, and in engineering practise, its probably impossible to generate a modulation function, in a direct electrical circuit, without explicitly using an inherent nonlinearity of a device. One only has to look at any practical modulator. That is, modulation and non-linearity, is isomorphic in a practical sense. However, there is certainly a valid argument, that in a strict mathematical technical sense, a "linear" system can encompass a much wider class of systems all under the banner of "linear". This is pretty much obvious, for example, even a Bessel integral transform is a "linear" transform, but would actually severely distort a signal considerable. However, this extended view of "linear" has little do with real analogue circuits, where linear is generally accepted to mean linear gain with offset, and is a technicality that has little, or even no value at all. The point has been made, but there is yet to be any real physical example presented, where such a technical point has any practical merit in real circuits.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1710. Motorola part ID reqd

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 11:24:42 UTC
From: Dutchman <h@ns.co.za>
Message-ID: <3f59c41e$0$64724@hades.is.co.za>
Source record: 32827

I have several 3-legged devices packaged as
Motorola Communications Division Part 48-869-686
My local agent cannot come up with an ID or spec.
Does someone have a spec for me?
Thanks
Hans
ZS6KR

1711. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 12:32:56 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f59d2c7.271675299@news.freeserve.net>
Source record: 32828

Have you concidered the DS1086 Spread Spectrum Econoscillator from
dallas Semiconductors.
A programmable Oscillator (between 260Khz and 130Mhz) with a
selectable 'dither' of either 2% or 4%) powered from a few AA cells
would last a very long time and would sit nicely in the grass by the
CBers Aerial and clutter up his comms very effectivly ;-)

Very Tongue in cheek... Mike W
--

On 06 Sep 2003 07:31:53 GMT, limitedselection@aol.com
(Limitedselection) wrote:

>>Subject: Re: want circuit/schematic for CB "jammer"
>>From: donut none@none.com
>
>>limitedselection@aol.com (Limitedselection) wrote in
>>news:20030905142751.07383.00000647@mb-m27.aol.com:
>>
>>> Thanks - Mike posted about sky waves (I was unaware of), so even a
>>> very low power device centrally located in my property would
>>> apparently be heard world-wide - which is NOT what I want.
>>
>>I hardly think this would be a problem. For one, you'd need an antenna
>>radiating a large proportion of skywave. Second, the CB bands are loaded
>>with all kinds of open carriers, whistlers, music players, etc. so your
>>tiny part in this would be unlikely to harm anyone.
>>>
>
>Donut,
>Thanks for the info. Earlier someone suggested using a mobile CB with a car
>battery and a magnet antenna and a garbage bag - and placing this as close to
>the neighbor antenna as possible.
>I think building a low-power jammer and placing it close to his antenna would
>be a better solution. Less expensive and totally disposable.
>You are one of the few people on Earth (well, at least on usenet - on usenet so
>far since I posted yesterday) that seems to think that this would be relatively
>harmless. Other people are equating asking for a jammer schematic to asking
>for information on manufacturing chemical/biological/nuclear weapons (it
>probably sounds like I am kidding about this - but I am NOT).
>Thank you for your rational/calm approach to this!
>
>
>>Anything you might do to jam this CBer (like an oscillator to transmit an
>>OC) would also jam the walkie talkies.

>>
>>1. Change the channel the walkie talkies operate on, or
>>
>>2. Replace them with walkie talkies using another band. I believe there are
>>walkies talkies that also operate around 49 MHz.
>>
>At this point I am still looking for LOW POWER jammer schematics. Although
>someone told me that some are on the way.
>Thank you for your information though, I appreciate it.
>

1712. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:05:05 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3F59DB81.BF3EB8FE@bloomer.net>
Source record: 32829

I'm still confued. You want to keep from HEARING CB signals at YOUR
house? Why not just turn power off to your CB?

Scott
N0EDV

Limitedselection wrote:
>
> >From: mike@corn2.freeserve.co.uk (Mike W)
> >You are talking about the groundwave, think about the skywave.
> >I can assure you that even a low power jammer will be receivable over
> >most of the world at some stage or other, depending on propagation
> >conditions.
>
> Ah, I had not thought of that. Is there any way to ensure that did not happen?
> Locating the jammer inside the house?
> The angle of the antenna?
> Sheilding the jamming device?
> Only operating at certain times?
>
> I do NOT want to interfere with any reception (other than my own).

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

1713. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:15:24 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3F59DDEC.5991F2C3@bloomer.net>
Source record: 32830

The only problem with that is that CB is AM. As all pilots know, when two AM transmitters come on frequency, you end up hearing both (and if one is a bit off frequency, a loud squeal as well). FM has the "capture" effect where you only hear the strongest one (ideally).

Scott
N0EDV

Roy Lewallen wrote:
>
> Hm, that is an interesting problem. The trick would be to have a signal
> that's always considerably stronger at the walkie-talkies than the
> CBer's, regardless of where they might be in the house or on the
> property, but always considerably weaker than the signal from the other
> walkie-talkie. That won't be easy, if it's possible at all. Your best
> shot would be to use another walkie-talkie, because it would be directly
> radiating on the right frequency. It'd also be legal, for what that's
> worth to you. You'd need to reduce its signal output by shielding,
> cutting down the antenna, reducing the battery voltage, or some other
> means like stringing ferrite cores over the antenna. But I wouldn't bet
> on its accomplishing what you're trying to do, unless the CB
> interference is pretty weak. Reducing the walkie-talkie receiver
> sensitivity is another option, if the receiver is separately accessible
> internally and you know enough about such things to do it. But I think
> the best idea, suggested by another poster, is to contact the FCC. The
> law can, occasionally, be used to your advantage.
>
> Roy Lewallen, W7EL
>
> Limitedselection wrote:
> > Roy,
> > Thanks - Mike posted about sky waves (I was unaware of), so even a very low
> > power device centrally located in my property would apparently be heard
> > world-wide - which is NOT what I want.
> >
> > Actually, I did want to jam the reception of the existing CB signals on my
> > property (at least in and around the house).
> >
> > One of my neighbors uses rather 'salty' language and the local kids use some
> > walkie talkies around the house - I fugured that jamming the outside signals
> > would still allow the kids to talk due to their close proximity.
> >
> > Thanks again.
> >
> >

> >>From: Roy Lewallen w7el@eznec.com
> >
> >
> >>There's no way to make a signal stop at your property line, short of
> >>putting a perfect shield around your property. And if you did that, you
> >>wouldn't be bothered by your neighbor's CB anyway.
> >
> >
> >

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

1714. Re: HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:20:02 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <Q9ScnVu3Drc2Q8SiXTWJkQ@comcast.com>
Source record: 32831

The last time I asked Agilent for a replacement part (failed switching supply) it cost more than the analyzer. We used a ginned up ATX supply with some DC-DC converters.

"Mike Andrews" <mikea@mikea.ath.cx> wrote in message news:bjauj0rmt6@puck.litech.org...
> Yrrah <harke.smits@hccnet.nl> wrote:
> > On a hot summer night the output of my 8640B suddenly disappeared. Later I
> > learned that the output amp (marked 5086-7068) had failed. Any idea where to
> > get a replacement? Apart from buying a second generator off course. Any help
> > will be appreciated.
> > regards,
> > Harke PA0HRK
>
> Looks like Agilent has a replacement part:
>
> Part Part Description
> Number Reference Used In Price Part
>
Category
> 5086-7068
> [Obsolete] ORD-08640-67002
> Status : No Longer Orderable.
> Type : New support part for which Agilent
> owns the design specifications.
>
> Replaced By 08640-67002, which is no longer orderable. They'll
> exchange for a (? refurbished) part.
>
> I found this at <http://www.parts.agilent.com/>, after a little
> digging.
>
> If you _do_ do the exchange, please let us know how it turns
> out and what neighborhood the price was in. My 8640B will die
> one of these days, too.
>
> --
> Mike Andrews
> mikea@mikea.ath.cx
> Tired old sysadmin since 1964

1715. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:24:27 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3F59E00B.28FAA3C5@bloomer.net>
Source record: 32835

And the reason "It ain't gonna happen" is that there are probably
hundreds of people doing the same thing on the same frequency so all you
end up hearing is noise. I have communicated to Great Britain using CW
and 300 milliwatts on 28 MHz, so don't tell me it ain't gonna happen.
By the same token, I can't talk to a buddy 100 miles away on 100 Watts
on 28 MHz since he is in the "skip zone" at 28 MHz.

Scott
N0EDV

donut wrote:
>
> limitedselection@aol.com (Limitedselection) wrote in
> news:20030905145417.07383.00000649@mb-m27.aol.com:
>
> > I wouldn't be worried about thelegal issues if skywave was not an
> > issue. But unfortunately it looks like with skywave any signal no
> > matter how small can be heard world-wide.
>
> This is ridiculous. Try talking skip even on a car CB putting out legal
> power. It ain't gonna happen.
>
> Beside, the solar cycle is on it's downward spiral, and skip openings on 29
> MHz are going to become few and far between and the cycle deepens.
>
> If your local CBer is primarily a "skip" talker, that in itself might take
> him out.

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

1716. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:45:16 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <t7kjlvoet908ujlm6k43gjcmdgg0vi8fj1@4ax.com>
Source record: 32833
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

>> With all due respect, I would guess you
>> don't have an EE B.S. degree.
>
>Cut the chest puffing.

Chest-puffing is one of Kev's more prominent character traits, I'm afraid. In fact one often gets the impression that his contributions to these threads is more contrived to show off his knowledge of electonics and mathematics than to help others out of pure, selfless altruism.
Anyway, personal insults aside, I for one am lurking with interest to see who prevails in this linearity argument. It's a pity some heavyweight like Win can't step in and judge who's in the right on this one but I rather suspect he has better things to do with his time. Sadly I haven't so will continue to read these posts with interest!
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1717. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:45:17 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <fskjlvgph6ej87up2bg4kh74d4u8ajd39j@4ax.com>
Source record: 32832

On 6 Sep 2003 07:11:23 GMT, donut <none@none.com> wrote:

>This is ridiculous. Try talking skip even on a car CB putting out legal
>power. It ain't gonna happen.

Yes, but it's a fact that these signals can and do end up thousands of
miles away where they cause enough general noise to interfere with
sensitive communications equipment. Just because you can't "talk skip"
effectively on low power doesn't mean your signals aren't screwing
things up for others around the world.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1718. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:45:18 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <6dljlv8cutcko8ilhbr51guarhaomukmt6@4ax.com>
Source record: 32834

On Sat, 06 Sep 2003 00:34:59 -1000, Rick Frazier
<rick@rickfrazier.com> wrote:

[snip]
>Several days later, upon discovering a party at the house next door, the same
>unnamed person invited himself in and had a conversation with the renter of the
>house. It seems that for the first time in months, he had been able to actually
>hear his stereo without trash talk emanating from it at odd hours, and was
>celebrating, treating (most of) the block to a good size keg of beer. It seems
>the CB neighbor had some sort of malfunction of a high power linear amp, and was
>threatening to sue the place that sold him the amp because it had failed quite
>spectacularly....

:-)
A heartwarming story. Thanks for sharing.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1719. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 13:50:26 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000007c.004ae1b6@btinternet.com>
Source record: 32836

Hi again,

Thanks everyone for your ideas, all of which are noted. The sheet I sawed-up, to make some spacers for my garage door, was scrap #10 gauge aluminium scavenged from old surplus gear. It was just that I never seemed able to cut a straight line and wanted to tap into the wealth of metal-working experience in the group out there.

Hopefully I will do better next time by following your suggestions.

73 de Joe, G3LLV

1720. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 14:33:14 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vljs1pksotn84d@corp.supernews.com>
Source record: 32837

> Try talking skip even on a car CB putting out legal
> power. It ain't gonna happen.
>

I'd have to totally disagree with that. It can and does happen all the time. The low sunspot cycle means it doesn't happen as often but there are still band openings and skip even at the bottom of the cycle.

1721. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 14:44:27 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vljsmpfp480de1@corp.supernews.com>
Source record: 32838

> A lot of amatuer radio operators and RF engineers are telling me
that such a
> device could wreak havoc world-wide

It won't "wreak havoc" world-wide, but it is very likely that it will be heard on occasions long distances from your location - and it is illegal. Even if your signal is only heard by your neighbor, intestinally jamming him is not legal - even if what he is doing is also not legal. On the technical side, it is just not possible to generate a signal that will be strong enough to block his on your property while ensuring that your signal will not leave your property. It is not technically possible to control signal strengths (especially given that your talkies will be moving around the property) to the point that it will block the reception of his signal while letting your signals through without interference when using the same frequency.

1722. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 15:25:21 UTC
From: RaOuL <russ@bit-net.com>
Message-ID: <B%m6b.36931$Nc.8617146@news1.news.adelphia.net>
Source record: 32839

"donut" <none@none.com> wrote in message >

--SNIP--
> 1. Change the channel the walkie talkies operate on, or
>
> 2. Replace them with walkie talkies using another band. I believe there
are
> walkies talkies that also operate around 49 MHz.
>

FWIW, the cost of FRS radios has come down to the level of kid's walkie talkies. I recently bought a pair of Uniden FRS radios at WalMart for about $17 / pair. 27 MHz walkie talkies are still around $10 a pair. I gave 'em to my kids so they can keep in touch around the neighborhood.....

RaOuL

1723. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 15:29:49 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <T3n6b.8605$Ci1.1449824@newsfep2-win.server.ntli.net>
Source record: 32840
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>>> With all due respect, I would guess you
>>> don't have an EE B.S. degree.
>>
>> Cut the chest puffing.
>
> Chest-puffing is one of Kev's more prominent character traits, I'm
> afraid. In fact one often gets the impression that his contributions
> to these threads is more contrived to show off his knowledge of
> electonics and mathematics

Not at all. The purpose of my contributions are as a means of getting attention to my product, thereby gaining me much Guinness.

>than to help others out of pure, selfless
> altruism.

Where on earth did you get this daft idea that I post for the good of the people? As I have noted many times, there is no such thing as selfless altruism, its all for ulterior motives. We are all inherently selfish. I absolute agree that everything I do is ultimately geared toward my self interest, or to be more exact, the self interest of my genes. I have never claimed otherwise. Anyone who claims that they take action for the benefit of others, at a net determinate to themselves are either, liars, fools, or deluded.

> Anyway, personal insults aside, I for one am lurking with interest to
> see who prevails in this linearity argument. It's a pity some
> heavyweight like Win can't step in and judge who's in the right on

With all due respect to you here, why do you suppose that Win, and with all due respect to Winfred, is more qualified than myself on electronics matters.?

> this one but I rather suspect he has better things to do with his
> time.

This one is easy. I'm right. As far as the class A amp goes, its a no contest. It can't possible form a modulator without relying on the non-linear behaviour of the transistor. Its not debatable. I have explained the details already.

Regarding the definition of linearity, it is an open book. There is no single absolute correct definition. What we have here is a play on words, where some one is claiming that his version of the word definition is the only valid one, even whem most don't use it that way.

A linear operator in mathematics, or linearity, is used in a different sense then it is used in analogue design. An object that satisfies the definition of a linear system in mathematics, is not one that is usually applicable to analogue design, and as used by, essentially, all analogue designers. The analogue definition of linearity is much more restrictive. For example, a linear amplifier in electronics is generally restricted to those amplifiers such that the output voltage or current is a simple constant times the input voltage or current, with or without an offset. That is, there is a *linear* = *straight* *line* relation between output and input. This is equivalent to requiring that the output only contains frequencies present at its input, i.e. no distortion. Some other mathematical definitions of linearity would not be so restrictive. For example, suppose a signal is fed through a magic analogue Fourier transform device that converts the input voltage to that of its Fourier transform. You would be hard pressed to get someone to agree that the output signal is not a gross distortion of its input, despite the fact that the Fourier transform is mathematically a linear transform. Sure, some high brow might like to claim that his definition is the "real" one, but words only mean what the majority means by them, and in this case, a "linear" system, is one with a straight/linear line relation between input and output.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1724. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 15:55:11 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F5A033F.F6FB42AD@earthlink.net>
Source record: 32841

Damien Teney wrote:
>
> Hello,
> About the quartz, I haven't used a 10.24MHz one as in the given schematic,
> but a 5.12 MHz one. The R ratio is 1024, so the reference frequency is 5
> KHz. The N ratio used is from 196 to 284 (with the 64/65 prescaler; VCO goes
> from 63 to 91 MHz). I don't think the loop is unstable, because the VCO
> output is quite clean (only a bit blur, see
> http://www.mcarsweb.com/_divers/vco.jpg).
> The loop filter values have been calculated with the fomulas given in the
> motorola application note 980.
>
> So, if you think I should use a additional RC network, could you tell me how
> to calculate the values :-$?
> Thank you ;-)
>
> Damien

Do you have a 5 kHz notch filter in the control voltage feeding your
VCO? It will reduce phase noise in the output. A simple L/C trap will
work, but either the coil or cap should be adjustable for maximum
rejection.
--

Michael A. Terrell
Central Florida

1725. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 16:42:09 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <B7o6b.37910$Vx2.16989725@newssvr28.news.prodigy.com>
Source record: 32842

"donut" <none@none.com> wrote in message
news:Xns93EE4A57A9Edonut@216.102.43.227...
> limitedselection@aol.com (Limitedselection) wrote in
> news:20030905142751.07383.00000647@mb-m27.aol.com:
>
> I hardly think this would be a problem. For one, you'd need an antenna
> radiating a large proportion of skywave. Second, the CB bands are loaded
> with all kinds of open carriers, whistlers, music players, etc. so your
> tiny part in this would be unlikely to harm anyone.

You cannot control whether an antenna radiates a skywave or a groundwave. Even with controlling the takeoff angle, you will still get some radiation in other directions which means you will get some skywave propagation anyway.

Due to its frequency, groundwave on CB is not a useful propagation mode. 27mhz is high enough in frequency that it does not want to follow the curvature of the earth. It propagates mainly by "line of sight" (i.e. straight line) and/or skywave (i.e. skip).

Dee D. Flint, N8UZE

1726. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 16:44:20 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <E9o6b.37911$Vx2.16990058@newssvr28.news.prodigy.com>
Source record: 32843

"donut" <none@none.com> wrote in message
news:Xns93EE1376FEBBdonut@216.102.43.227...
> limitedselection@aol.com (Limitedselection) wrote in
> news:20030905145417.07383.00000649@mb-m27.aol.com:
>
> > I wouldn't be worried about thelegal issues if skywave was not an
> > issue. But unfortunately it looks like with skywave any signal no
> > matter how small can be heard world-wide.
>
> This is ridiculous. Try talking skip even on a car CB putting out legal
> power. It ain't gonna happen.
>

Happens all the time when the sunspot cycle is favorable.

> Beside, the solar cycle is on it's downward spiral, and skip openings on
29
> MHz are going to become few and far between and the cycle deepens.
>
> If your local CBer is primarily a "skip" talker, that in itself might take
> him out.

Unfortunately the CB operator will probably think the solution is more
power. When he gets an occasional E skip propagation, he'll think he was
correct. His use of excessive power will then aggravate the situation.

Dee D. Flint, N8UZE

1727. Re: HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 16:57:39 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <7mo6b.131377$3o3.9253848@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32844

A few years back, at an earlier employer, HP was buying back all of our 8640s dead or alive, refurbishing them, and sending them out to one of the Pacific Island countries, either Indonesia or Malaysia, in order to pull them out of circulation in the USA. I was also told that they were selling them on a no technical support basis. The really junky units were sold at the Inventory Disposal store for 25 dollars apiece. Surprisingly, out of the 50 or so that they sold, there were about 15 good ones.
On another note, I had an 8112 pulse generator that had a bad PLL chip. The folks at HP stated that they didn't have any replacement parts on hand, but if we would send it in, the would pull a part off one of their "boneyard" units.
I do remember that output amplifier in the 8640; it looks like a gold colored TO-3 device. You might be able to use one of the newer CATV amplifier modules as a replacement output amp. I don't remember if the power control voltage is applied to the output amp module or one of the earlier stages, though.
I am hoping that my Boonton 103D doesn't die, either. This unit uses a discontinued Optimax amplifier module in the output stage.

Pete

John Walton <jdwalton@comcast.net> wrote in message
news:Q9ScnVu3Drc2Q8SiXTWJkQ@comcast.com...
> The last time I asked Agilent for a replacement part (failed switching
> supply) it cost more than the analyzer. We used a ginned up ATX supply
with
> some DC-DC converters.
>
> "Mike Andrews" <mikea@mikea.ath.cx> wrote in message
> news:bjauj0rmt6@puck.litech.org...
> > Yrrah <harke.smits@hccnet.nl> wrote:
> > > On a hot summer night the output of my 8640B suddenly disappeared.
Later
> I
> > > learned that the output amp (marked 5086-7068) had failed. Any idea
> where to
> > > get a replacement? Apart from buying a second generator off course.
Any
> help
> > > will be appreciated.
> > > regards,
> > > Harke PA0HRK
> >
> > Looks like Agilent has a replacement part:
> >

> > Part Part Description
> > Number Reference Used In Price
Part
> >
> Category
> > 5086-7068
> > [Obsolete] ORD-08640-67002
> > Status : No Longer Orderable.
> > Type : New support part for which Agilent
> > owns the design specifications.
> >
> > Replaced By 08640-67002, which is no longer orderable. They'll
> > exchange for a (? refurbished) part.
> >
> > I found this at <http://www.parts.agilent.com/>, after a little
> > digging.
> >
> > If you _do_ do the exchange, please let us know how it turns
> > out and what neighborhood the price was in. My 8640B will die
> > one of these days, too.
> >
> > --
> > Mike Andrews
> > mikea@mikea.ath.cx
> > Tired old sysadmin since 1964
>
>

1728. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 17:03:23 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <vro6b.131387$3o3.9253611@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32845

I had used that chip for several years, with a 2.5kHz reference frequency, and never ran into those kinds of problems. My first iteration of that synthesizer did have some high level reference sidebands (-40dBc), but after I redid the board with a top layer ground plane, all of the problems cleared up. Are you using a ground plane on your board? Are you also using that anti-slewing filter at the op-amp input, whereby you split one of the Rs, and use a shunt C between the two?
If you would like a schematic of my loop filter, give me a shout.

Pete

Michael A. Terrell <mike.terrell@earthlink.net> wrote in message news:3F5A033F.F6FB42AD@earthlink.net...
> Damien Teney wrote:
> >
> > Hello,
> > About the quartz, I haven't used a 10.24MHz one as in the given schematic,
> > but a 5.12 MHz one. The R ratio is 1024, so the reference frequency is 5
> > KHz. The N ratio used is from 196 to 284 (with the 64/65 prescaler; VCO goes
> > from 63 to 91 MHz). I don't think the loop is unstable, because the VCO
> > output is quite clean (only a bit blur, see
> > http://www.mcarsweb.com/_divers/vco.jpg).
> > The loop filter values have been calculated with the fomulas given in the
> > motorola application note 980.
> >
> > So, if you think I should use a additional RC network, could you tell me how
> > to calculate the values :-$?
> > Thank you ;-)
> >
> > Damien
>
> Do you have a 5 kHz notch filter in the control voltage feeding your
> VCO? It will reduce phase noise in the output. A simple L/C trap will
> work, but either the coil or cap should be adjustable for maximum
> rejection.
> --
>
>
> Michael A. Terrell
> Central Florida

1729. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 17:19:04 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <lr3klvsofh9bpcf50vbbn5nf0vpgmt9crc@4ax.com>
Source record: 32846
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 6 Sep 2003 16:29:49 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>Not at all. The purpose of my contributions are as a means of getting
>attention to my product, thereby gaining me much Guinness.

Oh yes. There's the product-plugging as well. I'd forgotten about
that.

>Where on earth did you get this daft idea that I post for the good of
>the people? As I have noted many times, there is no such thing as
>selfless altruism, its all for ulterior motives. We are all inherently
>selfish. I absolute agree that everything I do is ultimately geared
>toward my self interest, or to be more exact, the self interest of my
>genes. I have never claimed otherwise. Anyone who claims that they take
>action for the benefit of others, at a net determinate to themselves are
>either, liars, fools, or deluded.

I disagree. You personally may well be motivated by selfishness as I
don't doubt are very many people. But to say that everyone's like you
is nonsense, quite frankly. There have been ample demonstrations of
others' ability to be helpful for no self-gain whatsoever on this
newsgroup alone. But I give you credit for making no bones about your
motivations anyway. :-)

>With all due respect to you here, why do you suppose that Win, and with
>all due respect to Winfred, is more qualified than myself on electronics
>matters.?

Er, the guy's a senior professor of electonics at Harvard, Kev. He
probably knows more about the subject than the rest of us put
together.

>This one is easy. I'm right. As far as the class A amp goes, its a no
>contest. It can't possible form a modulator without relying on the
>non-linear behaviour of the transistor. Its not debatable. I have
>explained the details already.

Well clearly it *is* debatable from what I've seen in this thread! You
simply believe you know best and that's that.

>Regarding the definition of linearity, it is an open book. There is no
>single absolute correct definition. What we have here is a play on
>words, where some one is claiming that his version of the word
>definition is the only valid one, even whem most don't use it that way.
>A linear operator in mathematics, or linearity, is used in a different

>sense then it is used in analogue design. An object that satisfies the
>definition of a linear system in mathematics, is not one that is usually
>applicable to analogue design, and as used by, essentially, all analogue
>designers. The analogue definition of linearity is much more
>restrictive. For example, a linear amplifier in electronics is generally
>restricted to those amplifiers such that the output voltage or current
>is a simple constant times the input voltage or current, with or without
>an offset. That is, there is a *linear* = *straight* *line* relation
>between output and input. This is equivalent to requiring that the
>output only contains frequencies present at its input, i.e. no
>distortion. Some other mathematical definitions of linearity would not
>be so restrictive. For example, suppose a signal is fed through a magic
>analogue Fourier transform device that converts the input voltage to
>that of its Fourier transform. You would be hard pressed to get someone
>to agree that the output signal is not a gross distortion of its input,
>despite the fact that the Fourier transform is mathematically a linear
>transform. Sure, some high brow might like to claim that his definition
>is the "real" one, but words only mean what the majority means by them,
>and in this case, a "linear" system, is one with a straight/linear line
>relation between input and output.

I can't argue with any of that, but there again I'm no expert. I have
to say, though, that I've always found it very curious that radio hams
refer to their bolt-on, high-power, aftermarket boosters as "linear
amplifiers." You can't get any *less* linear than class C!
Or can you?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1730. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 17:47:19 UTC
From: Damien Teney <damien.teney@sobelairva.net>
Message-ID: <bjd6rg$51e$1@reader08.wxs.nl>
Source record: 32747

I don't have any ground plane. I only have a veroboard, which I took the unused tracks apart. I also don't have an "anti-slewing filter"; I first tried to do it but the output signal was very "unclean", so I removed the two capacitors. I'm now having two resistors in serial between the phase-detector and the op-amp, and it is much better.
I would be interested if you could mail me the schematic of your loop filter ;-) (mail it to damien.teney@mcarsweb.com)

Damien

> I had used that chip for several years, with a 2.5kHz reference frequency,
> and never ran into those kinds of problems. My first iteration of that
> synthesizer did have some high level reference sidebands (-40dBc), but
after
> I redid the board with a top layer ground plane, all of the problems
cleared
> up. Are you using a ground plane on your board? Are you also using that
> anti-slewing filter at the op-amp input, whereby you split one of the Rs,
> and use a shunt C between the two?
> If you would like a schematic of my loop filter, give me a shout.
>
> Pete

1731. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 17:48:40 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <Y5p6b.1430$Yt.1140@newsread4.news.pas.earthlink.net>
Source record: 32748

Hmmm... A fixed 187 KHz spur sounds as if it might be an oscillation on the DC voltage regulator feeding the VCO. Although as has been mentioned, the op-amp in the loop filter could oscillate and cause similar symptoms.

Jim Pennell
N6BIU

1732. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 17:58:21 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F5A203D.71C3545B@clifto.com>
Source record: 32749

Bob Lewis (AA4PB) wrote:
> It won't "wreak havoc" world-wide, but it is very likely that it will
> be heard on occasions long distances from your location - and it is
> illegal. Even if your signal is only heard by your neighbor,
> intestinally jamming him is not legal -

Depends on how you do it. If you grind up lots of Imodium in his food,
it's probably not illegal. A foot up the rectum, however, is prosecutable.

--
"Here, Outlook Express, run this program." "Okay, stranger."

1733. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 18:15:39 UTC
From: Roger Leone <arleone.removethis.@inreach.com>
Message-ID: <hvp6b.1128$PK4.628@news.inreach.com>
Source record: 32750

> I still have trouble visualizing how a 180 or 270 degree change can occur
in a
> single rf cycle and be able to overcome the "inertia" (probably a
> poor choice of words) of the rf circuits , feed line and antenna
> system.

> Gary
> W4AF

Gary:

For the phase shift to occur during one RF cycle, wouldn't that suggest that the modulating frequency is close or equal to the RF carrier frequency? I don't think that is the situation you are trying to visualize. The modulating frequency, in voice or common digital modes, is more likely a tiny fraction of the RF carrier frequency. The phase shift of the RF carrier only has to occur at the modulating freqency, not at the RF frequency. That means that during the modulating phase shift, many thousands or even millions of RF cycles can occur.

If you are thinking of a mode like PSK 31, in which modulation is by phase shift, remember that the phase shift occurs in the audio tone that is modulating the RF signal. The RF signal can follow this phase change easily, since many millions of RF cycles occur during the audio phase shift.

Roger K6XQ

1734. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 18:18:19 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <Mxp6b.8669$Ci1.1468148@newsfep2-win.server.ntli.net>
Source record: 32751
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Sat, 6 Sep 2003 16:29:49 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>
>> Not at all. The purpose of my contributions are as a means of getting
>> attention to my product, thereby gaining me much Guinness.
>
> Oh yes. There's the product-plugging as well. I'd forgotten about
> that.
>
>> Where on earth did you get this daft idea that I post for the good of
>> the people? As I have noted many times, there is no such thing as
>> selfless altruism, its all for ulterior motives. We are all
>> inherently selfish. I absolute agree that everything I do is
>> ultimately geared toward my self interest, or to be more exact, the
>> self interest of my genes. I have never claimed otherwise. Anyone
>> who claims that they take action for the benefit of others, at a net
>> determinate to themselves are either, liars, fools, or deluded.
>
> I disagree. You personally may well be motivated by selfishness as I
> don't doubt are very many people.

Er.. we all are. Its explained in "The selfish gene" by Richard Dawkins.
Its a basic tenet of the modern theory of evolution.

>But to say that everyone's like you
> is nonsense, quite frankly.

Not at all. You must be one of the deluded ones. That is, you haven't
really thought about or studied evolution in enough detail. I am sure
you are genuine in this belief, but you are wrong. Of course, if you are
a believer in god or some other religion, then nothing I can say will
convince you otherwise.

> There have been ample demonstrations of
> others' ability to be helpful for no self-gain whatsoever on this
> newsgroup alone.

You miss the point. The term is *net* benefit or advantage. You need to
look at this *much* more deeply. Its only an illusion that one does
things for the benefit of others.

I have explained this quite a few times. Its based on the theory of
replicators.

Axioms:

1 Traits are passed on to offspring.
2 Traits are randamlly generated.
3 Traits are selected by the environment.

Now consider replicater A, that replicates *consistently* better than replicater B, say by 1%, due to a certain trait. After 1000 generations, what is the distribution of A/B?

This all takes time to explain in detail, but the gist is if any replicater takes an action that results in a *net* *final* disadvantage, the other replicators, will replicate themselves better. Its simple math. We can only observe the best replicators.

Obviously, it gets quite complicated, if doing some good to another, can result in a net beifit by returned favours, then a replicater will do so. Nevertheless its still inherently "selfish". In addition, a trait might not be consistently better, e.g. the larger one gets that enables one to fend for themselves better, is mitigated by the fact that one needs more food and other resources.

Have a look on the web for "the selfish gene" or get the book.

> But I give you credit for making no bones about your
> motivations anyway. :-)

I was not suggesting that I am always consciously doing things in a selfish manner. I am accepting the fact that its inherent from millions of years of evolution that we are all basically selfish, and there not much we can do about it.

>
>> With all due respect to you here, why do you suppose that Win, and
>> with all due respect to Winfred, is more qualified than myself on
>> electronics matters.?
>
> Er, the guy's a senior professor of electonics at Harvard, Kev. He
> probably knows more about the subject than the rest of us put
> together.

Whilst, I do agree that Win is very knowledgeable and an expert, I am also an expert. I have been doing this rather a long time as well you know. The fact that I am not an academic is not relevant. In all honesty, there is not much I don't know about general analogue design, although, obviously, I don't claim to know it all. Does Win know more than me? Unlikely. Or do I know more than Win. Unlikely. However, we may well know different things.

>
>> This one is easy. I'm right. As far as the class A amp goes, its a no
>> contest. It can't possible form a modulator without relying on the
>> non-linear behaviour of the transistor. Its not debatable. I have
>> explained the details already.

>
> Well clearly it *is* debatable from what I've seen in this thread! You
> simply believe you know best and that's that.

But this part of it isnt. I gave the analysis of how the class A
modulator actually works. Its a fact. Its a standard and accepted result
by anyone knowledgably in the field.

I don't claim that gwhite's definition of linearity is inherently wrong,
only that it is not the one used in general analogue design. My argument
was not about the definition of linearity, it was about gwhite's claim
that his class A amp achieved a modulation function *without* relying on
the inherent non linearity of the transistors emitter current verses
vbe. This claim is absolutely false.

>
>> Regarding the definition of linearity, it is an open book. There is
>> no single absolute correct definition. What we have here is a play on
>> words, where some one is claiming that his version of the word
>> definition is the only valid one, even whem most don't use it that
>> way. A linear operator in mathematics, or linearity, is used in a
>> different sense then it is used in analogue design. An object that
>> satisfies the definition of a linear system in mathematics, is not
>> one that is usually applicable to analogue design, and as used by,
>> essentially, all analogue designers. The analogue definition of
>> linearity is much more restrictive. For example, a linear amplifier
>> in electronics is generally restricted to those amplifiers such that
>> the output voltage or current is a simple constant times the input
>> voltage or current, with or without an offset. That is, there is a
>> *linear* = *straight* *line* relation between output and input. This
>> is equivalent to requiring that the output only contains frequencies
>> present at its input, i.e. no distortion. Some other mathematical
>> definitions of linearity would not be so restrictive. For example,
>> suppose a signal is fed through a magic analogue Fourier transform
>> device that converts the input voltage to that of its Fourier
>> transform. You would be hard pressed to get someone to agree that
>> the output signal is not a gross distortion of its input, despite
>> the fact that the Fourier transform is mathematically a linear
>> transform. Sure, some high brow might like to claim that his
>> definition is the "real" one, but words only mean what the majority
>> means by them, and in this case, a "linear" system, is one with a
>> straight/linear line relation between input and output.
>
> I can't argue with any of that, but there again I'm no expert. I have
> to say, though, that I've always found it very curious that radio hams
> refer to their bolt-on, high-power, aftermarket boosters as "linear
> amplifiers." You can't get any *less* linear than class C!
> Or can you?

And that illustrates the point very well. Linearity is up for grabs.
Just what is the term "linear" being applied to. Average power,

instantaneous voltage...

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1735. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 18:55:22 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vlkbd6dr6a33ac@corp.supernews.com>
Source record: 32752

> Now, he actually has fun frustrating the offending CB'er.

That's great. So now your friend has become a part of the problem instead of part of the solution. That makes him no better than the guy he's compaining about.

1736. Review: Ramsey HFRC-1 WWV receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 19:52:44 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0309061152.284f3c@posting.google.com>
Source record: 32753
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

OK, it's not truly homebrew, but I bought a Ramsey HFRC-1 WWV receiver kit last week and put it together last night.

A little background: when I was in junior high I put a couple of Heathkits together. That's my total experience with commercial kits, and the experience is several decades old. Since then
I've done a lot of homebrewing, and I've bought-repaired-sold several used Heathkit rigs, but until this little radio, no more
kit building. By necessity I compare the Ramsey kit with Heathkit standards in a few places below.

It's a very basic 10 MHz superhet receiver in a smallish package. It has a built-in speaker (more on it below), power from battery or 12V adapater, and an antenna input and external speaker output. There's no tuning involved; it's a fixed-frequency receiver, and the only front panel controls are power on/off and volume.

The kit itself is $40, I added on a $15 case and paid another $7 or so in shipping. It arrived two days after I placed the order over the web.

PC board assembly was a breeze. The PC board was nicely laid out, the solder mask is excellent, and the instructions were straightforward and not too much different than a classic Heathkit. It took about an hour to stuff and solder the board.

Putting the PC board into the case was a slightly more difficult matter. The supplied speaker, if you put it on the PC board where there is space available for it, blocks the screws needed to assemble the little plastic case. Some RTV convinced the speaker to live elsewhere (glued to the top of the case). A Heathkit never would've been like that!

Similarly, with a Heathkit receiver they probably would've given me the plugs needed to run the radio. Instead a newbie without a junk box assembling this kit will have to run to Radio Shack to get the plugs for antenna and external speaker. Oh, well, Heathkit is no more, and my junk box had what was needed.

The receiver itself works great. I plugged a random longwire and ground into the little battery-powered receiver and instantly got ticks from WWV. There's a test point (or you can do it by ear) for tweaking two variable inductor transformers that do input matching and image rejection - those are the only RF adjustments that can be made.

So, while Ramsey clearly doesn't live up to the good old Heathkit standards in every way, it does come pretty close. The receiver was clearly designed with kit-building in mind, and it does work nicely.

Maybe I'll try one of Ramsey's QRP rigs next.

Tim KA0BTD

1737. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 20:41:29 UTC
From: Mike Hanz <aaf-radio-1@cox.net>
Message-ID: <1ggklv0nk3rggeeohdr1bptlv6nd6pkfhn@4ax.com>
Source record: 32754

On Sat, 06 Sep 2003 14:50:26 +0100, Joe McElvenney
<ximac@btinternet.com> wrote:

> Thanks everyone for your ideas, all of which are noted. The
>sheet I sawed-up, to make some spacers for my garage door, was
>scrap #10 gauge aluminium scavenged from old surplus gear. It was
>just that I never seemed able to cut a straight line and wanted
>to tap into the wealth of metal-working experience in the group
>out there.

Good chance it wasn't your technique, Joe. A hack saw that veers from the line you're trying to cut, despite gentle prodding in the right direction, is normally a sign of the kerfs being unequal on one side or the other, almost always a result of trying to use a worn blade past its "toss it" point. Most people have a left or right bias they introduce with their body motion, and that wears one edge more rapidly and/or changes the "set" of the kerfs to one side or another. Put a new blade in the saw and try it again.

If all you ever expect to use for this kind of work is a hack saw, then an investment in a good Lenox 4012 or equivalent high tension frame is a good one. You'll be absolutely amazed at the difference these late technology saws make over the old traditional types. Make sure the saw is capable of tensioning the blade to 30,000 psi or it isn't one of the new types.

Best 73,
Mike Hanz KC4TOS

1738. FL200 Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 20:59:58 UTC
From: Howard James <howardwj@btinternet.com>
Message-ID: <bjdhse$28m$1@sparta.btinternet.com>
Source record: 32755

Does anyone have a schematitic of the Yaesu FL200 that could be emailed to
me please.
Thanks.
Howard.

1739. National Radio Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 21:48:35 UTC
From: W1AQ <W1AQ@nospam.cox.net>
Message-ID: <hGs6b.37618$uh6.4838@lakeread05>
Source record: 32756
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Can you identify these parts and tell us to which radios they belong? They were received by the club as part of an estate.

http://members.cox.net/w1aq/ebay/Dsc00062
http://members.cox.net/w1aq/ebay/Dsc00063
http://members.cox.net/w1aq/ebay/Dsc00064

1740. Induction range ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-06 23:33:21 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vlkrmc6fgq3754@corp.supernews.com>
Source record: 32757

Today at a thrift store I saw a Kenmore Induction Range for sale for $30.00
and I noticed that the info tag indicated it was 5.6 KW. I wonder if there
are any good useable parts for any ham radio or other uses?
tnx
hank wd5jfr

1741. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 00:30:34 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f5a7c4b$0$23591$5a62ac22@freenews.iinet.net.au>
Source record: 32758

Damien

A CRO display of the oscillator would not be very sensitive for showing sidebands, through it might show major problems. A spectrum analyser will be ideal if you have one (!) or a receiver to listen to the output. As your reference is 5 KHz, I agree that the cause is somewhere else - possibly an oscillation in one of the regulators as suggested by another poster. A 1uF cap close to input and output pins of the regulator to ground, with a short ground path will fix that.
PLL circuits are quite critical in terms of layout factors, as there is usually quite a high loop gain.
You certainly will run into problems if you use veroboard for a VHF PLL circuit - I suggest you layout at least the VCO "dead bug" style on a piece of copper board as a quick and dirty way of building a simple (or not so simple!) RF circuit.
There are several variuations on this theme - use small pieces of PCB hot glued to the plane as pads or use a small burr tool to isolate sections of PCB as pads with the surrounding copper remaining as the ground plane.
Ideally the VCO should be shielded and the whole circuit should be on a copper ground plane, with good bypassing and preferably separate regulators for the VCO, loop amp and PLL sections.
As for the maths of calculating a loop filter, I have always found it quite daunting as I am not professionally trained in electronics. The performance of the VCO will also affect the loop performance as one of the important parameters is the "VCO gain" ie the tuning sensitivity in MHz/Volt. There are various sites with articles on the topic - try the National Semi site for the best one in my view.

Richard

Damien Teney <damien.teney@sobelairva.net> wrote in message news:bjc3ku$f3v$1@reader08.wxs.nl...
> Hello,
> About the quartz, I haven't used a 10.24MHz one as in the given schematic,
> but a 5.12 MHz one. The R ratio is 1024, so the reference frequency is 5
> KHz. The N ratio used is from 196 to 284 (with the 64/65 prescaler; VCO goes
> from 63 to 91 MHz). I don't think the loop is unstable, because the VCO
> output is quite clean (only a bit blur, see
> http://www.mcarsweb.com/_divers/vco.jpg).
> The loop filter values have been calculated with the fomulas given in the
> motorola application note 980.
>
> So, if you think I should use a additional RC network, could you tell me how

> to calculate the values :-$?
> Thank you ;-)
>
> Damien
>
>

1742. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 00:36:25 UTC
From: James <jimboz@jimboz.nam>
Message-ID: <3F5A7D87.8D7D9819@jimboz.nam>
Source record: 32759

Why not get a pair of Motorola frs radio set (pair) at local store,
I just picked up a pair for $ 25 and a mail in rebate for $ 15 so low cost,
plus these are on uhf frequencies, no cb frequencies and low power.

Less expensive then trying to block the nasty guy on the cb.

jimboz

Limitedselection wrote:

> Roy,
> Thanks - Mike posted about sky waves (I was unaware of), so even a very low
> power device centrally located in my property would apparently be heard
> world-wide - which is NOT what I want.
>
> Actually, I did want to jam the reception of the existing CB signals on my
> property (at least in and around the house).
>
> One of my neighbors uses rather 'salty' language and the local kids use some
> walkie talkies around the house - I fugured that jamming the outside signals
> would still allow the kids to talk due to their close proximity.
>
> Thanks again.
>
> >From: Roy Lewallen w7el@eznec.com
>
> >There's no way to make a signal stop at your property line, short of
> >putting a perfect shield around your property. And if you did that, you
> >wouldn't be bothered by your neighbor's CB anyway.

1743. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 01:07:53 UTC
From: gpatterson53@hotmail.com
Message-ID: <9c2b8e62.0309061707.205824c3@posting.google.com>
Source record: 32760

Thanks Roger and Roy. I think I'm starting to get it. As the data
rate gets higher the tank becomes more of an issue. The PSK31
discussion really opened my eyes.

73
Gary
W4AF

"Roger Leone" <arleone.removethis.@inreach.com> wrote in message
news:<hvp6b.1128$PK4.628@news.inreach.com>...
> > I still have trouble visualizing how a 180 or 270 degree change can occur
> in a
> > single rf cycle and be able to overcome the "inertia" (probably a
> > poor choice of words) of the rf circuits , feed line and antenna
> > system.
>
> > Gary
> > W4AF
>
>
> Gary:
>
> For the phase shift to occur during one RF cycle, wouldn't that suggest that
> the modulating frequency is close or equal to the RF carrier frequency? I
> don't think that is the situation you are trying to visualize. The
> modulating frequency, in voice or common digital modes, is more likely a
> tiny fraction of the RF carrier frequency. The phase shift of the RF
> carrier only has to occur at the modulating freqency, not at the RF
> frequency. That means that during the modulating phase shift, many
> thousands or even millions of RF cycles can occur.
>
> If you are thinking of a mode like PSK 31, in which modulation is by phase
> shift, remember that the phase shift occurs in the audio tone that is
> modulating the RF signal. The RF signal can follow this phase change
> easily, since many millions of RF cycles occur during the audio phase shift.
>
> Roger K6XQ

1744. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 01:26:21 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bje1ft$1oh$0@208.207.71.163>
Source record: 32761
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:

> I have
> to say, though, that I've always found it very curious that radio hams
> refer to their bolt-on, high-power, aftermarket boosters as "linear
> amplifiers." You can't get any *less* linear than class C!

??? ....I won't speak for the rest of ham radio, but I've never operated a linear amplifier in Class C.

Dick

1745. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 01:56:38 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bje38m$6ni$1@freenet9.carleton.ca>
Source record: 32762
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Dick Carroll;" (dixie@townsqr.com) writes:
> Paul Burridge wrote:
>
>> I have
>> to say, though, that I've always found it very curious that radio hams
>> refer to their bolt-on, high-power, aftermarket boosters as "linear
>> amplifiers." You can't get any *less* linear than class C!
>
>
>
> ??? ....I won't speak for the rest of ham radio, but I've never operated a linear
> amplifier in Class C.
>
> Dick
>
Well when you've got it on 2meters and are feeding it with an FM rig,
of course it's silly to call it a "linear amplifier".

Michael VE2BVW

1746. Rockwell IC - what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 03:33:22 UTC
From: MikeN <mnewman@clear.net.nz>
Message-ID: <0o9llvkkcfjkg1rul6fp2noi19gu0vv53a@4ax.com>
Source record: 32763

I have a surplus PLL pc board which has on board a Fujitsu MB1507 PLL chip, an OP123 op amp chip, and a Rockwell chip which I am unable to identity.

The device is a Rockwell 41404P-34HK, and appears to be in line with the rf feed from the VCO (external to the board) the rf input pin of the PLL chip. In this location the chip could likely be acting as a rf preamp or signal conditioner.

Apparently Rockwell spun their semiconductor division off to Conexant in 1998, but I can't find any info on the Conexant site.

I would appreciate any leads on this chip or a link to a datasheet.

Thanks

MikeN ZL1BNB

1747. Rockwell IC - what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 03:34:50 UTC
From: MikeN <mnewman@clear.net.nz>
Message-ID: <ip9llvshch019ijvl2clo6lhvee81l38kg@4ax.com>
Source record: 32764

I have a surplus PLL pc board which has on board a Fujitsu MB1507 PLL chip, an OP123 op amp chip, and a Rockwell chip which I am unable to identity.

The device is a Rockwell 41404P-34HK, and appears to be in line with the rf feed from the VCO (external to the board) the rf input pin of the PLL chip. In this location the chip could likely be acting as a rf preamp or signal conditioner.

Apparently Rockwell spun their semiconductor division off to Conexant in 1998, but I can't find any info on the Conexant site.

I would appreciate any leads on this chip or a link to a datasheet.

Thanks

MikeN ZL1BNB

1748. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 03:44:38 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bje9j6$lk5$0@208.206.142.111>
Source record: 32765
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Michael Black wrote:

> "Dick Carroll;" (dixie@townsqr.com) writes:
> > Paul Burridge wrote:
> >
> >> I have
> >> to say, though, that I've always found it very curious that radio hams
> >> refer to their bolt-on, high-power, aftermarket boosters as "linear
> >> amplifiers." You can't get any *less* linear than class C!
> >
> >
> >
> > ??? ....I won't speak for the rest of ham radio, but I've never operated a linear
> > amplifier in Class C.
> >
> > Dick
> >
> Well when you've got it on 2meters and are feeding it with an FM rig,
> of course it's silly to call it a "linear amplifier".

Unless it happened to BE a linear amp! ;-)

1749. New Amateur radio discussion forums

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 06:17:26 UTC
From: Hamchat <spamblock@msn.com>
Message-ID: <G3A6b.12$ca7.5@newsfep1-gui.server.ntli.net>
Source record: 32766

A new amateur radio discussion forum looking for new members, pay us a visit and register today.
http://www.hamchat.futurewebhosting.co.uk/phpBB2/index.php

1750. Re: Induction range ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 07:04:39 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000007d.002e849b@btinternet.com>
Source record: 32767

Hi,

I once pulled a faulty one apart to see what was in it. As I remember there was a pancake coil with some ferrite slabs attached (presumably for tuning), a couple of large SCRs or IGBTs, some large capacitors (film type I think), a small board with a handful of DIL chips and the power supply which was similar in topology to one you might find in a SMPS. I have a couple of Fairchild PDF files on the subject if you want them although they total about 500k un-zipped.

They are useful I find for their original purpose though. In fact I have one in my store cupboard for occasional use outside, in the workshop if I need to boil something up or as an extra cooking ring when everything else is occupied. Although you must use steel or cast iron pots on them (no aluminium, copper or al-clad), this is not a problem as inexpensive steel pots and pans abound.

Cheers - Joe

1751. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 07:04:43 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <gMA6b.28$aF4.11@newsfep3-gui.server.ntli.net>
Source record: 32768
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Sat, 6 Sep 2003 16:29:49 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>
>> Not at all. The purpose of my contributions are as a means of getting
>> attention to my product, thereby gaining me much Guinness.
>
> Oh yes. There's the product-plugging as well. I'd forgotten about
> that.
>
>> Where on earth did you get this daft idea that I post for the good of
>> the people? As I have noted many times, there is no such thing as
>> selfless altruism, its all for ulterior motives. We are all
>> inherently selfish. I absolute agree that everything I do is
>> ultimately geared toward my self interest, or to be more exact, the
>> self interest of my genes. I have never claimed otherwise. Anyone
>> who claims that they take action for the benefit of others, at a net
>> determinate to themselves are either, liars, fools, or deluded.
>
> I disagree. You personally may well be motivated by selfishness as I
> don't doubt are very many people.

Er.. we all are. Its explained in "The selfish gene" by Richard Dawkins.
Its a basic tenet of the modern theory of evolution.

>But to say that everyone's like you
> is nonsense, quite frankly.

Not at all. You must be one of the deluded ones. That is, you haven't
really thought about or studied evolution in enough detail. I am sure
you are genuine in this belief, but you are wrong. Of course, if you are
a believer in god or some other religion, then nothing I can say will
convince you otherwise.

> There have been ample demonstrations of
> others' ability to be helpful for no self-gain whatsoever on this
> newsgroup alone.

You miss the point. The term is *net* benefit or advantage. You need to
look at this *much* more deeply. Its only an illusion that one does
things for the benefit of others.

I have explained this quite a few times. Its based on the theory of
replicators.

Axioms:

1 Traits are passed on to offspring.
2 Traits are randamlly generated.
3 Traits are selected by the environment.

Now consider replicater A, that replicates *consistently* better than replicater B, say by 1%, due to a certain trait. After 1000 generations, what is the distribution of A/B?

This all takes time to explain in detail, but the gist is if any replicater takes an action that results in a *net* *final* disadvantage, the other replicators, will replicate themselves better. Its simple math. We can only observe the best replicators.

Obviously, it gets quite complicated, if doing some good to another, can result in a net beifit by returned favours, then a replicater will do so. Nevertheless its still inherently "selfish". In addition, a trait might not be consistently better, e.g. the larger one gets that enables one to fend for themselves better, is mitigated by the fact that one needs more food and other resources.

Have a look on the web for "the selfish gene" or get the book.

> But I give you credit for making no bones about your
> motivations anyway. :-)

I was not suggesting that I am always consciously doing things in a selfish manner. I am accepting the fact that its inherent from millions of years of evolution that we are all basically selfish, and there not much we can do about it.

>
>> With all due respect to you here, why do you suppose that Win, and
>> with all due respect to Winfred, is more qualified than myself on
>> electronics matters.?
>
> Er, the guy's a senior professor of electonics at Harvard, Kev. He
> probably knows more about the subject than the rest of us put
> together.

Whilst, I do agree that Win is very knowledgeable and an expert, I am also an expert. I have been doing this rather a long time as well you know. The fact that I am not an academic is not relevant. In all honesty, there is not much I don't know about general analogue design, although, obviously, I don't claim to know it all. Does Win know more than me? Unlikely. Or do I know more than Win. Unlikely. However, we may well know different things.

>
>> This one is easy. I'm right. As far as the class A amp goes, its a no
>> contest. It can't possible form a modulator without relying on the
>> non-linear behaviour of the transistor. Its not debatable. I have
>> explained the details already.

>
> Well clearly it *is* debatable from what I've seen in this thread! You
> simply believe you know best and that's that.

But this part of it isnt. I gave the analysis of how the class A
modulator actually works. Its a fact. Its a standard and accepted result
by anyone knowledgably in the field.

I don't claim that gwhite's definition of linearity is inherently wrong,
only that it is not the one used in general analogue design. My argument
was not about the definition of linearity, it was about gwhite's claim
that his class A amp achieved a modulation function *without* relying on
the inherent non linearity of the transistors emitter current verses
vbe. This claim is absolutely false.

>
>> Regarding the definition of linearity, it is an open book. There is
>> no single absolute correct definition. What we have here is a play on
>> words, where some one is claiming that his version of the word
>> definition is the only valid one, even whem most don't use it that
>> way. A linear operator in mathematics, or linearity, is used in a
>> different sense then it is used in analogue design. An object that
>> satisfies the definition of a linear system in mathematics, is not
>> one that is usually applicable to analogue design, and as used by,
>> essentially, all analogue designers. The analogue definition of
>> linearity is much more restrictive. For example, a linear amplifier
>> in electronics is generally restricted to those amplifiers such that
>> the output voltage or current is a simple constant times the input
>> voltage or current, with or without an offset. That is, there is a
>> *linear* = *straight* *line* relation between output and input. This
>> is equivalent to requiring that the output only contains frequencies
>> present at its input, i.e. no distortion. Some other mathematical
>> definitions of linearity would not be so restrictive. For example,
>> suppose a signal is fed through a magic analogue Fourier transform
>> device that converts the input voltage to that of its Fourier
>> transform. You would be hard pressed to get someone to agree that
>> the output signal is not a gross distortion of its input, despite
>> the fact that the Fourier transform is mathematically a linear
>> transform. Sure, some high brow might like to claim that his
>> definition is the "real" one, but words only mean what the majority
>> means by them, and in this case, a "linear" system, is one with a
>> straight/linear line relation between input and output.
>
> I can't argue with any of that, but there again I'm no expert. I have
> to say, though, that I've always found it very curious that radio hams
> refer to their bolt-on, high-power, aftermarket boosters as "linear
> amplifiers." You can't get any *less* linear than class C!
> Or can you?

And that illustrates the point very well. Linearity is up for grabs.
Just what is the term "linear" being applied to. The class c amplifier

is non linear in detailed operation but the envelope of the output is
still linearly related to the modulating input signal.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1752. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 08:58:27 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <8fsllv0dc150re3pgmkpt6jftvnvjuqjj1@4ax.com>
Source record: 32769

>> I still have trouble visualizing how a 180 or 270 degree change can occur
>in a
>> single rf cycle and be able to overcome the "inertia" (probably a
>> poor choice of words) of the rf circuits , feed line and antenna
>> system.

A sudden phase shift like that (within one RF cycle) only happens if you phase modulate the carrier with a square wave, but then the tank circuit will even things out, but will still be quite a wide bandwidth.

You don't modulate any carrier in any mode using square waves to be honest - unless you pass that carrier thru a good filter after modulating it and before letting it loose. You should low-pass filter the modulating signal before letting it modulate the carrier - that way the phase change will be slow and not sudden as you were thinking.

Clive

1753. Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 09:31:00 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f5afaf4$0$23601$5a62ac22@freenews.iinet.net.au>
Source record: 32770

Anyone know a good source of surface mount latching relays DPST or DPDT, 5V
to be driven by logic?
I want to build an automatic antenna tuner for HF QRP
Digikey has them but they areUS$12 ea and it is a bit too expensive if I
want about 20 of them
I would prefer a permanent source if possible - not only a temporary
surplus - although this would be better than nothing

Thanks in advance

Richard

1754. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 13:17:27 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <t4bmlvor1gctde2bru24l07vb9kbrsvi4s@4ax.com>
Source record: 32771
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 7 Sep 2003 08:04:43 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>Er.. we all are. Its explained in "The selfish gene" by Richard Dawkins.
>Its a basic tenet of the modern theory of evolution.

I know, Kev. I read it years ago. That is to say, I read 80% or so of it before ripping it in half and tossing it out of the window of the train I was travelling on at the time, much to the surprise of my fellow passengers. Rather annoyingly, I can't now recall what exactly Dawkins had said at that point that provoked such a reaction on my part. The only other book I ever tore up was the Count of Monte Cristo, two pages before the end. But that's by the by. Anyway, I went on to read Dawkins' magnum opus, the Blind Watchmaker in which he refined and to a great extent, retracted on his selfish gene theory. It's a magnificent book and probably the most important one anyone could ever read in their lives. I suggest you get a copy and study it carefully. While you're at it, get hold of Geoffrey Miller's the Mating Mind which is his brilliant refinement of the handicap principle in sexual selection - Darwin's 'other' theory.

>Not at all. You must be one of the deluded ones. That is, you haven't
>really thought about or studied evolution in enough detail. I am sure
>you are genuine in this belief, but you are wrong. Of course, if you are
>a believer in god or some other religion, then nothing I can say will
>convince you otherwise.

I've read a great deal more about evolution than you might imagine, Kev. Once again you fail to recognise that others might actually know more about any given subject than you do. When this happens you end up looking really stoopid by virtue of your monumental pomposity and supercilliousness.

>You miss the point. The term is *net* benefit or advantage. You need to
>look at this *much* more deeply. Its only an illusion that one does
>things for the benefit of others.

No. Dawkins recanted this. Read BW and MM.

>I have explained this quite a few times. Its based on the theory of
>replicators.
>
>Axioms:

[patronising lecture snipped]

>Whilst, I do agree that Win is very knowledgeable and an expert, I am
>also an expert.

Blowing your own trumpet ain't going to get you anywhere, m8. When the
likes of Win, Jim and Tony etc acknowledge your greatness, I'll
happily accept it. Sadly, none of us can be objective about ourselves.

>I have been doing this rather a long time as well you
>know. The fact that I am not an academic is not relevant. In all
>honesty, there is not much I don't know about general analogue design,
>although, obviously, I don't claim to know it all.

Woops! Bit of a step back for you there, then, Kev. There was me
thinking you did. :-)

>Does Win know more
>than me? Unlikely. Or do I know more than Win. Unlikely. However, we may
>well know different things.

Well I can't disagree with you on that last sentence.

>And that illustrates the point very well. Linearity is up for grabs.
>Just what is the term "linear" being applied to. The class c amplifier
>is non linear in detailed operation but the envelope of the output is
>still linearly related to the modulating input signal.

Excellent! Now why didn't you just say that in the first place?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1755. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 13:41:12 UTC
From: Winfield Hill <whill@picovolt.com>
Message-ID: <bjfcho0cqg@drn.newsguy.com>
Source record: 32773
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote...
>
> With all due respect to you here, why do you suppose that Win,
> and with all due respect to Winfred...

Who's Winfred? :>)

Thanks,
- Win

1756. Re: Review: Ramsey HFRC-1 WWV receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 13:45:12 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3F5B3660.6080404@invalid.invalid>
Source record: 32772
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Tim Shoppa wrote:
> So, while Ramsey clearly doesn't live up to the good old Heathkit
> standards in every way, it does come pretty close. The receiver was
> clearly designed with kit-building in mind, and it does work nicely.
> Maybe I'll try one of Ramsey's QRP rigs next.

Try Ten-Tec kits. (I don't think they get nearly enough press)

I built their 20m QRP kit a few years back. Nice unit. And very
reminiscent of Heathkit - in some ways even *better*. You build a chunk
of the circuit, then test it - so if you make a mistake, you don't have
to pull out layers of parts to fix it.
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

1757. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 15:12:29 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <KVH6b.354$aF4.202@newsfep3-gui.server.ntli.net>
Source record: 32774
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Sun, 7 Sep 2003 08:04:43 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>
>> Er.. we all are. Its explained in "The selfish gene" by Richard
>> Dawkins. Its a basic tenet of the modern theory of evolution.
>
> I know, Kev. I read it years ago. That is to say, I read 80% or so of
> it before ripping it in half and tossing it out of the window of the
> train I was travelling on at the time,

Oh, so you didn't understand it properly then?

> much to the surprise of my
> fellow passengers. Rather annoyingly, I can't now recall what exactly
> Dawkins had said at that point that provoked such a reaction on my
> part. The only other book I ever tore up was the Count of Monte
> Cristo, two pages before the end. But that's by the by. Anyway, I went
> on to read Dawkins' magnum opus, the Blind Watchmaker in which he
> refined and to a great extent, retracted on his selfish gene theory.

No he didn't. Of course, people tighten up or refine their original ideas a bit, but the fundamental principle is as sound today as when it was proposed. Its basic underpinnings are a tautology, therefore cannot be wrong.

> It's a magnificent book and probably the most important one anyone
> could ever read in their lives. I suggest you get a copy and study it
> carefully.

Err... already have it and read it. I didn't think it was as good. A lot of repeats of the selfish gene material. I would use all your words above to "the selfish gene" itself.

>While you're at it, get hold of Geoffrey Miller's the
> Mating Mind which is his brilliant refinement of the handicap
> principle in sexual selection - Darwin's 'other' theory.

The handicap principle is not really another principle. Its all accounted for in the *general* theory of replicators. Its just a matter of how the final numbers comes out in a detailed analysis. (see below)

>
>> Not at all. You must be one of the deluded ones. That is, you haven't
>> really thought about or studied evolution in enough detail. I am sure
>> you are genuine in this belief, but you are wrong. Of course, if you

>> are a believer in god or some other religion, then nothing I can say
>> will convince you otherwise.
>
> I've read a great deal more about evolution than you might imagine,
> Kev. Once again you fail to recognise that others might actually know
> more about any given subject than you do. When this happens you end up
> looking really stoopid by virtue of your monumental pomposity and
> supercilliousness.

I can't agree with this. It would appear that you don't understand the theory. If you did, you could not have possible made the statements you did about not being selfish. Its not possible. Its simple math. (see below)

I agree I can appear rather arrogant, but I do not do this for all issues. Only things I really know about.

>
>> You miss the point. The term is *net* benefit or advantage. You need
>> to look at this *much* more deeply. Its only an illusion that one
>> does things for the benefit of others.
>
> No. Dawkins recanted this. Read BW and MM.

This is nonsense. He didn't.

One must appreciate that Darwin did not know the specific mechanisms of evolution, and Dawkins, did not at first see the *general* bigger, picture of what genes were. The true "global" theory of "life" is not organisms, or genes or menes, its about Replicators. The Replicator is an *abstract* object from which general properties can be deduced about any object that satisfies the axioms of Replicators. The theory of replicators is correct by construction.

>
>> I have explained this quite a few times. Its based on the theory of
>> replicators.
>>
>> Axioms:
>
> [patronising lecture snipped]

If you actually understood those axioms, its a cut and dried case. The axioms lead to some absolute conclusions. *Anything* satisfying those axioms *must* result in its conclusions. All one has to do is to show some particular object satisfies those axioms. Its like mathematical group theory. One you show something satisfies the group axioms, its a done deal.

Look, given sets of Replicators, if any replicator is consistently better at replicating than another, given enough time, those particular Replicators *have* to dominate to the exclusion of all others. For example, a 1% advantage over 1000 generations, is 20,959. So if the

populations of the replicators were initially equal, after 1000 generations, the ratio would be 20,959/1. If a particular replicator, happens to aid another replicator'ss replication, at the net expense of its own, it must, by simple mathematics, be completely overrun by the replicators it has aided. Thus true and absolute "selfishness" can not be sustained in a system of a group of Replicators.

The theory also explains why people don't like to be thought of as selfish. Its abundantly clear that helping others, e.g in a group, is beneficial to the individual members own replication. For example, who has the best chance for avoiding a kick-in on the way home from the pub. A lone walker, or the gang of 5 skinheads.

The obvious issue with being too selfish, is that if you don't reciprocate help, people wont give you help back, such that you cannot replicate as well as those that do cooperate together. Indeed, this is an example of a "handicap". A first order mathematical analysis would indicate that helping others would be detrimental, i.e. that paricular trait is a handicap, when in fact a detailed mathematical analysis can show that net benefits are achieved from that trait. Its the final probability of improved replication that matters.

Fundamentally, we *all* *have* to be selfish at the root level. We are the result of the most successful Replicators, from millions and millions of years of evolution. It can't be any other way. Unfortunately, most can't like this simple fact, so deny it.

>
>> Whilst, I do agree that Win is very knowledgeable and an expert, I am
>> also an expert.
>
> Blowing your own trumpet ain't going to get you anywhere, m8. When the
> likes of Win, Jim

You obviously have not read many of my posts:-)

>and Tony etc acknowledge your greatness, I'll
> happily accept it.

Fortunately, I need no confirmation of my abilities.

>Sadly, none of us can be objective about ourselves.

No. Some can, some can't. I know what I know and I know what I don't know. e.g. http://www.apa.org/journals/psp/psp7761121.html

Who is tony? And, yes, it would be fair to say Win and Jim (Thompson) do indeed accept me as an individual with rather significant knowledge and experience. It would also be fair to say that I have corrected them at times, and supplied them with knowledge also unknown to them, as I have likewise gained a few bits and bobs from them.

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>> I have been doing this rather a long time as well you

>> know. The fact that I am not an academic is not relevant. In all
>> honesty, there is not much I don't know about general analogue
>> design, although, obviously, I don't claim to know it all.
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> Woops! Bit of a step back for you there, then, Kev. There was me
> thinking you did. :-)
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>> than me? Unlikely. Or do I know more than Win. Unlikely. However, we
>> may well know different things.
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>> And that illustrates the point very well. Linearity is up for grabs.
>> Just what is the term "linear" being applied to. The class c
>> amplifier is non linear in detailed operation but the envelope of
>> the output is still linearly related to the modulating input signal.
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> Excellent! Now why didn't you just say that in the first place?

There is simple too much information. One just assumes that people are
using the same understanding for terms in a given context. e.g.
saturation in one context means normal operating conditions, in another,
it isn't. Indeed, in another it means the transistor got wet!

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Waveform Display, FFT's and Filter Design.

1758. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 15:12:40 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <LVH6b.355$aF4.142@newsfep3-gui.server.ntli.net>
Source record: 32775
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Sun, 7 Sep 2003 08:04:43 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>
>> Er.. we all are. Its explained in "The selfish gene" by Richard
>> Dawkins. Its a basic tenet of the modern theory of evolution.
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> I know, Kev. I read it years ago. That is to say, I read 80% or so of
> it before ripping it in half and tossing it out of the window of the
> train I was travelling on at the time,

Oh, so you didn't understand it properly then?

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> fellow passengers. Rather annoyingly, I can't now recall what exactly
> Dawkins had said at that point that provoked such a reaction on my
> part. The only other book I ever tore up was the Count of Monte
> Cristo, two pages before the end. But that's by the by. Anyway, I went
> on to read Dawkins' magnum opus, the Blind Watchmaker in which he
> refined and to a great extent, retracted on his selfish gene theory.

No he didn't. Of course, people tighten up or refine their original ideas a bit, but the fundamental principle is as sound today as when it was proposed. Its basic underpinnings are a tautology, therefore cannot be wrong.

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> could ever read in their lives. I suggest you get a copy and study it
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>
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> thinking you did. :-)
>
>> Does Win know more
>> than me? Unlikely. Or do I know more than Win. Unlikely. However, we
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> Well I can't disagree with you on that last sentence.
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>> And that illustrates the point very well. Linearity is up for grabs.
>> Just what is the term "linear" being applied to. The class c
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> Excellent! Now why didn't you just say that in the first place?

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using the same understanding for terms in a given context. e.g.
saturation in one context means normal operating conditions, in another,
it isn't. Indeed, in another it means the transistor got wet!

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salesEXTRACT@anasoft.co.uk
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Waveform Display, FFT's and Filter Design.

1759. Re: HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 15:31:38 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <bjfhd8stc1@news.hccnet.nl>
Source record: 32776

Hi folks,

Many thanks for your comments. Indeed it is a kind of gold TO3 device. In the mean time I also found the "Sphere" junk shop. They sell an amplifier unit but it says: one of the gold devices fails, but not known which one. I think I know....Will try and search further.
Thanks again,
Harke

Yrrah <harke.smits@hccnet.nl> schreef in berichtnieuws bja948$h4l$1@news.hccnet.nl...
>

1760. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 15:37:20 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <RgI6b.374$aF4.257@newsfep3-gui.server.ntli.net>
Source record: 32777
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Winfield Hill wrote:
> Kevin Aylward wrote...
>>
>> With all due respect to you here, why do you suppose that Win,
>> and with all due respect to Winfred...
>
> Who's Winfred? :>)
>
> Thanks,
> - Win

Obvious I don't respect you enough to remember your name:-)

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
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1761. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 16:25:08 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <ofkmlvorhrbjjhn5tdo0eecqtsfejrc1im@4ax.com>
Source record: 32778
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 7 Sep 2003 16:12:29 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>Oh, so you didn't understand it properly then?

No, I understood it perfectly. It was probably some political dogma
that he threw in at that moment that did it. I recall thoroughly
enjoying 'the Ragged Trousered Philanthropists' up until the point
where Tressel stated that there was something unnatural about mature
men remaining unmarried.

>No he didn't. Of course, people tighten up or refine their original
>ideas a bit, but the fundamental principle is as sound today as when it
>was proposed. Its basic underpinnings are a tautology, therefore cannot
>be wrong.

Oh but he did. However, I'd agree that his departure from the original
work was perhaps more subtle than you and most other mortals would
appreciate.

>Err... already have it and read it. I didn't think it was as good. A lot
>of repeats of the selfish gene material. I would use all your words
>above to "the selfish gene" itself.

Well I can only conclude that you didn't understand it properly. The
reviews of the book from the world's finest scientific minds testify
to the monumental significance of this tome.

>The handicap principle is not really another principle. Its all
>accounted for in the *general* theory of replicators. Its just a matter
>of how the final numbers comes out in a detailed analysis. (see below)

I disagree. Certainly it the concept doesn't readily 'fall out' of
Darwin's theory.

>I can't agree with this. It would appear that you don't understand the
>theory. If you did, you could not have possible made the statements you
>did about not being selfish. Its not possible. Its simple math. (see
>below)
>
>I agree I can appear rather arrogant, but I do not do this for all
>issues. Only things I really know about.

Rubbish. You demonstrably know sweet FA about global economics as
demonstrated in our recent exchanges on the subject where you cut and
run like a scalded cat when faced with cogent arguments from someone

(me) with indisputable expertise in the area. You're always opening
salvos against people you don't know well enough to take on.

>> No. Dawkins recanted this. Read BW and MM.
>
>This is nonsense. He didn't.

He did. Miller expanded on this aspect, and Dawkins has formally
endorsed Miller's work. Read the book.

[another patronising lecture snipped]

Read Miller's work, Kev!

>You obviously have not read many of my posts:-)

Well you're obviously not stupid, but you do seem to have an
unwarrantably high opinion of yourself.

>>and Tony etc acknowledge your greatness, I'll
>> happily accept it.
>
>Fortunately, I need no confirmation of my abilities.

Obviously not.
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1762. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 17:10:06 UTC
From: Chuck Simmons <chrlsim@earthlink.net>
Message-ID: <3F5B666B.1BEA48EC@earthlink.net>
Source record: 32779
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Dick Carroll;" wrote:
>
> Paul Burridge wrote:
>
> > I have
> > to say, though, that I've always found it very curious that radio hams
> > refer to their bolt-on, high-power, aftermarket boosters as "linear
> > amplifiers." You can't get any *less* linear than class C!
>
> ??? ....I won't speak for the rest of ham radio, but I've never operated a linear
> amplifier in Class C.
>
> Dick

Reminds me of when I was in the Army in the late 60s. The colonel asked me (translates to ordered me) to fix a bunch of mobile 1KW linear amps belonging to the U. S. Mediterranean Mapping Mission. They used them on trucks and jeeps but they had about 10 of the non-functional and they were desperate. The units were Collins autotune push-pull linears and had the Collins trademark of motors gears and bicycle chains. This was familiar because I normally worked on 30KW Collins linears.

The colonel, for his part, somehow choked up schematics and a parts list with FSNs. Word got out that I was doing this little job (small posts have an FTL rumor network I think). Suddenly hams on post decended on me for copies of the schematics and parts list. I had no idea how many hams there were on post. I'm sure it was about 5% of the total military personnel. I wonder still how many of them built the amplifiers (sans autotune).

Chuck
--
... The times have been,
That, when the brains were out,
the man would die. ... Macbeth
Chuck Simmons chrlsim@earthlink.net

1763. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 17:31:30 UTC
From: "Eric C. Weaver" <weav@sigma.net>
Message-ID: <3f5b6b73$1@news.announcetech.com>
Source record: 32780
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

This discussion happens all the time on comp.dsp, between primarily computer-science folks approaching DSP and EE types approaching it.

EE folks' definition of "linear" implicitly includes time invariance; DSP people have to see it stated explicitly (as "LTI": Linear Time Invariant) lest they think "linear" just means having no second-or-higher-order terms.

It is not a deficiency on either party's part, just a difference of definition in each's respective discipline (is that enough alliteration?).

Therefore, I advise each to bend this much: Use the full phrase "Linear Time-Invariant" when this miscommunication is suspected, so both know what the hell the other is talking about. Now go and sin no more.

--
Weav
NW6E and other vices

1764. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 17:52:46 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <DJX6b.122$xM3.77168@newsfep1-win.server.ntli.net>
Source record: 32651
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Sun, 7 Sep 2003 16:12:29 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>
>> Oh, so you didn't understand it properly then?
>
> No, I understood it perfectly. It was probably some political dogma
> that he threw in at that moment that did it. I recall thoroughly
> enjoying 'the Ragged Trousered Philanthropists' up until the point
> where Tressel stated that there was something unnatural about mature
> men remaining unmarried.

You've lost me here. Its a been a while since I read the selfish gene,
but there is no way Dawkins would hold to such a silly idea.

>
>> No he didn't. Of course, people tighten up or refine their original
>> ideas a bit, but the fundamental principle is as sound today as when
>> it was proposed. Its basic underpinnings are a tautology, therefore
>> cannot be wrong.
>
> Oh but he did.

Dose not compute. It make no rational sense at all.

>However, I'd agree that his departure from the original
> work was perhaps more subtle than you and most other mortals would
> appreciate.

Must have been. However, as I said minor changes in position are not
important, one cant get all the details right first time.

I remember when I did not understand the details well enough to apply
the theory to picking up women. A naive approach would be to do things
for the women's direct interest, i.e. maybe the women could survive
better, and pass on her genes better that way, i.e acting on the
assumption that a women would chose if you were "nice" to her. Boy was I
wrong. A women will do what ever maximises the number of her genes. This
results in one main fact. She chooses a mate, essentially, only on the
basis of good gene stock. She doesn't want a nice person because this
would mean her offspring would also be nice, and thereby do things not
in there own best interest. She wants a "mean" offspring. That is, treat
them mean, keeps them keen The theories great. It explains quite nicely
why women chose those yobbys that beat them up.

>
>> Err... already have it and read it. I didn't think it was as good. A
>> lot of repeats of the selfish gene material. I would use all your
>> words above to "the selfish gene" itself.
>
> Well I can only conclude that you didn't understand it properly.

No, you conclude wrong. There was nothing, or little really new. So, "The Blind Watchmaker" by its very title tells you that it is explaining the details of how apparently consciously designed intricate objects, are not designed, but just a result of random process. This is a trivial deduction to the theory of replicators. In addition, it is well recognised that it was the selfish gene book that really made the shit hit the fan.

I genuinely got bored with the book.

> The
> reviews of the book from the world's finest scientific minds testify
> to the monumental significance of this tome.

I don't agree. Reviews mean f'all. Have you actually read all the "review" on the later editions of Hawking's "Brief history of time". It make you want to vomit. Sure, his a very clever dude, but he is ceratyinly not a god.

As noted above, it was the selfish gene that revolutionised the approach to evolution as to the body being a mere vehicle for the masters, the genes and memes.

>
>> The handicap principle is not really another principle. Its all
>> accounted for in the *general* theory of replicators. Its just a
>> matter of how the final numbers comes out in a detailed analysis.
>> (see below)
>
> I disagree.

And you would be wrong.

>Certainly it the concept doesn't readily 'fall out' of
> Darwin's theory.

Not relevant. Dawins theory has been completely superseded by a more general view, where it all just drops out in the wash. After the fact, it was the wrong way to approach the problem. Its unfortunate that many have not realised this.

For example:

All of the content of Einstein's first and major paper on the theory of special relativity "The Electrodynamics of Moving bodies" was already known. It is why the fundamental equations are called the "Lorentz Equations". The issue here was that they were derived based on an intricate detailed knowledge of the *specifics* of EM theory. What

Einstein was the first to show was that all the details could be thrown
away as being just a trivial *conclusion* from the basic concepts he
identified. That is, all of physics is independent of uniform motion,
and his new axiom, the speed of light is an invariant. No one today
approaches SR from direction of its original discovery. Its simple
irrelevant.

The whole emphases on Darwin is wrong, it is a legacy theory. The
fundamental idea is the Replicator, as such, a "handicap" is just a
specific detail of how some particular Replicators can replicate better.

>
>> I can't agree with this. It would appear that you don't understand
>> the theory. If you did, you could not have possible made the
>> statements you did about not being selfish. Its not possible. Its
>> simple math. (see below)
>>
>> I agree I can appear rather arrogant, but I do not do this for all
>> issues. Only things I really know about.
>
> Rubbish. You demonstrably know sweet FA about global economics as
> demonstrated in our recent exchanges on the subject where you cut and
> run like a scalded cat when faced with cogent arguments from someone
> (me) with indisputable expertise in the area.

Nonsense. It was just something that I could not be bothered to debate.
I have little interest in economics, other than how much I get paid,
which concerns me greatly.

>You're always opening
> salvos against people you don't know well enough to take on.

Ahmmm..

>
>>> No. Dawkins recanted this. Read BW and MM.
>>
>> This is nonsense. He didn't.
>
> He did. Miller expanded on this aspect, and Dawkins has formally
> endorsed Miller's work. Read the book.
>

If your claiming that Dawkins retracted the basics of Replicators, then
your dreaming. I'll have to see what Miller is specifically addressing.

I have read a few bits and bobs from creationists who claim that Dawkins
recanted on his evolutionary views. It was all crap, as he himself
explained.

> [another patronising lecture snipped]
>

Well, obviously, you could not refute my argument that selfishness is inherent. As I said, its a tautology. It can't be contradicted.

Do genes and memes replicate traits? Are traits continually being generated? Are traits selected from? End of story.

> Read Miller's work, Kev!
>
>> You obviously have not read many of my posts:-)
>
> Well you're obviously not stupid, but you do seem to have an
> unwarrantably high opinion of yourself.

Nope. I have a warranted high opinion of myself. I know what my limits are pretty well. I have never attempted to ski through revolving doors backward, blindfolded.

>
>>> and Tony etc acknowledge your greatness, I'll
>>> happily accept it.
>>
>> Fortunately, I need no confirmation of my abilities.
>
> Obviously not.

Indeed.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1765. Buffalo tranformers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 17:54:05 UTC
From: Jayne Medley <kjm52@blomand.net>
Message-ID: <bjfrfv$47d6$1@news3.infoave.net>
Source record: 32781

Does anyone have info please e-mail n4vmv@yahoo.com

1766. Nokia BSR80, 150, 230, 450 series or Kyodo KG110?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 19:54:41 UTC
From: Haywood Electronics <haywood_Nospam_electronics@ntlworld.com>
Message-ID: <d3M6b.514$az1.520361@newsfep1-win.server.ntli.net>
Source record: 32782

Anyone own a Nokia BSR80, 150, 230, 450 series or Kyodo KG110?

New user group for exchange of information, ideas and support

http://groups.yahoo.com/group/nokiabsr/join

1767. Motorola OCXO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 20:11:47 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <u_ednX6qz7ivDMaiU-KYgw@comcast.com>
Source record: 32783

I picked up a Motorola high stability oscillator at a local Hamfest. However I don't have any info on the unit to power it up and test it. The model number is K1052A ASPO6, S/N 401033.

All that's on it are three feed through in one corner of the case, marked "E1", "E2", and "E3". Then there are two screw adjustments on the side marked "fine" and "course".

Any ideas?

--
Leland C. Scott
KC8LDO

ARRL Member
NCI Member

Charter member of the
Lawrence Technological University
Wireless Society W8LTU

1768. FS: Hy-Gain 203BA-S, 3 Element 20 Meter Beam

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 20:22:02 UTC
From: a6au6 <xxxa6au6z@hotmail.com>
Message-ID: <KrM6b.4948$BG6.3218@newsread1.news.atl.earthlink.net>
Source record: 32784
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

This is a USED 20 meter three element full size monoband 20 meter beam:

Boom Length - 16.5 feet
Longest Element - 37 feet
Weight - 35 pounds
Wind Surface - 5.4 square feet
Turning Radius - 20 feet
Gain - 8.5 dB
FTB - 29-25 dB

The bean was installed on a tower for several years. I took it down to install a tri-bander.

It was carefully taken down with a bucket truck, disassembled and packaged in the original box; with all the hardware necessary to reassemble the beam. It is in excellent physical and electrical condition. The original assembly manual is included. However, the elements are tarnished (i.e. not shiny) due to exposure to the weather.

The box is 7 feet long by 6 inches by 5 inches and weighs about 45 pounds.

$175.00 plus shipping from 08809.

Please contact me at xxxa6au6z@hotmail.com Remove the "xxx" to reply.

Thanks,

1769. Tuning Beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 22:04:38 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f5bab70.392695827@news.freeserve.net>
Source record: 32785

Hi Folks,
I was asked a question today that I can't answer ;-(

On beacons identifying with FSK or AFSK. Is it the keying that is 'on frequency' or is it the carrier radiated between keying, or is it between the two, where both tones are at the same pitch?.

I've never had to even think about it before.

atb Mike

1770. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 22:37:39 UTC
From: Winfield Hill <whill@picovolt.com>
Message-ID: <bjgbvj0jpb@drn.newsguy.com>
Source record: 32787
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote...
>
>Winfield Hill wrote:
>> Kevin Aylward wrote...
>>>
>>> With all due respect to you here, why do you suppose
>>> that Win, and with all due respect to Winfred...
>>
>> Who's Winfred? :>)
>>
>> Thanks,
>> - Win
>
> Obvious I don't respect you enough to remember your name:-)

But then, who's Win in your comment? Just checking. :>)

Thanks,
- Win

1771. Re: Tuning Beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-07 22:49:41 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <9CO6b.130168$0v4.9484689@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32786

Regardless of the type of modulation, the "frequency" of a transmission is
the carrier frequency. That is, the frequency of the unmodulated carrier.
Cheers!
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Time is what keeps everything from happening all at once.
"Mike W" <mike@corn2.freeserve.co.uk> wrote in message
news:3f5bab70.392695827@news.freeserve.net...
> Hi Folks,
> I was asked a question today that I can't answer ;-(
>
> On beacons identifying with FSK or AFSK. Is it the keying that is 'on
> frequency' or is it the carrier radiated between keying, or is it
> between the two, where both tones are at the same pitch?.
>
> I've never had to even think about it before.
>
> atb Mike

1772. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 00:40:25 UTC
From: Bob McConnell <rmcconne.NOSPAM@lightlink.com>
Message-ID: <bnjnlv0bthddiuo3vg7mmqq3a5a596uj9v@4ax.com>
Source record: 32788

On Sun, 7 Sep 2003 03:47:34 +0000 (UTC), "-=jd=-" <look@my.sig> wrote:

>Dateline "rec.radio.amateur.homebrew", Sat, 06 Sep 2003 18:55:22 GMT: As it
>appeared in message-ID# news:vlkbd6dr6a33ac@corp.supernews.com, "Bob Lewis
>\(AA4PB\)" <rlewis@staffnet.com> appears to have written the following...
>
>>> Now, he actually has fun frustrating the offending CB'er.
>>
>> That's great. So now your friend has become a part of the problem
>> instead of part of the solution. That makes him no better than the guy
>> he's compaining about.
>
>Actually, quite the opposite. None of the neighbors could get any response
>from the FCC. The offending CB'er was coming over the TV's and radios in
>the neighborhood.
>

Commercial TV and radio receivers are notoriously susceptible to strong signals well outside of their frequency range. The manufacturers have taken too many shortcuts to provide decent selectivity. So the FCC doesn't pay much attention to those complaints.

But as soon as the hams in the area had a problem, they should have been notifying the FCC. At that point, your neighbor was interfering with a licensed service and they do pay attention to that. Admitedly, their attention has been sporadic in the past, but in the last few years they have gotten much more serious about tracking down operators that are causing harmful interference, even if they are licensed. If the event you described happened recently, there may have been a better way. Keep that in mind if he gets back on the air.

Bob McConnell
N2SPP

1773. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 01:06:30 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <wsmdnbLca_SMS8aiXTWJkg@comcast.com>
Source record: 32789

Saw some at a hamfest a few hours before I read this post. Can't recall the dealer's name. They were around a buck or two apiece.

Tom, N3IJ

"Richard Hosking" <richardh@iinet.net.au> wrote in message news:3f5afaf4$0$23601$5a62ac22@freenews.iinet.net.au...
> Anyone know a good source of surface mount latching relays DPST or DPDT, 5V
> to be driven by logic?
> I want to build an automatic antenna tuner for HF QRP
> Digikey has them but they areUS$12 ea and it is a bit too expensive if I
> want about 20 of them
> I would prefer a permanent source if possible - not only a temporary
> surplus - although this would be better than nothing
>
> Thanks in advance
>
> Richard
>
>
>

1774. Re: Rockwell IC - what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 01:09:29 UTC
From: Allan Butler <ka0ies@hotmail.com>
Message-ID: <dFQ6b.385229$o%2.173680@sccrnsc02>
Source record: 32790

MikeN wrote:

Mike:

Try a search on Google for 41404p-34hk and see what comes up.

It would appear that there is a company out there that actually
has some in stock. I would also recommend checking at google for the
41404p number.

> I have a surplus PLL pc board which has on board a Fujitsu MB1507 PLL
> chip, an OP123 op amp chip, and a Rockwell chip which I am unable to
> identity.
>
> The device is a Rockwell 41404P-34HK, and appears to be in line with
> the rf feed from the VCO (external to the board) the rf input pin of
> the PLL chip. In this location the chip could likely be acting as a
> rf preamp or signal conditioner.
>
> Apparently Rockwell spun their semiconductor division off to Conexant
> in 1998, but I can't find any info on the Conexant site.
>
> I would appreciate any leads on this chip or a link to a datasheet.
>
> Thanks
>
> MikeN ZL1BNB

1775. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 01:22:27 UTC
From: Tom Coates <tecoates@comcast.net>
Message-ID: <CTCdnU0snd1TRMaiXTWJkA@comcast.com>
Source record: 32791

Recently the FCC has been writing to the CEOs of electric utilities about intereference experienced by individual amateurs and I believe last week I saw a letter to some people about a baby monitor.

The letters are at http://www.arrl.org/news/enforcement_logs/

FWIW,
Tom, N3IJ

"Bob McConnell" <rmcconne.NOSPAM@lightlink.com> wrote in message news:bnjnlv0bthddiuo3vg7mmqq3a5a596uj9v@4ax.com...
> On Sun, 7 Sep 2003 03:47:34 +0000 (UTC), "-=jd=-" <look@my.sig> wrote:
>
> >Dateline "rec.radio.amateur.homebrew", Sat, 06 Sep 2003 18:55:22 GMT: As it
> >appeared in message-ID# news:vlkbd6dr6a33ac@corp.supernews.com, "Bob Lewis
> >\(AA4PB\)" <rlewis@staffnet.com> appears to have written the following...
> >
> >>> Now, he actually has fun frustrating the offending CB'er.
> >>
> >> That's great. So now your friend has become a part of the problem
> >> instead of part of the solution. That makes him no better than the guy
> >> he's compaining about.
> >
> >Actually, quite the opposite. None of the neighbors could get any response
> >from the FCC. The offending CB'er was coming over the TV's and radios in
> >the neighborhood.
> >
>
> Commercial TV and radio receivers are notoriously susceptible to
> strong signals well outside of their frequency range. The
> manufacturers have taken too many shortcuts to provide decent
> selectivity. So the FCC doesn't pay much attention to those
> complaints.
>
> But as soon as the hams in the area had a problem, they should have
> been notifying the FCC. At that point, your neighbor was interfering
> with a licensed service and they do pay attention to that. Admitedly,
> their attention has been sporadic in the past, but in the last few
> years they have gotten much more serious about tracking down operators
> that are causing harmful interference, even if they are licensed. If
> the event you described happened recently, there may have been a
> better way. Keep that in mind if he gets back on the air.

>
> Bob McConnell
> N2SPP
>

1776. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 03:38:31 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F5BF9B7.55A01DAA@ti.com>
Source record: 32792
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
>
> Kevin Aylward wrote:
> > gwhite wrote:
> >> Kevin Aylward wrote:
>
> In summary, there are differing concepts of what linearity is being
> understood to mean in the real world.

No again. Those who are confused about it, and can't admit they are simply wrong about what amounts to a widely accepted definitional matter, simply take refuge by obscuring the basics with a bunch of junk similar to:

"therefore

Vo = 40.Vc.Vi/Re."

The simple fact is you are wrong in thinking you can all of the sudden make up your own definition of linearity, or carry forward without challenge the mistaken definition of others. You were right about one thing: this matter of linearity is pretty basic. You missed it; you are wrong, that is no big deal. The silly part was when you decided to be condescending about it, for in most practical matters strict linearity doesn't matter a lot -- most people know what they are doing well enough such that the accepted definition of linearity is not explicitly referred to.

I don't have time tonight to provide cited work (I have one from Lahti that will be particularly useful for this discussion), since it takes scanning and OCR time and then patch up -- I will do so soon though. In short, you believe "non-linearity" is *required* for modulators; that is incorrect. You confuse the time-invariance property with the linearity property. You believe LTI systems are the *only* linear systems -- they are not according to the widely accepted and published definition of linearity. It is that simple. I gave you an example and worked the solution for you, but still you resist.

You nor anyone else need take my word for it: it is in *all* the Signals, Systems, and Communications texts I've ever opened up -- they are wholly consistant with each other; check for yourself. Your "definition" is not in any of them (af(t) = f(at)???). So I feel justified in simply saying you are flatly wrong. If you could at least post a citation from a text that has your definition and a worked mathematical problem/solution (no "Circuits" junk), then at least we

could say it was all a grand misunderstanding.

> I must confess here I made a small error.

What wasn't small is your reaction to your "small error." All that "pretentious drivel" wasn't so pretentious given the fact it is *basic stuff* that most who've taken the appropriate classes already know (it was a couple definitions and an application using a couple simple trig identities and no more really). That is, the basics which put down your little rebellion against a well established definition.

> {pretentious drivel sniped}

LOL

1777. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 03:55:03 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F5BFD80.70800@attbi.com>
Source record: 32793

Joe McElvenney wrote:
> Hi again,
>
> Thanks everyone for your ideas, all of which are noted. The
> sheet I sawed-up, to make some spacers for my garage door, was
> scrap #10 gauge aluminium scavenged from old surplus gear. It was
> just that I never seemed able to cut a straight line and wanted
> to tap into the wealth of metal-working experience in the group
> out there.
>
> Hopefully I will do better next time by following your
> suggestions.
>
>
> 73 de Joe, G3LLV
>
>

Joe,
I've found a lot of the "Hack" saw's that are availble today are pieces of crap and won't cut a straight line. You might want to check and see if that's your problem. I bought a good one with a solid frame, I can't remember the name right now and it's packed from moving. Alos get a good blade like a Lenox or similar brand.
Bill Higdon

1778. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 04:07:49 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F5C0095.19C74AA7@ti.com>
Source record: 32794
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Eric C. Weaver" wrote:
>
> This discussion happens all the time on comp.dsp, between primarily
> computer-science folks approaching DSP and EE types approaching it.
>
> EE folks' definition of "linear" implicitly includes time invariance;

Interesting thought since a Signals and Systems course, or a Linear
Systems course, or a Communications course is often required to get an
EE degree. After all, these courses explicitly distinguish the linearity
property and the time-invariance property. And I've never seen the
"af(t) = f(at)" so-called "definition" until a few days ago.

> DSP
> people have to see it stated explicitly (as "LTI": Linear Time Invariant) lest
> they think "linear" just means having no second-or-higher-order terms.
>
> It is not a deficiency on either party's part, just a difference of definition
> in each's respective discipline (is that enough alliteration?).
>
> Therefore, I advise each to bend this much: Use the full phrase "Linear
> Time-Invariant" when this miscommunication is suspected, so both know what the
> hell the other is talking about. Now go and sin no more.

I've met folks before who think that linearity means freqs cumzoutas
must only equal freqs gozintas. But they don't usually put up such a
fuss when actually presented with the widely available and consistant
literature or reasonable arguments. This is more about fuss than
facts. Now that is consistant with the usenet.

1779. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 04:26:09 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0309072026.7a3cfe7c@posting.google.com>
Source record: 32795
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Eric C. Weaver" <weav@sigma.net> wrote in message
news:<3f5b6b73$1@news.announcetech.com>...
> This discussion happens all the time on comp.dsp, between primarily
> computer-science folks approaching DSP and EE types approaching it.
>
> EE folks' definition of "linear" implicitly includes time invariance; DSP
> people have to see it stated explicitly (as "LTI": Linear Time Invariant) lest
> they think "linear" just means having no second-or-higher-order terms.
>
> It is not a deficiency on either party's part, just a difference of definition
> in each's respective discipline (is that enough alliteration?).
>
> Therefore, I advise each to bend this much: Use the full phrase "Linear
> Time-Invariant" when this miscommunication is suspected, so both know what the
> hell the other is talking about. Now go and sin no more.

Eric,

The really efficient dsp / digital algorithms come about with
time-varying processes. Another good bit of science is the use of
recursive filters to produce a finite impulse response ... That's one
nice way to squeeze a lot of functionality in a medium-sized IC / FPGA
/ ASIC ... or whatever.

Radio receiver (demodulation) and bandpass algorithm / code get a lot
smaller.

Frank Raffaeli
http://www.aomwireless.com/

1780. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 04:56:05 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0309072056.2df1ee23@posting.google.com>
Source record: 32796
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Kevin Aylward" <kevin@anasoft.co.uk> wrote in message
news:<Mxp6b.8669$Ci1.1468148@newsfep2-win.server.ntli.net>...

[snipped much voluminous banter]
>
> Whilst, I do agree that Win is very knowledgeable and an expert, I am
> also an expert. I have been doing this rather a long time as well you
> know. The fact that I am not an academic is not relevant. In all
> honesty, there is not much I don't know about general analogue design,
> although, obviously, I don't claim to know it all. Does Win know more
> than me? Unlikely. Or do I know more than Win. Unlikely. However, we may
> well know different things.
>
[snipped more banter]

Does the above pose a question, or is it mere rhetoric? Could the
scientific method be applied with gusto? Are Win and Kev evenly
matched? The surname of this forum is *design*. I, for one, would
prefer to see this hypothesis tested by deeds rather than by words. On
this forum, I don't care if its spelled analogue or analog - just make
it work and explain why. IMO, no one here needs to prove anything;
however, it would certaily be interesting to watch such a *contest* if
it were all in good fun and sport.

Best Regards,

Frank Raffaeli
http://www.aomwireless.com/

1781. Re: How is battery capacity calculated?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 04:56:48 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F5C0C70.9C23C967@bellatlantic.net>
Source record: 32647

Roy Lewallen wrote:
>
> Run the power to an old style electric clock or an analog
> battery-powered clock through another set of contacts, and you've also
> got the time it took.
>
> All you've gotta do is find the relay. . .
>
> Roy Lewallen, W7EL

Very good idea, Roy. You can also build a little more into it,
sacrificing some simplicity. For example, a comparator can
be used to energize a second relay whose closed point is in
the coil circuit for the first relay, or the coil of the
relay can be fed from a voltage divider using only 1 relay,
or any other variation one cares to cobble together to create
the precision needed. The key is to have all current paths
opened by the relay dropping out.

>
> ehsjr@bellatlantic.net wrote:
> >
> > "Bruce W.1" wrote:
> > The only problem
> >
> >>I have is remembering to disconnect the battery from the resistor after
> >>it hits one volt, Doh! Some of them were pulled down to 0.4 volts
> >>(under load) but they recover to about a volt at rest.
> >
> >
> > There is a simple way to do that automatically. Find a relay
> > whose dropout voltage equals the voltage you want to discharge
> > the battery to. Discharge the battery through the relay coil and
> > the normally open point on the relay. You'll need to operate
> > the relay manually or via an external power source to start
> > the discharge cycle. When the battery discharges to the dropout
> > voltage, the relay drops and all current flow stops.

1782. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 07:56:47 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <EJX6b.123$xM3.77168@newsfep1-win.server.ntli.net>
Source record: 32649
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Terry Given wrote:
>>>>> Kevin Aylward wrote:
>>>
>>> In summary, there are differing concepts of what linearity is being
>>> understood to mean in the real world.
>>
>>
>> No again. Those who are confused about it, and can't admit they are
>> simply wrong about what amounts to a widely accepted definitional
>> matter
> [snip]
>> You nor anyone else need take my word for it: it is in *all* the
>> Signals, Systems, and Communications texts I've ever opened up --
>> they are wholly consistant with each other; check for yourself. Your
>> "definition" is not in any of them (af(t) = f(at)???). So I feel
>> justified in simply saying you are flatly wrong. If you could at
>> least post a citation from a text that has your definition and a
>> worked mathematical problem/solution (no "Circuits" junk), then at
>> least we could say it was all a grand misunderstanding.
>
> herewith a self-confessed doesnt-know-it-all's analysis:
> IF
> y(x) = mx+c (even KA cant argue with the linearity (and
> time-invariance) of this....LOL)
> THEN
> y(ax) = max+c
> AND
> ay(x) = max+ac

Look, you picking up on a triviality that was thrown in as a side line
and as as immediate response to a justification of my claims. My claims
stand as correct. I clearly stated what was I consider an appropriate
definition of linearity, i.e. no frequencies present in the output, not
present at the input.

> Elementary Sesame-Street Theory (one of these things is not like the
> other) clearly shows this "definition" of linearity to be rubbish.

This was, to all intents and purposes, a typo. I was meaning to refer to
a simple constant gain transfer function. Is it really credible, given
that you are obviously aware of my GR papers, that I am to stupid to
know standard definition of linearity.

However, it would seem that you are another one of those sad people who
think

y=x^2

is a linear equation between x and y.

>
> gwhite most certainly has it correct. KA does not.

Dream on. This is bloody absurd.

www.google.com "nonlinear differential equations" 22,000 hits.

You need to get to grips with than fact that the term "linear" is being
used with two different meanings, where *both* meanings are perfectly
valid in their own contexts. Look, I know what gwite white means, its
trivial. It is also trivial to understand that it is not applicable to
analogue design of amplifies.

Next you'll be declaring that "homogeneous" only, means the one specific
definition as used in differential equations. Or how about "canonical"

>
> as a slight aside, I have read H&H about 8 times, and will continue
> to do so - it is one of the more useful books on electronics I have
> ever bought (and I have about 600 of them). If you do not have that
> book - GO AND BUY IT!! I even met WINFIELD Hill at an MIT junkfest
> once a few years ago, and had an interesting discussion with him
> about my work on high-speed PMSM energy storage flywheels and giant
> SMPS. That guy is really smart - I suggest anyone reading this forum
> should pay close attention to win's postings (i sure do). As far as
> being an "academic" - well, go read H&H - its beauty lies in its
> practicality, unlike most texts. Just because someone works in
> academia, doesnt mean they are useless (although to be fair, its
> usually not a bad first guess).

I hope you not suggesting that I have any negative opinions of Win
because I claimed that I was not an academic.

Likewise I have met plenty of
> blithering idiots out doing "real" engineering (its a good thing -
> competent people end up being well paid to fix their screw-ups). The
> worst ones tend to work in sales (I presume its because they cant get
> real jobs)
>
> Really this entire thread has done little more than allow Kevin
> Aylward to appear like a pompous idiot, with a somewhat limited
> understanding. A BSc and half-a-dozen MSc courses (one A - wow. I
> remember those - they are what you get if you dont do well enough for
> an A+) simply makes for a failed MSc. Of all the pomposities, I just
> loved this one:

No this one is about gwhite being a pretentious prat trying to impress
everyone with a fancy mathematical definition of linearity that has

little or zero relevance in this context, i.e analogue design of amplifiers. He has *yet* to show how said class A amplifier, as he claimed, can form a modulator without relying on the fact that the transfer function of the transistor is non-linear. He has simple attempted to obscure the issues by making irrelevant technical points.

>
>>> In all honesty, there is not much I don't know about general
>>> analogue design, although, obviously, I don't claim to know it all.
>
> It kind of makes one wonder just how KA knows there isnt much he
> doesnt know.
>
> why do I post on these newsboards? am I being selfish? I dont think
> so.

Not consciously, but inherently, there is no other way, that is not if you believe in evolution, i.e if you are one of those creationists.

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1783. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 08:59:04 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <FJX6b.124$xM3.77168@newsfep1-win.server.ntli.net>
Source record: 32650
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Kevin Aylward wrote:
>>
>> Kevin Aylward wrote:
>>> gwhite wrote:
>>>> Kevin Aylward wrote:
>>
>> In summary, there are differing concepts of what linearity is being
>> understood to mean in the real world.
>
>
> No again.

No right again.

Those who are confused about it, and can't admit they are
> simply wrong about what amounts to a widely accepted definitional
> matter, simply take refuge by obscuring
>the basics with a bunch of
> junk similar to:
>
> "therefore
>
> Vo = 40.Vc.Vi/Re."
>

Oh dear..oh dear...You claimed that the class A amp was a modulator an
achieved this modulation by way of linear means, you fail to present
your proof of this claim, and then spout of with mathematical waffle,
and claim that I am being obscure?

I clearly showed how the class A amp achieved modulation based on the
non-linear relation of emitter current verses base emitter voltage. The
fact that you have failed to give an alternative mathematically proof
indicates quite clearly that you pissing in the wind.

Present you argument of exactly how your claim is correct, or retract
you claim.

>
> The simple fact is you are wrong in thinking you can all of the sudden
> make up your own definition of linearity, or carry forward without
> challenge the mistaken definition of others.

Absolute crap. Show me one respectable math reference that says if
y=exp(x), that y is a linear function of x.

You were right about one
> thing: this matter of linearity is pretty basic.

Indeed it is.

> You missed it; you
> are wrong, that is no big deal.

Indeed its not. My SuperSpice works quite nicely based on the well known
theory of the solution of non-linear differential equations.

>
The silly part was when you decided
> to be condescending about it, for in most practical matters strict
> linearity doesn't matter a lot -- most people know what they are
> doing well enough such that the accepted definition of linearity is
> not explicitly referred to.
>
> I don't have time tonight to provide cited work (I have one from Lahti
> that will be particularly useful for this discussion), since it takes
> scanning and OCR time and then patch up -- I will do so soon though.
> In short, you believe "non-linearity" is *required* for modulators;

Show me one real practical example that does not use a device with a
functional relation between input and output voltage/current that is
linear, as I defined above. As did note as an after thought, it may be
possible in principle, for example, maybe one could construct a true,
linear with voltage, voltage controlled resistor. However, I am not
aware of such magic devices.

The physical reality is that it is not possible. Produce one and I will
retract my claim.

> that is incorrect. You confuse the time-invariance property with the
> linearity property. You believe LTI systems are the *only* linear
> systems -- they are not according to the widely accepted and published
> definition of linearity.

No. Linearity is widely understood to have many definitions. I have
explained some of these already.

> It is that simple.

Nope. Its not. Linearity has many definitions. In the context of
analogue design, linearity is defined based on where the is a non
straight line between input and output. The whole subject of non-linear
differential equations in spice is based on this concept.

> I gave you an example
> and worked the solution for you, but still you resist.

Look, I have no problem with your example of a particular definition of linearity. I already explained how such an example is meaningless in analogue design by giving an example.

A mathematical definition only has meaning if it is useful when it is applied. In analogue design this definition is useless, so it is not used.

>
> You nor anyone else need take my word for it: it is in *all* the
> Signals, Systems, and Communications texts I've ever opened up -- they
> are wholly consistant with each other; check for yourself.

I don't care a toss about and communication texts. I care about linearity as understood in the solution of the non-linear differential equations used in Spice. I suggest that you read some of the many papers on the solution of such equations.

Look, I don't claim that the particular definition of linearity that you presence is "wrong" in principle. It is a very well known definition. However, it is one of many, and is simple not applicable in this context.

Your
> "definition" is not in any of them (af(t) = f(at)???).

I did not say that this was a definition. This was just thrown in as side line, and I said as much. This was, to all intents and purposes, a typo. I was meaning to refer to a simple constant gain transfer function. I clearly said that linearity, as defined in analogue design, is essentially defined by the absence of any frequencies in the output not present in the input.

> So I feel
> justified in simply saying you are flatly wrong.

No. You is you. You have singularly failed to show how your class a amp is a modulator without using a non-linear relation between input voltage/current to output voltage/current. If you claim that y=exp(x) is a linear relation between x an y, further debate is pointless. You don't the first thing about math.

If you could at
> least post a citation from a text that has your definition and a
> worked mathematical problem/solution (no "Circuits" junk), then at
> least we could say it was all a grand misunderstanding.
>

www.google.com "nonlinear equations"

www.google.com "nonlinear differential equations" 22,000 hits.

You problem is that you are trying to argue a different point and simple don't see it. You were off on a roll trying to impress people which mathematical technicalities that are simple irrelevant in the context of

this original discussion. In short, you are a smart arse.

>
>> I must confess here I made a small error.
>
> What wasn't small is your reaction to your "small error." All that
> "pretentious drivel" wasn't so pretentious given the fact it is *basic
> stuff* that most who've taken the appropriate classes already know

I know all about your definition. I dont disagree that it is a valid definition in some contexts. However, it is not applicable to electronic circuit design that is based on the solution of non-linear differential equations, with the "non-linear" term having a universally accepted meaning by the 10,000s of mathematician who actually study such equations.

>(it
> was a couple definitions and an application using a couple simple trig
> identities and no more really).

So basic that you can stand there and declare that:

Y=x^2

is a linear equation. Yeah...LOL. get real.

The meat:

You arnt wrong in this thread because of you particular claim of linearity. You are wrong because the fundamental claim that you made was that your class A amp was a modulator that did not rely on the non-linear transfer function of the emitter current verses Vbe. You have absolutely failed to explain any exact *details* to support your claim. That is, show me a specific analysis of the amplifier, without the irrelevant mathematical waffle, that shows that:

Vo = V(t)(1+ a.sin(wt))

I will accept the argument that you simply misunderstood my, very common definition of linearity, i.e. y=x^2 is a non-linear equation relation x to y in *any* mathematical book you care to name, with a linearity definition more appropriate to general systems analysis.

In closing:

The real reason for this disagreement is that you are talking apples and I am talking fish net stockings. You are applying the term linearity in a completely different sense than the one I am using. Both are valid in principle, and are indeed well accepted, under their appropriate conditions. The issue however, is that I have made an effort to actually explain in other posts, what the distinction is, but you are simple too closed minded or too stupid to understand. In this particular case, modulation is, in practise, universally achieved by a non-linear transfer function. That is y=f(x) is non-linear as defined in any math

text book you care to name. Its simple not debatable. However, applying signals to such a transfer function, can result in the condition, that given that a certain output is required, non-linearly related to the input in the strict sense, this output is linearly related to the input signals. That is, if a certain input gives an output, the sum of two inputs, give the same output as the individual output sums. In this sense it may be said to be linear. That is the wanted summed output is the wanted output of the individual inputs. In one case the term linearity is being applied to the fact that the output is not a direct linear function of the input, in the other case, the term linearity is being applied to the fact the wanted output is is a linear function of the input sums. That is, in one case, the term linearity is being applied to the specifics of a system part, where as in the second case linearity is being applied to a system wide property. What seems to defies rational belief, is that you seem totally oblivious to the fact that the term linearity is being applied to two completely different aspects of a system, and cant be directly compared as to which one is more valid then another.

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1784. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 09:58:23 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <5pY6b.156$xM3.93242@newsfep1-win.server.ntli.net>
Source record: 32652
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> "Eric C. Weaver" wrote:
>>
>> This discussion happens all the time on comp.dsp, between primarily
>> computer-science folks approaching DSP and EE types approaching it.
>>
>> EE folks' definition of "linear" implicitly includes time invariance;
>
>
> Interesting thought since a Signals and Systems course, or a Linear
> Systems course, or a Communications course is often required to get an
> EE degree. After all, these courses explicitly distinguish the
> linearity property and the time-invariance property. And I've never
> seen the "af(t) = f(at)" so-called "definition" until a few days ago.

Your a liar. Its that simple. I clearly stated that it was *not* a definition. It was simply trying to illustrate the concept of constant gain. You expanding on some trivial minor point to avoid answering the main issue, to wit, you have failed to disprove my claim on your class A amplifier.

>
>
>> DSP
>> people have to see it stated explicitly (as "LTI": Linear Time
>> Invariant) lest they think "linear" just means having no
>> second-or-higher-order terms.
>>
>> It is not a deficiency on either party's part, just a difference of
>> definition in each's respective discipline (is that enough
>> alliteration?).
>>
>> Therefore, I advise each to bend this much: Use the full phrase
>> "Linear Time-Invariant" when this miscommunication is suspected, so
>> both know what the hell the other is talking about.

Absolute crap. The notion that y=x^2 is a non-linear equation is universally accepted by anyone who has done even the slightest bit of theory on basic algebraic equations. It does not require any qualification in the slightest.

Now go and sin
>> no more.
>

> I've met folks before who think that linearity means freqs cumzoutas
> must only equal freqs gozintas. But they don't usually put up such a
> fuss when actually presented with the widely available and consistant
> literature or reasonable arguments. This is more about fuss than
> facts.

Indeed. So why *are* you putting up such a fuss about notions that are
widely held in the literature. Show me one, and I mean just one, that
declares y=x^2 a linear equation.

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1785. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 09:58:26 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <8pY6b.157$xM3.93242@newsfep1-win.server.ntli.net>
Source record: 32653
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Frank Raffaeli wrote:
> "Kevin Aylward" <kevin@anasoft.co.uk> wrote in message
> news:<Mxp6b.8669$Ci1.1468148@newsfep2-win.server.ntli.net>...
>
> [snipped much voluminous banter]
>>
>> Whilst, I do agree that Win is very knowledgeable and an expert, I am
>> also an expert. I have been doing this rather a long time as well you
>> know. The fact that I am not an academic is not relevant. In all
>> honesty, there is not much I don't know about general analogue
>> design, although, obviously, I don't claim to know it all. Does Win
>> know more than me? Unlikely. Or do I know more than Win. Unlikely.
>> However, we may well know different things.
>>
> [snipped more banter]
>
> Does the above pose a question, or is it mere rhetoric? Could the
> scientific method be applied with gusto? Are Win and Kev evenly
> matched?

I don't know. How tall is he, I'm only 5'8"

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1786. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 12:33:57 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <WG_6b.222$xM3.141586@newsfep1-win.server.ntli.net>
Source record: 32654
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
> Terry Given wrote:

>>
>> herewith a self-confessed doesnt-know-it-all's analysis:
>> IF
>> y(x) = mx+c (even KA cant argue with the linearity (and
>> time-invariance) of this....LOL)
>> THEN
>> y(ax) = max+c
>> AND
>> ay(x) = max+ac

The more I look at this, the more I realise that I am over the heads of you guys. I am making standard assumptions, and because some individuals are simple not conversant with common knowledge in the field, make what are, basically Jesus wept statements.

For starters, there is obviously confusion here on sufficiency and necessesity. If a function satisfies a(f(x)) = f(ax) is it guaranteed to be linear? Now, we are discussing practical modulators/amplifiers. Do we care about dc offsets? For those knowledgeable in the field, do we usually need to actually specify that dc offsets are being ignored in normal explanations? for instance, do we usually use a capacitor to eliminate them?

I must apologise for this. I need to be more aware that many are not aware of common assumptions, that are taken as read, by those individuals, who, for example, have been doing analogue design, for example, for 20+ years.

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1787. 9 Tube home brew receiver for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 14:02:55 UTC
From: ljl160@aol.com
Message-ID: <20030908100255.10815.00000579@mb-m29.aol.com>
Source record: 32655

I have a 9 tube homebrew receiver for sale. I did not build it. It needs external power supply. Covers 80-20-15 mtrs. It looks like late 60s or 70s design. Asking $100 shipped. can be seen at
http://www.officeto-go.com/radiolist.html
Thanks -Lew KlNDV

1788. Re: Making inductors - ATTN Frank Dinger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 15:33:47 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vlp8el1crbid3b@corp.supernews.com>
Source record: 32656

Frank - your email address bounced:

Subject: Re: Making inductors
Date: Monday, September 08, 2003 9:18 AM

Frank

I got mine from Kanga U.S., but I see Kanga U.K isn't selling anything, and they only list one book. I also suspected G-QRP as a source, but they don't show it on their web site. If there is a U.K. Source, George Dobbs, G3RJV, would know. In fact, I think I saw it at George's booth at Dayton. Bill Kelsey at Kanga U.S. is a nice guy and easy to deal with (http://www.bright.net/~kanga/kanga) but I suspect there is a UK source somewhere which could be a lot easier for you.

The book is $20 U.S. so it's probably going to be 20 pounds by the time you get it across the pond.

Paul Harden does this wonderful artwork which makes the book a real joy. It's such a dense collection of reference info that it really is a "must have" for a builder. It may be a little more U.S. centric than you would like. Although he does show drill sizes for various metric screws, his transistor table pretty much sticks to the 2N and 2SC types. Still, it's almost worth it for the wonderful capacitor section. And he does show all the common toroid mixes, how to wind toroids, and he has some nice charts of inductance and Q for the more common mixes.

72/73 de WB8RCR http://www.qsl.net/wb8rcr
didileydadidah QRP-L #1446 Code Warriors #35

----- Original Message -----
Sent: Friday, September 05, 2003 7:48 AM
Subject: Re: Making inductors

> > As always, all the equations are in the handbook. Paul Harden's "Data
> > Book for Homebrewers and QRPers" has all the tables, without the
> > explanations, and it's a lot more compact (and cheaper besides).
> ========
> Hi, Could you please provide me with a source where to obtain this book
.
> I am in Scotland UK but can order in the USA Approx cost ?
>
> TIA
>
> Frank GM0CSZ / KN6WH

1789. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 17:23:36 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F5CBB18.32ADA52E@ti.com>
Source record: 32657
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
>
> gwhite wrote:
> > "Eric C. Weaver" wrote:
> >>
> >> This discussion happens all the time on comp.dsp, between primarily
> >> computer-science folks approaching DSP and EE types approaching it.
> >>
> >> EE folks' definition of "linear" implicitly includes time invariance;
> > >
> > >
> > > Interesting thought since a Signals and Systems course, or a Linear
> > > Systems course, or a Communications course is often required to get an
> > > EE degree. After all, these courses explicitly distinguish the
> > > linearity property and the time-invariance property. And I've never
> > > seen the "af(t) = f(at)" so-called "definition" until a few days ago.
>
> Your a liar.

LOL.

> Its that simple. I clearly stated that it was *not* a
> definition.

"Linearity can more easily be expressed as: a(f(t)) = f(at)" -- Kevin
Aylward

I think someone is posting under your name. A nasty bit of business
that is.

> It was simply trying to illustrate the concept of constant
> gain. You expanding on some trivial minor point to avoid answering the
> main issue, to wit, you have failed to disprove my claim on your class A
> amplifier.

Class A works just fine in multipliers/modulators -- "non-linearity" of
circuit elements is not required. Maybe you can analyze the old
MC1496. That would be enlightening to you. But more important and more
simple (it will save you loads of time), just apply *the* linearity test
for

h(t)
x(t) -> y(t).

> The notion that y=x^2 is a non-linear equation is
> universally accepted by anyone who has done even the slightest bit of

> theory on basic algebraic equations. It does not require any
> qualification in the slightest.

No shit, by why are you rambling on and on about it?

>Show me one, and I mean just one, that
> declares y=x^2 a linear equation.

That is clever -- you want me to "declare" something is true that I've made no reference to. You are quite the inventor. Face it: you had an incorrect notion about linearity. All the rest of your words are twisting, squirming, and turning to try to save face after you acted condescending (and still do) about a very simple matter. That's all.

1790. Re: Measuring small inductances using a return loss bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 19:00:48 UTC
From: k7itm@aol.com
Message-ID: <3200347.0309081100.7bcdb3dc@posting.google.com>
Source record: 32658

I saw the subject line, and was ready to warn against trusting a
return loss bridge at high reflection coefficients (assuming you'd
just hooked the L directly across the RL bridge unknown terminals),
but of course the method of putting an R and C in series gets around
that problem. If you have a swept system, you don't have to tweak the
cap, just look at the freq where the return loss is minimum...or where
the phase changes the fastest, or is zero. Then perhaps you don't
even need the series R (see next paragraph...).

In the "Measurements and Analysis" chapter of Reference Data for
Engineers, there are several bridge circuits suitable for measuring
inductance. One is a "resonance bridge" which really is doing just
what Richard wrote about. One arm of the bridge is a series RLC. But
in that case, the R is the equivalent series resistance of the LC, and
is balanced by the other bridge arms at resonance, just as a simple
Wheatstone bridge. Note that if your return loss bridge has been
calibrated to be accurate at small resistances, you can use this
without the series R in your LC to get a very quick estimate of Q, but
you can also do that by sweeping the frequency. -- See also circuits
for HP and Boonton (and GR?) Q meters.

Cheers,
Tom

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:<3f57cc32$0$23610$5a62ac22@freenews.iinet.net.au>...
> My Friend Rod VK6KRG uses a snazzy method of calculating inductance using a
> return loss bridge
> I have tried it to measure a 500nH inductance and the result agrees closely
> with the calculated result for an inductor of that physical size and number
> of turns.
>
> Basically he uses the unknown inductor, in series with a known capacitor, in
> series with a 50 ohm load across the "unknown" arm of the bridge. When
> XC=XL, then the two reactances cancel (assuming they approximate to an ideal
> reactance) and load presented to the bridge by the RLC circuit = 50 ohms.
> Thus you tune the system to best return loss which is a null and calculate
> XL at this frequency You can even do this at the end of a section of 50 ohm
> coax, assuming the loss isnt too great
>
> No doubt all you RF experts out there have known about this for a long
> time - has it been published as an idea before?
>
> Richard

1791. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 19:12:36 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F5CD4A4.8870BB25@ti.com>
Source record: 32659
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
>

> > It is that simple.
>
> Nope. Its not. Linearity has many definitions.

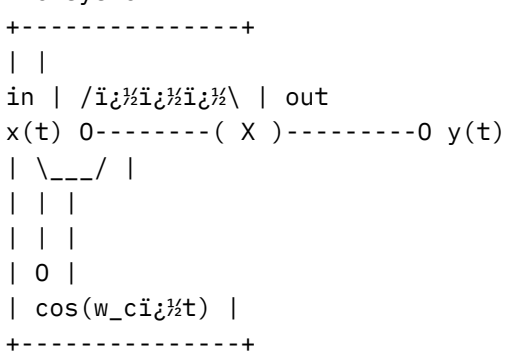
It doesn't have "many definitions" when it comes to the EE profession.
The one definition is wholly consistant across academic texts -- without
known contradiction. Everyone who took courses like Circuits, Fields
and Waves, and on and on, also took a Signals and Systems (or similar
under a different name) course. That some, such as you for example,
didn't learn or understand the definition is notwithstanding.

> Look, I have no problem with your example of a particular definition of
> linearity. I already explained how such an example is meaningless in
> analogue design by giving an example.
>
> A mathematical definition only has meaning if it is useful when it is
> applied. In analogue design this definition is useless, so it is not
> used.

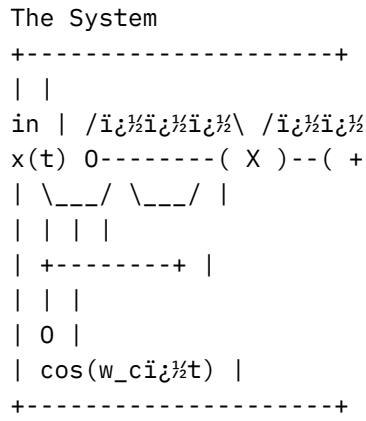
It is useful to the extent modulation is a linear operation produced by
devices such as gilbert cells biased to Class-A. It is very useful
definition: for example, high data rate modern digital communications
systems routinely utilize linear modulation/demodulation.

It doesn't even matter if the upper transistors in the gilbert cells are
driven to the switch mode (switch mode is not a requirement; class-A
will do) by the LO. It is still linear modulation.

This system is linear:



This one is not:



Do you know why?

Hint: it has nothing to do with any "exp(x)" or other solid state
issues.

> > You nor anyone else need take my word for it: it is in *all* the
> > Signals, Systems, and Communications texts I've ever opened up -- they
> > are wholly consistant with each other; check for yourself.
>
> I don't care a toss about and communication texts.

Sheesh -- no shit!

> I care about
> linearity as understood in the solution of the non-linear differential
> equations used in Spice.

Like I said early on: you can make the answer come out however you want
if you are permitted to make up the rules and change them as you play.

> Look, I don't claim that the particular definition of linearity that you
> presence is "wrong" in principle. It is a very well known definition.
> However, it is one of many, and is simple not applicable in this
> context.

It is the definition for the EE profession.

> I clearly said that linearity, as defined in analogue design,
> is essentially defined by the absence of any frequencies in the output
> not present in the input.

That "definition" is incorrect, as has been pointed out already.

> You were off on a roll trying to impress people which
> mathematical technicalities that are simple irrelevant
> in the context of this original discussion.

Right. I was trying to "impress" by using a couple of trig identities.
LOL

> I know all about your definition. I dont disagree that it is a valid
> definition in some contexts.

It is the definition for the EE context. If you want an LTI system,
then so be it.

> However, it is not applicable to electronic
> circuit design that is based on the solution of non-linear differential
> equations, with the "non-linear" term having a universally accepted
> meaning by the 10,000s of mathematician who actually study such
> equations.

It is not a matter of a mathematician's characterization of equations.
It is the EE characterization, and this is largely an EE forum. If you
are a mathematician and not an EE, then I can see why you would believe
what you do.

> You arnt wrong in this thread because of you particular claim of
> linearity.

It isn't "my claim." It is the standard definition for EE's. That some
EE's didn't quite "get it" is notwithstanding.

> The real reason for this disagreement is that you are talking apples and
> I am talking fish net stockings. You are applying the term linearity in
> a completely different sense than the one I am using. Both are valid in
> principle, and are indeed well accepted, under their appropriate
> conditions.

Your definition is not the EE definition.

> That is y=f(x) is non-linear as defined in any math
> text book you care to name.

This is a matter of EE definition. Recall how you sniped about the EE
courses I apparently didn't take "with all due respect."

"A linear system, cannot produce frequencies that are not in the input,
essentially, by definition. With all due respect, I would guess you
don't have an EE B.S. degree. This is all pretty basic stuff really."
-- Kevin Aylward

So you originally sniped about my education in electrical engineering,
and then ignore those very same basics taught in all EE curriculums, and
then turn course and take refuge in a math text. Okay, Kevin, have it
your way.

1792. Re: Databook for the QRPer and Homebrewer - by Paul Harden

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 20:17:03 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <3wh7b.39$z06.90420@newsfep1-win.server.ntli.net>
Source record: 32676

Tnx for the info re Paul Harden's book .
My email address is OK but using a spam remover prog ,I might have
'accidentically 'bounced your message ,sorry for that.
I am a G-QRP Club member and shall check with George , G3RJV re
availability.
Perhaps you can give me the book's ISBN number ,such that I can order in the
US if necessary and get it sent to my son who lives in California.

TIA for your advice

Best wishes Frank , GM0CSZ / KN6WH

> I got mine from Kanga U.S., but I see Kanga U.K isn't selling anything,
and
> they only list one book. I also suspected G-QRP as a source, but they
don't
> show it on their web site. If there is a U.K. Source, George Dobbs,
G3RJV,
> would know. In fact, I think I saw it at George's booth at Dayton. Bill
> Kelsey at Kanga U.S. is a nice guy and easy to deal with
> (http://www.bright.net/~kanga/kanga) but I suspect there is a UK source
> somewhere which could be a lot easier for you.
>
> The book is $20 U.S. so it's probably going to be 20 pounds by the time
you
> get it across the pond.
>
> Paul Harden does this wonderful artwork which makes the book a real joy.
> It's such a dense collection of reference info that it really is a "must
> have" for a builder. It may be a little more U.S. centric than you would
> like. Although he does show drill sizes for various metric screws, his
> transistor table pretty much sticks to the 2N and 2SC types. Still, it's
> almost worth it for the wonderful capacitor section. And he does show all
> the common toroid mixes, how to wind toroids, and he has some nice charts
of
> inductance and Q for the more common mixes.
>
> 72/73 de WB8RCR http://www.qsl.net/wb8rcr
> didileydadidah QRP-L #1446 Code Warriors #35

1793. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 20:22:31 UTC
From: brokebob@aol.com
Message-ID: <20030908162231.07565.00000591@mb-m27.aol.com>
Source record: 32660

Think of the phase shift as being a frequency shift (frequency can't vary unless the phase shifts somewhere along the line. Phase modulation and frequency modulation appear identical at the receive end.
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

1794. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 20:55:13 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <5giplv45qtk11d2ruk3keekio4lrlh0fc3@4ax.com>
Source record: 32661
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 7 Sep 2003 18:52:46 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>Paul Burridge wrote:
>> On Sun, 7 Sep 2003 16:12:29 +0100, "Kevin Aylward"
>> <kevin@anasoft.co.uk> wrote:
>>
>>> Oh, so you didn't understand it properly then?
>>
>> No, I understood it perfectly. It was probably some political dogma
>> that he threw in at that moment that did it. I recall thoroughly
>> enjoying 'the Ragged Trousered Philanthropists' up until the point
>> where Tressel stated that there was something unnatural about mature
>> men remaining unmarried.
>
>You've lost me here. Its a been a while since I read the selfish gene,
>but there is no way Dawkins would hold to such a silly idea.

I'm not suggesting he held *this* particular loony idea. The example
from Tressel was only that; an example.

>>> No he didn't. Of course, people tighten up or refine their original

>Must have been. However, as I said minor changes in position are not
>important, one cant get all the details right first time.

Indeed. Hence the re-think between the books. They were what? 10 years
apart? People move on and refine their ideas. You should read
Wittgenstein to see how far a man can change his outlook over the
course of his life!

>I remember when I did not understand the details well enough to apply
>the theory to picking up women. A naive approach would be to do things
>for the women's direct interest, i.e. maybe the women could survive
>better, and pass on her genes better that way, i.e acting on the
>assumption that a women would chose if you were "nice" to her. Boy was I
>wrong. A women will do what ever maximises the number of her genes.

I think you've phrased that rather poorly but I believe I know what
you mean.

>This
>results in one main fact. She chooses a mate, essentially, only on the
>basis of good gene stock. She doesn't want a nice person because this
>would mean her offspring would also be nice, and thereby do things not
>in there own best interest. She wants a "mean" offspring. That is, treat

>them mean, keeps them keen The theories great. It explains quite nicely
>why women chose those yobbys that beat them up.

Can't agree there. Women are basically genetically obliged to pick the best mate they can get their hands on, given the limitations imposed by their own pulling abilities. What they are looking for in every case is a mate who can give their offspring the best chance of survival and 'thrival' in this wide, mean world. Interestingly enough, the qualities the male must display to succeed change according to different ages (historical ages, not biological) and cultures. At varying times, men have been favoured because of, for example, they're exceptionally good fighters. Or unusually good hunters... later in history, we see female preferences based on wealth and status. But in countries where for idealogical reasons, all people are 'made to be equal' like the old Soviet Union or the 'old' China, females must pick according to other criteria such as a gift for literature, music or art. They're all programmed to do their best for the unborn child, even if they don't want children at all or are too old to conceive.

>No, you conclude wrong. There was nothing, or little really new. So,
>"The Blind Watchmaker" by its very title tells you that it is explaining
>the details of how apparently consciously designed intricate objects,
>are not designed, but just a result of random process. This is a trivial
>deduction to the theory of replicators. In addition, it is well
>recognised that it was the selfish gene book that really made the shit
>hit the fan.
>
>I genuinely got bored with the book.

<boggle!>

>I don't agree. Reviews mean f'all. Have you actually read all the
>"review" on the later editions of Hawking's "Brief history of time". It
>make you want to vomit. Sure, his a very clever dude, but he is
>ceratyinly not a god.

I didn't say he was. In fact he admitted to wasting much time working on 'singularities' with Roger Penrose donkey's years ago.

>As noted above, it was the selfish gene that revolutionised the approach
>to evolution as to the body being a mere vehicle for the masters, the
>genes and memes.

Let's just put it down to a matter of personal preference, then.

[not particularly relevant Einstein example snipped]

>The whole emphases on Darwin is wrong, it is a legacy theory. The
>fundamental idea is the Replicator, as such, a "handicap" is just a
>specific detail of how some particular Replicators can replicate better.

I'm not sure what you're driving at here but I don't like the sound of it.

>> Rubbish. You demonstrably know sweet FA about global economics as
>> demonstrated in our recent exchanges on the subject where you cut and
>> run like a scalded cat when faced with cogent arguments from someone
>> (me) with indisputable expertise in the area.
>
>Nonsense. It was just something that I could not be bothered to debate.
>I have little interest in economics, other than how much I get paid,
>which concerns me greatly.

LOL! Yeah, whatever. You quit while you were behind. You should have
quit earlier but I think you just about backed out before you
sustained any terminal damage. :-)

>If your claiming that Dawkins retracted the basics of Replicators, then
>your dreaming. I'll have to see what Miller is specifically addressing.

I'm suggesting no such thing. I'm simply saying that Dawkins softened
his line of selfishness a good measure from the position you wrongly
(now) attribute to him.

>I have read a few bits and bobs from creationists who claim that Dawkins
>recanted on his evolutionary views. It was all crap, as he himself
>explained.

Yes I know. The attempts were laughable.

>Well, obviously, you could not refute my argument that selfishness is
>inherent. As I said, its a tautology. It can't be contradicted.

Okay, well let's put you this question: if everyone is basically
selfish, why do some people help other people out on newsgroups?
I think I know what your answer will be but I want to see it from you
yourself in black and white. And don't be afraid this time, Kev.
Evolution's not my specialist area. :-)

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1795. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 22:39:17 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0309081439.4f74a0c9@posting.google.com>
Source record: 32662
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite <gwhite@ti.com> wrote in message news:<3F5CBB18.32ADA52E@ti.com>...
[snipped long diatribes]
>
> Class A works just fine in multipliers/modulators -- "non-linearity" of
> circuit elements is not required. Maybe you can analyze the old
> MC1496. That would be enlightening to you. But more important and more
> simple (it will save you loads of time), just apply *the* linearity test

[snip]
Hmmm .... you may be mistaking the (sometimes linear) current steering
effect for the mechanism within the transistor that makes current
steering possible: the relationship between gm and Ic ... or from
another POV, the change in rbb with respect to bias current. These
effects are non-linear.

Anyway, with all this talk of AM modulators I recall some papers I
read back in the early 1980's on vector modulation ... or the use of
the sum of two phase-modulated signals at high power, with a
compensating signal at low power such that the sum yielded a perfect
amplitude modulated wave ... very little power required from the
actual linear "AM" section. The technique is used to generate an AM
signal of many kilowatts, whilst using only a few hundred watts in the
required linear [c(t)] stage.

If the audio signal is expressed as a(t), and the phase-modulated
signal is limited to a p-p deviation of slightly less than pi/2, and
the compensation signal is c(t), then the crude diagram is as follows:

```
______
PM(-a(t)) -----| \ ______
| T1 0--------| \
PM (a(t)) -----|_____/ | T2 0----- "AM" out
c(t)--|_____/
```

T1, T2 = 90-degree hybrids

IIRC, many AM broadcast transmitters now employ this technique.
Hopefully, someone out there has a better recollection than I and can
provide a reference.

Best Regards,

Frank Raffaeli
http://www.aomwireless.com/

1796. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 23:24:02 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <4m2qlv42i7848jk8eag8bnlrtaas05216m@4ax.com>
Source record: 32663
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 08 Sep 2003 10:23:36 -0700, gwhite <gwhite@ti.com> wrote:

>That is clever -- you want me to "declare" something is true that I've
>made no reference to. You are quite the inventor. Face it: you had an
>incorrect notion about linearity. All the rest of your words are
>twisting, squirming, and turning to try to save face after you acted
>condescending (and still do) about a very simple matter. That's all.

I have to say I've been wrestling with this attitude problem of kev's
as well. Earlier this evening I postulated to myself that the reason
for all these contradictory posts and arguments over semantics might
possibly be due to Kev's impared usage of English. If the guy's
dyslexic or has some other comprehension problem, he might very well
be an electronics genius but we'd find it hard to tell because this
veil between he and us muddies the water both ways. You view as
expressed above is a very much more cynical one, but I'm forming the
view that one or t'other must explain it. But Kev has admitted to
English not being his strong suit elsewhere on the group and if that's
the case and he really *does* know what he's talking about then I feel
sorry for him. It must be pretty shitty and exceedingly frustrating
for anyone in that position. I know; I've met a few and it's ruined
their lives.

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1797. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 23:24:03 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <b63qlvsb792dggtm47dg4rmorjcdfgmi4f@4ax.com>
Source record: 32664
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On 8 Sep 2003 15:39:17 -0700, SNIPrf_man_frTHIS@yahoo.com (Frank
Raffaeli) wrote:

>gwhite <gwhite@ti.com> wrote in message news:<3F5CBB18.32ADA52E@ti.com>...
>[snipped long diatribes]
>>
>> Class A works just fine in multipliers/modulators -- "non-linearity" of
>> circuit elements is not required. Maybe you can analyze the old
>> MC1496. That would be enlightening to you. But more important and more
>> simple (it will save you loads of time), just apply *the* linearity test
>
>[snip]
>Hmmm .... you may be mistaking the (sometimes linear) current steering
>effect for the mechanism within the transistor that makes current
>steering possible:

What *is* "current steering"? Does it for example refer to direction
or level or both? And what does the steering?
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1798. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-08 23:56:38 UTC
From: Terry Given <the_domes@xtra.co.nz>
Message-ID: <v_T6b.140710$JA5.3388929@news.xtra.co.nz>
Source record: 32648
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

> > >> Kevin Aylward wrote:
> > >
> > > In summary, there are differing concepts of what linearity is being
> > > understood to mean in the real world.
> >
> >
> > No again. Those who are confused about it, and can't admit they are
> > simply wrong about what amounts to a widely accepted definitional
> > matter
[snip]
>You nor anyone else need take my word for it: it is in *all* the
>Signals, Systems, and Communications texts I've ever opened up -- they
>are wholly consistant with each other; check for yourself. Your
>"definition" is not in any of them (af(t) = f(at)???). So I feel
>justified in simply saying you are flatly wrong. If you could at least
>post a citation from a text that has your definition and a worked
>mathematical problem/solution (no "Circuits" junk), then at least we
>could say it was all a grand misunderstanding.

herewith a self-confessed doesnt-know-it-all's analysis:
IF
y(x) = mx+c (even KA cant argue with the linearity (and time-invariance) of
this....LOL)
THEN
y(ax) = max+c
AND
ay(x) = max+ac
Elementary Sesame-Street Theory (one of these things is not like the other)
clearly shows this "definition" of linearity to be rubbish.

gwhite most certainly has it correct. KA does not.

as a slight aside, I have read H&H about 8 times, and will continue to do
so - it is one of the more useful books on electronics I have ever bought
(and I have about 600 of them). If you do not have that book - GO AND BUY
IT!! I even met WINFIELD Hill at an MIT junkfest once a few years ago, and
had an interesting discussion with him about my work on high-speed PMSM
energy storage flywheels and giant SMPS. That guy is really smart - I
suggest anyone reading this forum should pay close attention to win's
postings (i sure do). As far as being an "academic" - well, go read H&H -
its beauty lies in its practicality, unlike most texts. Just because someone
works in academia, doesnt mean they are useless (although to be fair, its
usually not a bad first guess). Likewise I have met plenty of blithering
idiots out doing "real" engineering (its a good thing - competent people end

up being well paid to fix their screw-ups). The worst ones tend to work in sales (I presume its because they cant get real jobs)

Really this entire thread has done little more than allow Kevin Aylward to appear like a pompous idiot, with a somewhat limited understanding. A BSc and half-a-dozen MSc courses (one A - wow. I remember those - they are what you get if you dont do well enough for an A+) simply makes for a failed MSc. Of all the pomposities, I just loved this one:

>> In all honesty, there is not much I don't know about general analogue
>> design, although, obviously, I don't claim to know it all.

It kind of makes one wonder just how KA knows there isnt much he doesnt know.

why do I post on these newsboards? am I being selfish? I dont think so. I have had questions answered for me, so it is only fair that I answer those that i can (quid pro quo). I also get a bit of a buzz when i can "show off". And reading posts from others can be very informative. Some stuff is downright hilarious (thanx KA). I could "listen" to Jim Thompson & Win reminisce for hours - riveting stuff.

1799. Re: Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 01:53:45 UTC
From: D & B Rude <brewman@merr.com>
Message-ID: <Joa7b.7689$cQ1.2119815@kent.svc.tds.net>
Source record: 32665

GeryD.,
I read your posting with interest and sympathy. I have to same damn problem here. I too am looking for a way to zap the stereo. Sometimes they just have FM radio cranked up. I was thinking an FM broadcast band xmitter with a beam and some extra help from a "brick" amp would be a good thing. Find approiate music (music they hate) and broadcast it their way. Just a thought. If you could figure out a way to zap their noise in the microwave range that would really be cool. Good luck and I will check for further postings, as the "law" has laws on the books they won't enforce, and it's getting to be a joke (the law(s)
dave
"G�ry Duyck" <gery@duyck-co.be> wrote in message news:3f5233ff$0$8542$ba620e4c@reader0.news.skynet.be...
> We have a little problem in our neighborhood.
>
> Recently some *vulgar* people moved in a couple of houses away from mines.
> There 2 family's of them in 2 different houses.
>
> Every evening and night the whole street get to hear some very loud music.
> It's hard to get some sleep over here !
>
> We went several times to them to talk, and ask to put the volume down, but
> they
> don't wanna listen to us. (with us I mean me and the rest of the
> neighborhood ...)
> As a matter of fact they only turned it louder...
>
> Calling the police won't help much too, the only thing they said is "go to
> ask if they wanna
> set there volume down" when I say we already done this they say "go ask
> again"
>
> It's really frustrating, and it's driving me bananas !!!
>
> So now I'm looking for some good circuit to disturb there hi-fi equipment!
>
> Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in
the
> power
> supply in conduction, so he won't hear anything and shut his device off.
> This will of course only work if he hasn't got a filter installed.
>
> I also saw some thinges about transmitting static to disturb there

devices.
>
> Anyone who got's hint's and tip's for helping me to teach them a lesson
are
> greatly
> appreciated.
> I know this is maybe not the right way to do this but with some people you
> don't have any other choise ...
>
> 73 --... ...--
> Gery D.
>
>
>

1800. Tremendous RFI from Maxtor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 02:02:48 UTC
From: D & B Rude <brewman@merr.com>
Message-ID: <cxa7b.7691$cQ1.2119025@kent.svc.tds.net>
Source record: 32666

hello,
I would like to use my computer for logging as I work DX stations, would like to try PSK31, etc. BUT.... the computer wipes out half the HF bands. I waited until the hard drive went into sleep mode and the RFI was much better. I tried grounding the computer case to an earth ground but to no avail. Anyone else have this problem and how did you remedy it. My box is not super fast, being a mere Intel PIII 450 mhz proc. It has the usual things, vid card, external modem, and sound card. Your help appreciated.
KA9SRU

1801. Re: Tremendous RFI from Maxtor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 02:43:24 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <nbfqlvk7t38d2ilkv5hkk1gf93a9ev12nb@4ax.com>
Source record: 32667

On Tue, 09 Sep 2003 02:02:48 GMT, "D & B Rude" <brewman@merr.com>
wrote:

>I would like to use my computer for logging as I work DX stations, would
>like to try PSK31, etc. BUT.... the computer wipes out half the HF bands. I
>waited until the hard drive went into sleep mode and the RFI was much
>better. I tried grounding the computer case to an earth ground but to no
>avail. Anyone else have this problem and how did you remedy it. My box is
>not super fast, being a mere Intel PIII 450 mhz proc. It has the usual
>things, vid card, external modem, and sound card. Your help appreciated.
>KA9SRU
>
The monitor, even LCD, is a significant source of RF noise.

Also worth checking the cabling, and upgrading to shielded cable if
you don't have now.

Use one source of grounding for the system.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1802. Re: Tremendous RFI from Maxtor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 03:00:02 UTC
From: dplatt@radagast.org
Message-ID: <vlqghi961nctc6@corp.supernews.com>
Source record: 32668

>I would like to use my computer for logging as I work DX stations, would
>like to try PSK31, etc. BUT.... the computer wipes out half the HF bands. I
>waited until the hard drive went into sleep mode and the RFI was much
>better. I tried grounding the computer case to an earth ground but to no
>avail. Anyone else have this problem and how did you remedy it. My box is
>not super fast, being a mere Intel PIII 450 mhz proc. It has the usual
>things, vid card, external modem, and sound card. Your help appreciated.

Does the RFI appear only when the disk is being accessed, or is it
present at all times when the disk is spinning?

If the former, you might be able to snub out some of the interference
by installing ferrites on the data cables from the drive to the
motherboard. You can get clamp-on flat ferrites for ribbon cables, or
clamp-on split-ring ferrites for the newer-style round "high airflow"
cables. Install ferrites as close as possible to the drive, and also
at the motherboard end of the cable.

If the interference is present whenever the drive is spinning (and not
just when't being accessed) then the RFI may be coming from the
drive's onboard CPU and DSP. Damping down this RFI within the cabinet
is likely to be tricky to do, as adding a shielding/damping material
(e.g. a ferrite sheet) to the drive controller PC board might cause
drive overheating, or might short out something on the board.

You could try clamping ferrites on _all_ cables leaving the case...
monitor, keyboard, mouse, etc. It's possible that EMI from the drive
is being conducted out on these cables.

You may need a better-shielded case. I've seen a lot of cases on the
market which don't appear to have good shielding properties... the
sides are plastic (often without an anti-conductive coating of any
sort), there are no (or ineffective) contact flanges to tie the sides
to the case, etc. My hunch is that a lot of PCs built with this sort
of casework (by e.g. smaller, neighborhood or regional PC-builder
shops rather than national manufacturers) probably don't meet FCC
Class B EMI radiation/conduction limits.

The cases I've seen sold under the Antec brand name seem to be pretty
good ones - solid metal sides, metal shielding for any unused
chassis-front drive bay, good contact flanges between surfaces, etc.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will

boycott any company which has the gall to send me such ads!

1803. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 03:56:45 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F5D4F7D.6830CCDA@ti.com>
Source record: 32669
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Frank Raffaeli wrote:
>
> gwhite <gwhite@ti.com> wrote in message news:<3F5CBB18.32ADA52E@ti.com>...
> [snipped long diatribes]

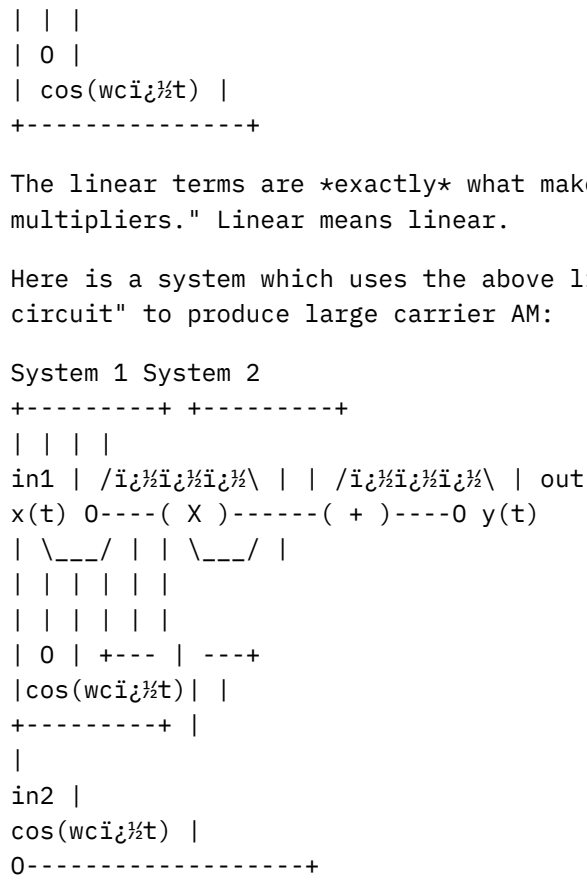
Dude, you are responding to one of the shorter messages.

> > Class A works just fine in multipliers/modulators -- "non-linearity" of
> > circuit elements is not required. Maybe you can analyze the old
> > MC1496. That would be enlightening to you. But more important and more
> > simple (it will save you loads of time), just apply *the* linearity test
>
> [snip]
> Hmmm .... you may be mistaking the (sometimes linear) current steering
> effect for the mechanism within the transistor that makes current
> steering possible: the relationship between gm and Ic ... or from
> another POV, the change in rbb with respect to bias current. These
> effects are non-linear.

Non-linearity is *not* required to create DSB-AM out of transconductance type multipliers like the gilbert cell. In fact, *non-linearity is specifically something that designers hope to minimize* -- just like in any linear device. The standard linear approximation practice ensues: that is, the taylor expansion of exp(x) is done and the linear term is the desired one and *it is all that is required or wanted for this linear multiplier*. The rest of the terms are unwanted and that includes the multipliers usage as a frequency translator, which I proved to be a fundamentally linear operation. No one needs to take my word for it. Anyone interested can idealize the gilbert cell to only the linear terms and the device will still be able to produce DSB-AM -- IOW, non-linearity is *not* required.

The *linear terms* on both the inputs of a class-A biased gilbert cell are exactly what are anticipated in the higher level system drawing, the non-linear terms are *not required* for DSB-AM to occur (to the extent higher order products exist they are unwanted products). Driving the LO port into the switch mode is notwithstanding. For example:

The System
+----------------+
| |
in | /ï¿½ï¿½ï¿½\ | out
x(t) O--------(X)---------O y(t)
| ___/ |
| | |



The linear terms are *exactly* what make the gilbert cells "linear multipliers." Linear means linear.

Here is a system which uses the above linear system, and another "linear circuit" to produce large carrier AM:

That these two systems can be (and have been) made with "linear" circuits is indisputable. The output is indistiguishable from large carrier AM so we can just as well call it that.

Now it is interesting that as far as the x(t) -> y(t) concern _alone_ goes, this "total" system is _not_ linear (apply the linearity test to see how/why). But that has absolutely nothing to do with any circuit issues like exp(x) and does has everything to do with the definition of linearity as it is taught in the EE curriculum. No "non-linear" circuit element was required to result in a non-linear system with regard to the x(t) -> y(t) transfer. The "non-linearity" is the sole consequence of the fact that this "total system" is a Multiple-Input-Single-Output (MISO) system. It is interesting that System 2 is the MISO system. With regard to either of the inputs, and its respective output, the response of System 2 is linear -- identical in manner to the simple op-amp summer. But with regard to the total output of System 2, when neither of inputs are zero, the system is non-linear _with respect to a single input_ by the EE definition. That ought to make KA's blood boil: a "linear" circuit reduced to non-linearity by definition.

In Summary:
Non-linearity in terms of circuit elements is not required to "make AM." The concept of linearity in the EE curriculum is consistant across courses. That includes Signals and Systems, Circuits, and Electronic Design. That some are not up to speed on the linearity property is

notwithstanding.

> Anyway, with all this talk of AM modulators I recall some papers I
> read back in the early 1980's on vector modulation ... or the use of
> the sum of two phase-modulated signals at high power, with a
> compensating signal at low power such that the sum yielded a perfect
> amplitude modulated wave ... very little power required from the
> actual linear "AM" section. The technique is used to generate an AM
> signal of many kilowatts, whilst using only a few hundred watts in the
> required linear [c(t)] stage.
>
> If the audio signal is expressed as a(t), and the phase-modulated
> signal is limited to a p-p deviation of slightly less than pi/2, and
> the compensation signal is c(t), then the crude diagram is as follows:
> ______
> PM(-a(t)) -----| \ ______
> | T1 0--------| \
> PM (a(t)) -----|_____/ | T2 0----- "AM" out
> c(t)--|_____/
>
> T1, T2 = 90-degree hybrids
>
> IIRC, many AM broadcast transmitters now employ this technique.
> Hopefully, someone out there has a better recollection than I and can
> provide a reference.

You might hinking of the Chirex Outphasor, or a similar idea (I don't know how c(t) fits into the Chirex). Yes, it can be used to make an AM signal. The thing is it *is* a non-linear method and you aren't calling out the amplitude to phase mapping that is required for your +/- a(t) signal.

1804. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 04:13:41 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F5D5375.DB1591FB@ti.com>
Source record: 32670
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>

> But Kev has admitted to
> English not being his strong suit elsewhere on the group and if that's
> the case and he really *does* know what he's talking about then I feel
> sorry for him.

I don't dispute at all that he knows a lot about EE. Rather, I would say he does know quite a lot. But no one knows it all and all people make mistakes here and there. As best I can tell, and for what I learned (and I worked pretty hard at it), he looks to be flat wrong on this detail (and a detail is about all it is).

The good news is that a misunderstanding of what linearity *strictly* means will not likely prevent an otherwise competant engineer from building a very effective AM or AM/PM system.

> It must be pretty shitty and exceedingly frustrating
> for anyone in that position. I know; I've met a few and it's ruined
> their lives.

Now in thinking of those relationship and communication issues, I am looking forward to the next Survivor show.

1805. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 06:40:01 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <7Be7b.375$eA5.303@newsfep1-gui.server.ntli.net>
Source record: 32671
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Kevin Aylward wrote:
>>
>
>
>>> It is that simple.
>>
>> Nope. Its not. Linearity has many definitions.
>
> It doesn't have "many definitions" when it comes to the EE profession.
> The one definition is wholly consistant across academic texts --
> without known contradiction. Everyone who took courses like
> Circuits, Fields and Waves, and on and on, also took a Signals and
> Systems (or similar under a different name) course. That some, such
> as you for example, didn't learn or understand the definition is
> notwithstanding.
>
>> Look, I have no problem with your example of a particular definition
>> of linearity. I already explained how such an example is meaningless
>> in analogue design by giving an example.
>>
>> A mathematical definition only has meaning if it is useful when it is
>> applied. In analogue design this definition is useless, so it is not
>> used.
>
> It is useful to the extent modulation is a linear operation produced
> by devices such as gilbert cells biased to Class-A.

Look, you don't even realise that you are using "linear" here in a
completely different sense then one applies it to an equation.

What part of "I agree, that a modulator can be described as a linear
process" do you have trouble with.?

What part of "A modulater usually achives its function by using a
non-linear relation between input voltge/current to output
voltage/current do you have trouble with.?

In one case "linear" is being applied as a property of system as a
whole, in the other it is being applied as a property to an individual
component of system.

Both statements are correct, in their given contest, but they are saying
"different" things.

The issue here is that you have parrot read something from a book, and
then go applying willy nilly it without even the slightest idea of when
it is applicable. Non of the standard references suggest that non-linear
equations are linear. This is daft. There are addressing a different
matter entirely. I have already explained what the distinction is, you
have failed to understand, the point, and I doubt never will.

It is very useful
> definition: for example, high data rate modern digital communications
> systems routinely utilize linear modulation/demodulation.

Of course its useful, assuming you are competent enough to know when it
can be applied.

>
> It doesn't even matter if the upper transistors in the gilbert cells
> are driven to the switch mode (switch mode is not a requirement;
> class-A will do) by the LO. It is still linear modulation.

I don't disagree, never claimed otherwise. This is a diffent use of the
word linear. However, it achieves its "linear" modulation by non-linear
means, which you claim it doesn't.

>
> This system is linear:

{sniped teaching granny to suck eggs drivial}

>Do you know why?

Yes. I already explained it. You snipped it in my last post.

Jesus wept dude. This is bloody ridiculous. Look sonny boy, snipping my
detailed explanation of why your modulator can be classed as a linear
system, in the given context, shows you for the liar that you are. You
don't impress anyone by attempting to prove a result, you have been
informed at least twice that, is trivial, and that I had already agreed
with that result, in that particular context.

>
>> I care about
>> linearity as understood in the solution of the non-linear
>> differential equations used in Spice.
>
> Like I said early on: you can make the answer come out however you
> want if you are permitted to make up the rules and change them as you
> play.

The rules have not been changed. Unfortunately you are too incompetent
to know when to apply the relevant rules.

Show me one Signals, Systems, and Communications text that declares
y=x^2 is a linear equation.

What part of "apples" and "fishnet stockings" did you have trouble with?

>
>> Look, I don't claim that the particular definition of linearity that
>> you presence is "wrong" in principle. It is a very well known
>> definition. However, it is one of many, and is simple not applicable
>> in this context.
>
> It is the definition for the EE profession.

Its apparent you know f'all about definitions in either mathematics or
electronics, nor how to apply them.

>
>> I clearly said that linearity, as defined in analogue design,
>> is essentially defined by the absence of any frequencies in the
>> output not present in the input.
>
> That "definition" is incorrect, as has been pointed out already.

It is not, as has been pointed out to you already. proof:

1 Go to *any* and *all* main component vendors web site, e.g. TI, Analog
Devices, Maxim, LT, National, etc

2 Look at their dat sheets and app notes on A/D D/A converters
3 Note the use of FFT testing for linearity.
4 Note how they *all* declare the linearity of A/D D/A by the level of
spurious frequencies

This is the definitin that is *actually* uesd in the EE profession.
Its the way it is, and no amount of your huffing and puffing will change
what is standard practise. All you have done here is show that you have
not got a clue on what is standard practise in electronic engineer. Your
words mean nothing

The reality is, is that you are simple trying to hide you failure to
show that your class A amplifier cannot achieve modulation without using
the non-linear relation of input voltage to current. Its as plain as
day.

Produce you proof of Vo(t)= Vi(t).(1+a.sin(wt)) or shut the f'ck up.

>
>> I know all about your definition. I dont disagree that it is a valid
>> definition in some contexts.
>
> It is the definition for the EE context.

Not in the detailed design of electronic circuits it isn't.

> If you want an LTI system,
> then so be it.
>
>> However, it is not applicable to electronic
>> circuit design that is based on the solution of non-linear
>> differential equations, with the "non-linear" term having a

>> universally accepted meaning by the 10,000s of mathematician who
>> actually study such equations.
>
> It is not a matter of a mathematician's characterization of equations.
> It is the EE characterization, and this is largely an EE forum. If
> you are a mathematician and not an EE, then I can see why you would
> believe what you do.

Sorry mate, what part of "there are 100,000's of EE's out there using Spice, all on the understanding that the equations of electronic design are non-linear" do you fail to undrstand"? Your a right blooody joke.

You particular Mickey mouse, comic book understanding of what constitutes an acceptable definition in EE is irrelevant. We real practicing design engineers don't care about you erroneous waffle. Secondly, there is not a hope in hell that the authors of your quoted references will agree with your gross distortion of their books contents. You have not the slightest ability to apply such knowledge. Your on you own.

>
>> You arnt wrong in this thread because of you particular claim of
>> linearity.
>
> It isn't "my claim."

It is your claim. No competent author will claim y=x^2 is a linear equation. Get real.

> It is the standard definition for EE's.

As I explained above, complete an utter nonsense. You haven't the slightest idea of what is standard practise in electronic engineering. I have been an analogue designer for over 20 years, and no one I have met uses your suggestion in the design of circuits. Your definition is more appropriate to complete system design, then discrete component design.

That
> some EE's didn't quite "get it" is notwithstanding.

Indeed they dont.

You are simple too dense, are are too much of a coward to admit your wrong. I explained in detail the two diffent comcepts of linearity.

>
>> The real reason for this disagreement is that you are talking apples
>> and I am talking fish net stockings. You are applying the term
>> linearity in a completely different sense than the one I am using.
>> Both are valid in principle, and are indeed well accepted, under
>> their appropriate conditions.
>
> Your definition is not the EE definition.

Yes is is. I don't know one competent EE who declares that the
transistor equation is a linear equation.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1806. Re: Tremendous RFI from Maxtor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 07:18:37 UTC
From: Ramakrishnan Muthukrishnan <rkrishnan@ti.com>
Message-ID: <3F5D7ECD.D441250@ti.com>
Source record: 32672

D & B Rude wrote:
>
> hello,
> I would like to use my computer for logging as I work DX stations, would
> like to try PSK31, etc. BUT.... the computer wipes out half the HF bands. I

Certain techniques are described in this link to make an RF-quiet PC.

http://www.antennspecialisten.com/sm5bsz/linuxdsp/hware/quietpc.htm

--
--... ...--
Ramakrishnan

1807. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 08:13:49 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <4Zf7b.513$eA5.6@newsfep1-gui.server.ntli.net>
Source record: 32673
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Sun, 7 Sep 2003 18:52:46 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>

>
>> This
>> results in one main fact. She chooses a mate, essentially, only on
>> the basis of good gene stock. She doesn't want a nice person because
>> this would mean her offspring would also be nice, and thereby do
>> things not in there own best interest. She wants a "mean" offspring.
>> That is, treat them mean, keeps them keen The theories great. It
>> explains quite nicely why women chose those yobbys that beat them up.
>
> Can't agree there. Women are basically genetically obliged to pick the
> best mate they can get their hands on, given the limitations imposed
> by their own pulling abilities.

By and large, this is not significant. The numbers can be increased by quality or quantity. A man will have sex pretty much with *any* women, so long as they're not fat:-). If a women goes up to a man stranger, in a pub and says, lets go back to my place, its a done deal. There is no much of a disadvage numbers wise, a man has offspring by every women he can so he does. On the over hand, a women can not do this. Once she's pregnant, that's her out of the game for 9 months. The only way she can get her genes to replicate faster is by choosing better gene stock. This makes her absolutely choosy.

>What they are looking for in every
> case is a mate who can give their offspring the best chance of
> survival and 'thrival' in this wide, mean world.

I think you have still missed an important point here. Yes, I agree that there is some truth in this, and this is a pretty obvious analysis, but it is not that significant. The most important facter is good gene stock. Its the only factor. She will chose a mate based on what characteristics the offspring will have. Not what's in her personal best interest. The body is only a vehicle for the genes. Bodies don't copy themselves, so cant form a basis for replication, only genes replicate. If it is the net best interest of the genes, they will sacrifice the vehicle to enable better success for themselves.

Interestingly enough,
> the qualities the male must display to succeed change according to
> different ages (historical ages, not biological) and cultures. At

> varying times, men have been favoured because of, for example, they're
> exceptionally good fighters. Or unusually good hunters... later in
> history, we see female preferences based on wealth and status. But in
> countries where for idealogical reasons, all people are 'made to be
> equal' like the old Soviet Union or the 'old' China, females must pick
> according to other criteria such as a gift for literature, music or
> art. They're all programmed to do their best for the unborn child,
> even if they don't want children at all or are too old to conceive.

But in practice, the single most significant aspect, even today, is
physical appearance. It has to be. Its pretty much universal what is
considered good looking, many studies have been done. Sure, its useful
to have other aspects. A show of wealth, is obviously an indicator that
her offspring may also get this characteristic (ignoring the details of
how for now), but in pracise, you have to be pretty damn weathy if you
want to take Liz Harley to bed.

>
>> I don't agree. Reviews mean f'all. Have you actually read all the
>> "review" on the later editions of Hawking's "Brief history of time".
>> It make you want to vomit. Sure, his a very clever dude, but he is
>> ceratyinly not a god.
>
> I didn't say he was. In fact he admitted to wasting much time working
> on 'singularities' with Roger Penrose donkey's years ago.
>
>> As noted above, it was the selfish gene that revolutionised the
>> approach to evolution as to the body being a mere vehicle for the
>> masters, the genes and memes.
>
> Let's just put it down to a matter of personal preference, then.
>
> [not particularly relevant Einstein example snipped]

Oh?

>
>> The whole emphases on Darwin is wrong, it is a legacy theory. The
>> fundamental idea is the Replicator, as such, a "handicap" is just a
>> specific detail of how some particular Replicators can replicate
>> better.
>
> I'm not sure what you're driving at here but I don't like the sound of
> it.
>

That's because you didn't see the point of the Einstein example. Go back
and read it again to get the *bigger* picture.

>>> Rubbish. You demonstrably know sweet FA about global economics as
>>> demonstrated in our recent exchanges on the subject where you cut
>>> and run like a scalded cat when faced with cogent arguments from

>>> someone (me) with indisputable expertise in the area.
>>
>> Nonsense. It was just something that I could not be bothered to
>> debate. I have little interest in economics, other than how much I
>> get paid, which concerns me greatly.
>
> LOL! Yeah, whatever. You quit while you were behind. You should have
> quit earlier but I think you just about backed out before you
> sustained any terminal damage. :-)

Nope. I happen to believe in conservation of energy and momentum. You views denied this. I look at the bigger picture. I am not familiar with all the details of economics so I didn't want to get bogged down there. A general theorem that you cant get blood from a stone doesn't need the details, but as I said, cant be bothered expanding on it.

>
>> If your claiming that Dawkins retracted the basics of Replicators,
>> then your dreaming. I'll have to see what Miller is specifically
>> addressing.
>
> I'm suggesting no such thing. I'm simply saying that Dawkins softened
> his line of selfishness a good measure from the position you wrongly
> (now) attribute to him.

If you mean that we might be able to override the gene's "intentions", I don't know if what he says is really what he believes, or is an attempt to appease the masses for politically correct reasons.

The problem is, the only way to override a Replicator, is make a better one. Unfortunately, the ones we have, have millions of years of a head start. You try not getting a hard on if naked striper sits on your lap.

>
>> I have read a few bits and bobs from creationists who claim that
>> Dawkins recanted on his evolutionary views. It was all crap, as he
>> himself explained.
>
> Yes I know. The attempts were laughable.
>
>> Well, obviously, you could not refute my argument that selfishness is
>> inherent. As I said, its a tautology. It can't be contradicted.
>
> Okay, well let's put you this question: if everyone is basically
> selfish, why do some people help other people out on newsgroups?

I explained this, the 5 team bunch of skinheads verses the single guy, although there is a number of factors. The fundermental reason is that the genes expect a payback. Of course, detrimental characteristics are still being randamly generated, so some of them are fools. Have you been to the dawin awards site http://www.darwinawards.com/ ?

In *general*, is it good or bad to gain a respected reputation?

Genes don't know when helping is going to be beneficial or not, they cant think. They don't know the future. Replication is only based on probabilities. If you help nobody, what's the probability you will get help back? One has to look at the numbers from game theory. Give various traits, e.g helpfulness, punishment, slyness, e.g. tit for tat strategy etc. The final numbers give what strategies are stable, or drive the group to extinction.

So, people are helpful to others because, statistically, this strategy results in net benefit to themselves, statisticly.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1808. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 08:37:16 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <2jg7b.545$eA5.325@newsfep1-gui.server.ntli.net>
Source record: 32674
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Kevin Aylward wrote:
>>
>> gwhite wrote:

>> Its that simple. I clearly stated that it was *not* a
>> definition.
>
> "Linearity can more easily be expressed as: a(f(t)) = f(at)" -- Kevin
> Aylward
>
> I think someone is posting under your name. A nasty bit of business
> that is.

Linearity can be expressed by this, however, it is not a necessary
condition. I never claimed that it was a complete definition.

>
>> It was simply trying to illustrate the concept of constant
>> gain. You expanding on some trivial minor point to avoid answering
>> the main issue, to wit, you have failed to disprove my claim on your
>> class A amplifier.
>
> Class A works just fine in multipliers/modulators

Never said it didn't. However, the class A bit does not account for how
they multiply.

>-- "non-linearity"
> of circuit elements is not required.

Ho humm. Now for the example that does indeed use non-linearity.

Maybe you can analyze the old
> MC1496. That would be enlightening to you.

Yep.

Not at all. You are an completly mistaken. It is abundantly clear that
you don't know the first thing about analogue circuit design. It is
truly amazing and unbelievable that you can be so wrong and not be aware
of it. You are an incompetent.

The MC1496 is a double balanced modulator based on the Gilbert cell
transconductance multiplier. The Gilbert cell multiplier relies on the
exponential relation of collector current to base emitter voltage. That

is, its transconcutane is a function of its emitter current. Its well understood by all those knowledgeable in the field. to wit:

I = Io.exp(V/Vt)

transconductance gm = dI/dv = d(Io.exp(V/Vt))/dv

gm = Io/Vt.exp(V/Vt)) = Ie/Vt

That is, the gm is a function of Ie.

Since:

Iout = gm.Vin

we have

Iout = Ie/Vt.Vin

That is, Iout is a product of, Ie and Vin. Making Ie a function of another voltage results in the multiplication of two voltages, i.e. a modulator.

How you can make such daft claims and not be embarrassed shows greate stamina, I must say.

>But more important and
> more simple (it will save you loads of time), just apply *the*
> linearity test for
>
> h(t)
> x(t) -> y(t).

You still haveny cottoned on the fact that you wily nilly apply definitions you no hope of understanding.

>
>> The notion that y=x^2 is a non-linear equation is
>> universally accepted by anyone who has done even the slightest bit of
>> theory on basic algebraic equations. It does not require any
>> qualification in the slightest.
>
> No shit, by why are you rambling on and on about it?

Because you don't understand it.

>
>> Show me one, and I mean just one, that
>> declares y=x^2 a linear equation.
>
> That is clever -- you want me to "declare" something is true that I've
> made no reference to.

You have. See above. You claimed the Gilbert cell did not rely on non-linearity. Jesus wept again. Your so out to lunch on this that its

unreal. Look, own up your just trolling aren't you.

You are quite the inventor. Face it: you had
> an incorrect notion about linearity.

Dream on. You have been soundly proven wrong, and why you are wrong.

Kevin Aylward
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Waveform Display, FFT's and Filter Design.

1809. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 09:32:33 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <T6h7b.648$eA5.621@newsfep1-gui.server.ntli.net>
Source record: 32675
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Frank Raffaeli wrote:
>>
>> gwhite <gwhite@ti.com> wrote in message
>> news:<3F5CBB18.32ADA52E@ti.com>... [snipped long diatribes]
>
> Dude, you are responding to one of the shorter messages.
>
>>> Class A works just fine in multipliers/modulators --
>>> "non-linearity" of circuit elements is not required. Maybe you can
>>> analyze the old MC1496. That would be enlightening to you. But
>>> more important and more simple (it will save you loads of time),
>>> just apply *the* linearity test
>>
>> [snip]
>> Hmmm .... you may be mistaking the (sometimes linear) current
>> steering effect for the mechanism within the transistor that makes
>> current steering possible: the relationship between gm and Ic ... or
>> from another POV, the change in rbb with respect to bias current.
>> These effects are non-linear.
>
>
> Non-linearity is *not* required to create DSB-AM out of
> transconductance type multipliers like the gilbert cell. In fact,
> *non-linearity is specifically something that designers hope to
> minimize* -- just like in any linear device. The standard linear
> approximation practice ensues: that is, the taylor expansion of
> exp(x) is done and the linear term is the desired one and *it is all
> that is required or wanted for this linear multiplier*.

Ahh... now I see where the confusion is, and I did already address this by my comment on the non availability of real, linear voltage controlled resisters. I stated that in principle, one might be able to find a device that was strictly linear in order to achieve modulation. I also stated that such devices do not appear to exist, such that in practise, one generally has to use a non-linear device to achieve multiplication.

It should go without comment that when one analyses the simple transistor multiplier that one only selects the first order linear term, and that this is term that generates the multiplication. This is trivially obvious, and was what I showed in my original analysis, gm is inherently a small signal property. Indeed, as this is only valid for small signals, more complex multipliers log the input signal so that in conjunction with the exponential relation results in perfect

multiplication at all signal levels, originally due to Gilbert I might add.

This confusion here appears to me to be one of semantics or x-wires, as is often the case on strongly held, but oppositely apposed views. gwhite claims that you don't inherently require a non-linear device to achieve multiplication, I claim that all practical devices have a non-linear transfer function, and it is this transfer function that results in multiplication. I don't believe we are arguing about the same point. I have nothing more to say on this. I have better things to do.

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1810. Re: Tremendous RFI from Maxtor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 10:28:35 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <RDi7b.187$lj5.129795@newsfep2-win.server.ntli.net>
Source record: 32677

"Dave Platt" <dplatt@radagast.org> wrote in message
news:vlqghi961nctc6@corp.supernews.com...
> >I would like to use my computer for logging as I work DX stations, would
> >like to try PSK31, etc. BUT.... the computer wipes out half the HF bands.
I
> >waited until the hard drive went into sleep mode and the RFI was much
> >better. I tried grounding the computer case to an earth ground but to no
> >avail. Anyone else have this problem and how did you remedy it. My box is
> >not super fast, being a mere Intel PIII 450 mhz proc. It has the usual
> >things, vid card, external modem, and sound card. Your help appreciated.
>
> Does the RFI appear only when the disk is being accessed, or is it
> present at all times when the disk is spinning?
>
> If the former, you might be able to snub out some of the interference
> by installing ferrites on the data cables from the drive to the
> motherboard. You can get clamp-on flat ferrites for ribbon cables, or
> clamp-on split-ring ferrites for the newer-style round "high airflow"
> cables. Install ferrites as close as possible to the drive, and also
> at the motherboard end of the cable.
>
> If the interference is present whenever the drive is spinning (and not
> just when't being accessed) then the RFI may be coming from the
> drive's onboard CPU and DSP. Damping down this RFI within the cabinet
> is likely to be tricky to do, as adding a shielding/damping material
> (e.g. a ferrite sheet) to the drive controller PC board might cause
> drive overheating, or might short out something on the board.
>
> You could try clamping ferrites on _all_ cables leaving the case...
> monitor, keyboard, mouse, etc. It's possible that EMI from the drive
> is being conducted out on these cables.
>
> You may need a better-shielded case. I've seen a lot of cases on the
> market which don't appear to have good shielding properties... the
> sides are plastic (often without an anti-conductive coating of any
> sort), there are no (or ineffective) contact flanges to tie the sides
> to the case, etc. My hunch is that a lot of PCs built with this sort
> of casework (by e.g. smaller, neighborhood or regional PC-builder
> shops rather than national manufacturers) probably don't meet FCC
> Class B EMI radiation/conduction limits.
>
> The cases I've seen sold under the Antec brand name seem to be pretty
> good ones - solid metal sides, metal shielding for any unused
> chassis-front drive bay, good contact flanges between surfaces, etc.

==========
Perhaps you should also suspect the switch mode power supply unit of your PC.
even if it is fully metal enclosed . The 230 or 115 V AC filter might also be sub-standard .
The latter could allow RF type sigs to pollute the power supply system and hence your radio.
This can be checked partly by temporarily running your radio off-grid ,through a 12V battery ,if that is possible.

Frank GM0CSZ / KN6WH

1811. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 12:46:12 UTC
From: Russell Shaw <rjshaw@iprimus.com.au>
Message-ID: <3F5DCB94.5080805@iprimus.com.au>
Source record: 32703
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
> gwhite wrote:
>
>>The simple fact is you are wrong in thinking you can all of the sudden
>>make up your own definition of linearity, or carry forward without
>>challenge the mistaken definition of others.
>
> Absolute crap. Show me one respectable math reference that says if
> y=exp(x), that y is a linear function of x.
>
> You were right about one

> Show me one real practical example that does not use a device with a
> functional relation between input and output voltage/current that is
> linear, as I defined above. As did note as an after thought, it may be
> possible in principle, for example, maybe one could construct a true,
> linear with voltage, voltage controlled resistor. However, I am not
> aware of such magic devices.
>
> The physical reality is that it is not possible. Produce one and I will
> retract my claim.

A light dependant resistor. One input drives a LED via a linearizer
to compensate for LDR non-linearity. The LDR resistance is unaffected
by the voltage across it. Therefore, the resulting current
Io=f(V1,V2)= k.V1*V2 (4-quadrant multiplier or compensated gilbert cell)

The circuit output is *superposition linear* relative to each input.
dIo/dV1=k.V2, dIo/dV2=k.V1 (partial derivatives). In mixer operation,
Io=f(Vin,Vosc). Vosc is an independant time-varying signal.
Therefore, Io=f(Vin,Vosc(t)) or Io(t)=g(Vin,t). Because Io vs Vin
is linear (4-quad multiplier), then dIo/dVin= g'(t) ie: a function
of time only. This is the definition of a linear time-varying
circuit.

>>that is incorrect. You confuse the time-invariance property with the
>>linearity property. You believe LTI systems are the *only* linear
>>systems -- they are not according to the widely accepted and published
>>definition of linearity.
>
> No. Linearity is widely understood to have many definitions. I have
> explained some of these already.

An ideal multiplier is considered nonlinear with respect to a certain
signal if a component of that signal is applied to *both* inputs

simultaneously. Then:

Io=k.(V1+a.V2)(a.V1+V2)= k.(aV1^2 + a.V2^2 + (1+a^2).V1.V2)

1812. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 12:50:40 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <C0k7b.981$eA5.615@newsfep1-gui.server.ntli.net>
Source record: 32678
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
> gwhite wrote:
>> Frank Raffaeli wrote:
>>>
>>> gwhite <gwhite@ti.com> wrote in message
>>> news:<3F5CBB18.32ADA52E@ti.com>... [snipped long diatribes]

>>
>> Non-linearity is *not* required to create DSB-AM out of
>> transconductance type multipliers like the gilbert cell.

>I have nothing more to say on this. I have better things to do.

However, what the hell...:-)

We know for the diode:

gm = 40.Id.

That is, the gm or IV slope is a fuction of I. This allows another
transister to give an output:

Iout = gm.Vi

Iout = 40.Id.Vi

Which is a multiplication of Id with Vi, or a modulator.

Now, lets pretend that the diode equation is linear:

Id = Io.(1 + k.Vd)

gm is then

gm = d(Id)/d(Vd)

therefore

gm = Io.k

Thus the gm is a constant, independent of applied current or voltage.
This
means a transistor using this as a control parameter would give an
output:

Iout = gm.Vi = Io.k.Vi

Which has no multiplication factors.

To achive muliplication one can consider adding a nonlinear term

Id = Io.(1 + k.Vd + cVd^2)

gm = Io.(k + 2c.Vd)

and subsequently

Iout = Io.(k + 2c.Vd).Vi

Which does have a multiplication term.

This can be formalised. To achieve multiplication from a gm source, we must have

Vo = gm(V1).V2.

That is, gm must be a function of V1. However, Gm is defined by Vi as

gm = dI/dVi, therefore

I = integral(gm(Vi))

If gm(Vi) is represented by a Taylor expansion, any required terms linear in Vi will integrate to Vi^2, that is

I = aV^2 + terms...

That is, the I verses V relation must be non-linear to achieve a gm that is a function of voltage or current.

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1813. Re: Tuning Beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 14:07:15 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bjkmqj$k08$1@208.206.142.84>
Source record: 32679

TeeAye wrote:

> On Sun, 07 Sep 2003 22:04:38 GMT, in rec.radio.amateur.homebrew you
> wrote:
>
> >Hi Folks,
> >I was asked a question today that I can't answer ;-(
> >
> >On beacons identifying with FSK or AFSK. Is it the keying that is 'on
> >frequency' or is it the carrier radiated between keying, or is it
> >between the two, where both tones are at the same pitch?.
> >
> >I've never had to even think about it before.
> >
> >atb Mike
>
> ____
>
> For amateur radio, the frequency is considered to be that of the MARK
> signal.

Also known as the "resting frequency", IIRC

Dick

1814. Re:Caveat Jammer (Was Disturb noisy neighbours)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 14:17:39 UTC
From: Caveat Lector <CL@latin.com>
Message-ID: <7il7b.30521$S_.10600@fed1read01>
Source record: 32680

I am amazed at all the illegal advice that goes on here regarding jamming the neighbors, cutting power line neutral etc.

These are illegal and some one not knowing any better may try it.

A good lawyer can take an offender to task and they are in BIG trouble. Particularly when you post EVIDENCE of your intent here.

Best check your city ordnances for proper measures to deal with noisy neighbors. For CB salty talk -- TURN IT OFF.

Stay within the law -- your pocketbook will appreciate that.

Big lawsuits lasting for years have taken place over illegal activities as proposed here.

--
73 From The Signal In The Noise
Caveat Jammer Ya All

"D & B Rude" <brewman@merr.com> wrote in message
news:Joa7b.7689$cQ1.2119815@kent.svc.tds.net...
> GeryD.,
> I read your posting with interest and sympathy. I have to same damn problem
> here. I too am looking for a way to zap the stereo. Sometimes they just have
> FM radio cranked up. I was thinking an FM broadcast band xmitter with a beam
> and some extra help from a "brick" amp would be a good thing. Find approiate
> music (music they hate) and broadcast it their way. Just a thought. If you
> could figure out a way to zap their noise in the microwave range that would
> really be cool. Good luck and I will check for further postings, as the
> "law" has laws on the books they won't enforce, and it's getting to be a
> joke (the law(s)
> dave
> "G�ry Duyck" <gery@duyck-co.be> wrote in message
> news:3f5233ff$0$8542$ba620e4c@reader0.news.skynet.be...
> > We have a little problem in our neighborhood.
> >
> > Recently some *vulgar* people moved in a couple of houses away from mines.
> > There 2 family's of them in 2 different houses.

> >
> > Every evening and night the whole street get to hear some very loud
music.
> > It's hard to get some sleep over here !
> >
> > We went several times to them to talk, and ask to put the volume down,
but
> > they
> > don't wanna listen to us. (with us I mean me and the rest of the
> > neighborhood ...)
> > As a matter of fact they only turned it louder...
> >
> > Calling the police won't help much too, the only thing they said is "go
to
> > ask if they wanna
> > set there volume down" when I say we already done this they say "go ask
> > again"
> >
> > It's really frustrating, and it's driving me bananas !!!
> >
> > So now I'm looking for some good circuit to disturb there hi-fi
equipment!
> >
> > Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in
> the
> > power
> > supply in conduction, so he won't hear anything and shut his device off.
> > This will of course only work if he hasn't got a filter installed.
> >
> > I also saw some thinges about transmitting static to disturb there
> devices.
> >
> > Anyone who got's hint's and tip's for helping me to teach them a lesson
> are
> > greatly
> > appreciated.
> > I know this is maybe not the right way to do this but with some people
you
> > don't have any other choise ...
> >
> > 73 --... ...--
> > Gery D.
> >
> >
> >
>
>

1815. Re: Caveat Jammer (Was Disturb noisy neighbours)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 14:54:16 UTC
From: gus <gus_in_jail@nospam.com>
Message-ID: <3F5DE997.217C68CF@nospam.com>
Source record: 32681

Keep calling the cops on them, if everyone on the block complains they will deal with the bums, will take some time.

Letter writing campaign, easy on the pc ! Send certified letter of complaint to the Poice Chief and Mayor if you have one. Call the TV stations too !

Stay within the laws, there could be someone behind the bums to keep them going,

perhaps to lower YOUR LAND AND PROPERTY VALUES to buy up homes cheap.

I have seen this before up north, they bring in bums to run down the block and then
snap up the homes and land far less then the going price would have been without bums
living on the block.

If everyone on the block kicked in a few bucks you could hire a lawyer to deal with this.

Keep cool and you will be better off along with your neighbors to reclaim your block.

gus

1816. Re: Tremendous RFI from Maxtor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 14:57:01 UTC
From: gus <gus_in_jail@nospam.com>
Message-ID: <3F5DEA3C.C570B642@nospam.com>
Source record: 32682

Hi,

Try using an extension cord to plug your radio into another outlet on other
side of house
as a test to see if the noise is lowered or eliminated.

Good advise from other posters.

D & B Rude wrote:

> hello,
> I would like to use my computer for logging as I work DX stations, would
> like to try PSK31, etc. BUT.... the computer wipes out half the HF bands. I
> waited until the hard drive went into sleep mode and the RFI was much
> better. I tried grounding the computer case to an earth ground but to no
> avail. Anyone else have this problem and how did you remedy it. My box is
> not super fast, being a mere Intel PIII 450 mhz proc. It has the usual
> things, vid card, external modem, and sound card. Your help appreciated.
> KA9SRU

1817. Re: Re:Caveat Jammer (Was Disturb noisy neighbours)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 15:17:15 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bjkuaqagt1@bob.news.rcn.net>
Source record: 32687

"Caveat Lector" <CL@latin.com> wrote in message
news:7il7b.30521$S_.10600@fed1read01...
> I am amazed at all the illegal advice that goes on here regarding jamming
> the neighbors.

Decades ago a coworker RF-jammed the loud radio in the next apartment.
Pretty soon my coworker was threatened with eviction if he didn't stop.

1818. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 15:18:00 UTC
From: Roy McCammon <rmccammon@austin.rr.com>
Message-ID: <3F5DEF81.3090004@austin.rr.com>
Source record: 32683
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:

> I think you have still missed an important point here. Yes, I agree that
> there is some truth in this, and this is a pretty obvious analysis, but
> it is not that significant. The most important facter is good gene
> stock.

Heck, I thought her strategy was to latch on to the
best provider and then during that small period of maximum
fertility sneak out and laid by the biggest baddest stud
available.

1819. FYI: FSK Mark and Space (Was Tuning Beacons)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 15:40:41 UTC
From: Caveat Lector <CL@latin.com>
Message-ID: <Zvm7b.30546$S_.11306@fed1read01>
Source record: 32684

From URL:

http://www.tpub.com/content/neets/14184/css/14184_94.htm

FSK SIGNALS.-In fsk the rf signal is shifted in frequency (not amplitude) between "key-open" and "key-closed" conditions. The signal amplitude remains essentially constant. View (A) of figure 2-3 represents the letter "F" keyed as a shift in frequency between mark and space. The normal frequency condition with the key open is a space. Recall that this may be either the lower or higher frequency. When the key is closed, the frequency instantly changes to the mark value and remains constant during the marking interval. Opening the key again returns the frequency to the space frequency. Midway between the mark and space frequencies is the assigned channel frequency

AFSK signals are at URL:

http://www.ik3qar.it/rtty/3/
--
73 From The Signal In The Noise
Caveat Lector Ya All

"TeeAye" <noway@nohow.com> wrote in message
news:q3srlv86apttjkm9idqg44c73rap66n980@4ax.com...
> On 9 Sep 2003 14:07:15 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:
>
> >> For amateur radio, the frequency is considered to be that of the MARK
> >> signal.
> > >
> > >Also known as the "resting frequency", IIRC
> > >
> > >Dick
> >
> > ----------
> >
> > New one on me.
> >
> > --
> > Bill, W7TI
> >

1820. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 15:55:17 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <KJm7b.1049$eA5.406@newsfep1-gui.server.ntli.net>
Source record: 32685
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Roy McCammon wrote:
> Kevin Aylward wrote:
>
>> I think you have still missed an important point here. Yes, I agree
>> that there is some truth in this, and this is a pretty obvious
>> analysis, but it is not that significant. The most important facter
>> is good gene stock.
>
> Heck, I thought her strategy was to latch on to the
> best provider and then during that small period of maximum
> fertility sneak out and laid by the biggest baddest stud
> available.

Indeed. This is essentially the way it works.

So, as far as picking up women, one must always act in such a manner as she would want in her offspring. Walk tall, show no sign of weakness etc... The best way to pick up a women is to make sure that your with lots of other women. They want offspring that are similar attractive with other women. For, men its big bad news if a women is seen with lots of men. Too much probability that she's having someone's else genes, and as you say, having some sucker pick upon the rearing tab.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
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Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1821. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 15:55:42 UTC
From: "Eric C. Weaver" <weav@sigma.net>
Message-ID: <3f5df7ff$1@news.announcetech.com>
Source record: 32686
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Frank Raffaeli wrote:

> Eric,
>
> The really efficient dsp / digital algorithms come about with
> time-varying processes. Another good bit of science is the use of
> recursive filters to produce a finite impulse response ... That's one
> nice way to squeeze a lot of functionality in a medium-sized IC / FPGA
> / ASIC ... or whatever.
>
> Radio receiver (demodulation) and bandpass algorithm / code get a lot
> smaller.

No doubt about it! Though my point was something different.

A recursive filter would probably count as LTI since the coefficients don't change (at least in the kind I'm thinking of). An adaptive filter, though, might not, though it'd be time-invariant between adaptations.

A DSP / math-oriented guy would look at a mixer or modulator and say "See, it's linear!" because the stage is a-times-b. Look, no second- or third-order terms! An EE guy would say "it generates new frequencies, it's not linear." The EE guy means "function of one variable that only changes the scale or intercept".

Just terminology differences, is all it is.

1822. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 16:26:22 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F5DFF2E.13380461@clifto.com>
Source record: 32688
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> What *is* "current steering"? Does it for example refer to direction
> or level or both? And what does the steering?

I'm tempted to say that it's like power steering, but without voltage
steering. But I won't say that.

--
"Here, Outlook Express, run this program." "Okay, stranger."

1823. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 17:26:32 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <c01slvc17r9mb3ujgh68v0phvpjhh96qv4@4ax.com>
Source record: 32689
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 09 Sep 2003 15:18:00 GMT, Roy McCammon
<rmccammon@austin.rr.com> wrote:

>Heck, I thought her strategy was to latch on to the
>best provider and then during that small period of maximum
>fertility sneak out and laid by the biggest baddest stud
>available.

I assume your comment is made in jest, but there *are* wimmin out
there who will do this. One case that springs to mind was this poor
sap who lived in Texas (IIRC) who was ostensibly happily married; he
and his "wonderful wife" had been "blessed" with four "beautiful
children" - as invariably happens in America, of course. :-) Anway,
some chance event led to the discovery that one of the kids couldn't
possibly have been this father's. It was thought that was the extent
of the infidelity, but it turned out on further investigation that
none of the children were his *and* they all had *different*
fathers! Understandalby the poor bastard was devastated when he
learned this - as indeed where the children; they'd all grown very
close to him and he to they during their lives. Most were in their
teens. Bad time for such revelations. :-(
I'll wager that bitch had some explaining to do! :->
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1824. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 17:26:34 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <bm2slv85msg242490ekmovko2u7bc013oq@4ax.com>
Source record: 32690
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 9 Sep 2003 07:40:01 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>Yes is is. I don't know one competent EE who declares that the
>transistor equation is a linear equation.

I don't think he can be suggesting that, Kev. Much of these
discussions have been above my head as you may imagine, but suppose
he's only referring to "linear" to mean the part of the graph that's
as close to a straight line as you can get with a decent device; the
central point of which the operating point is typically set on in
Class A? Could that account for the misunderstanding?
Probably not but I just thought I'd mention it in case...
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1825. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 17:26:35 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <363slv8uei4g71tt431933sepn98bg17lr@4ax.com>
Source record: 32691
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 9 Sep 2003 09:13:49 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>
>By and large, this is not significant. The numbers can be increased by
>quality or quantity. A man will have sex pretty much with *any* women,
>so long as they're not fat:-). If a women goes up to a man stranger, in
>a pub and says, lets go back to my place, its a done deal. There is no
!
Okay, Kev. I'll try to deal with this message in full later this
evening. I've got some packing to do. Off on holiday 2morrow!
Hope I don't see another computer the whole time I'm away...
--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1826. Bird Coaxial Resistor Model 8166

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 17:51:53 UTC
From: The Genie <the_genie@btopenworld.com>
Message-ID: <bjl3vogs1@sparta.btinternet.com>
Source record: 32692

Hi,
I've got one of the above but not instructions/leaflet
can anyone tell me the maximum frequency for it?
Thanks in anticipation,
Mike

1827. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 18:27:03 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <3Zo7b.1098$eA5.838@newsfep1-gui.server.ntli.net>
Source record: 32693
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Tue, 09 Sep 2003 15:18:00 GMT, Roy McCammon
> <rmccammon@austin.rr.com> wrote:
>
>> Heck, I thought her strategy was to latch on to the
>> best provider and then during that small period of maximum
>> fertility sneak out and laid by the biggest baddest stud
>> available.
>
> I assume your comment is made in jest, but there *are* wimmin out
> there who will do this.

No its not in jest. There has really been a good deal of real research done on this. In fact, the was a TV program on it the other day. The researches get women to rate people based on attractiveness. There are well studied features that relate facial features and behaviour, for example "manly" or "caring" characteristics. They show that during the critical ovulation period, women much prefer the manly faces rather then the caring faces, and visa versa doing other times.

Of course, women don't generally do this consciously, but it is the way it is. As I said, whatever strategy results in the best Replicators, is what we observe.

And to Roy, it occurred to me that you may have misunderstood my comment on "women selects", I was of course, meaning selects to have sex with, not as a long term partner.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1828. Re: Bird Coaxial Resistor Model 8166

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 19:16:14 UTC
From: James <jimbo@nospaam.com>
Message-ID: <3F5E26FD.B69CD91C@nospaam.com>
Source record: 32694

BIRD, 8166, Co-Axial Resistor
150W 50ohm 1.2GHZ

The Genie wrote:

> Hi,
> I've got one of the above but not instructions/leaflet
> can anyone tell me the maximum frequency for it?
> Thanks in anticipation,
> Mike

1829. Re: FYI: FSK Mark and Space (Was Tuning Beacons)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 19:28:30 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f5e2981.556064971@news.freeserve.net>
Source record: 32695

On Tue, 9 Sep 2003 08:40:41 -0700, "Caveat Lector" <CL@latin.com>
wrote:

>From URL:
>
>http://www.tpub.com/content/neets/14184/css/14184_94.htm
>
>FSK SIGNALS.-In fsk the rf signal is shifted in frequency (not amplitude)
>between "key-open" and "key-closed" conditions. The signal amplitude remains
>essentially constant. View (A) of figure 2-3 represents the letter "F" keyed
>as a shift in frequency between mark and space. The normal frequency
>condition with the key open is a space. Recall that this may be either the
>lower or higher frequency. When the key is closed, the frequency instantly
>changes to the mark value and remains constant during the marking interval.
>Opening the key again returns the frequency to the space frequency. Midway
>between the mark and space frequencies is the assigned channel frequency
>
>AFSK signals are at URL:
>
>http://www.ik3qar.it/rtty/3/
>--
>73 From The Signal In The Noise
>Caveat Lector Ya All
>
Damn, I thought I had received a definitave answer, and now I get a
contrary view... ;-(
goes away muttering untypeable utterances....

1830. Re: FYI: FSK Mark and Space (Was Tuning Beacons)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 21:24:43 UTC
From: Caveat Lector <CL@latin.com>
Message-ID: <vyr7b.30791$S_.19184@fed1read01>
Source record: 32696

Ok lets simplifies it
From URL:
http://wombat.doc.ic.ac.uk/foldoc/foldoc.cgi?Frequency+Shift+Keying

<communications> (FSK) The use of frequency modulation to transmit digital data, i.e. two different carrier frequencies are used to represent zero and one.

FSK was originally used to transmit teleprinter messages by radio (RTTY) but can be used for most other types of radio and land-line digital telegraphy. More than two frequencies can be used to increase transmission rates.

Also URL: http://www.its.bldrdoc.gov/fs-1037/dir-016/_2347.htm

frequency-shift keying (FSK): Frequency modulation in which the modulating signal shifts the output frequency between predetermined values. (188) Note 1: Usually, the instantaneous frequency is shifted between two discrete values termed the "mark" and "space" frequencies. This is a noncoherent form of FSK. Note 2: Coherent forms of FSK exist in which there is no phase discontinuity in the output signal. Synonyms frequency-shift modulation, frequency-shift signaling.

Also see URL:
http://searchnetworking.techtarget.com/sDefinition/0,,sid7_gci213936,00.html

Frequency-shift keying (FSK) is a method of transmitting digital signals. The two binary states, logic 0 (low) and 1 (high), are each represented by an analog waveform. Logic 0 is represented by a wave at a specific frequency, and logic 1 is represented by a wave at a different frequency. A modem converts the binary data from a computer to FSK for transmission over telephone lines, cables, optical fiber, or wireless media. The modem also converts incoming FSK signals to digital low and high states, which the computer can "understand."

--
73 From The Signal In The Noise
Caveat Lector Ya All

"Mike W" <mike@corn2.freeserve.co.uk> wrote in message
news:3f5e2981.556064971@news.freeserve.net...
> On Tue, 9 Sep 2003 08:40:41 -0700, "Caveat Lector" <CL@latin.com>
> wrote:
>
> >From URL:
> >
> >http://www.tpub.com/content/neets/14184/css/14184_94.htm

> >
> >FSK SIGNALS.-In fsk the rf signal is shifted in frequency (not amplitude)
> >between "key-open" and "key-closed" conditions. The signal amplitude
remains
> >essentially constant. View (A) of figure 2-3 represents the letter "F"
keyed
> >as a shift in frequency between mark and space. The normal frequency
> >condition with the key open is a space. Recall that this may be either
the
> >lower or higher frequency. When the key is closed, the frequency
instantly
> >changes to the mark value and remains constant during the marking
interval.
> >Opening the key again returns the frequency to the space frequency.
Midway
> >between the mark and space frequencies is the assigned channel frequency
> >
> >AFSK signals are at URL:
> >
> >http://www.ik3qar.it/rtty/3/
> >--
> >73 From The Signal In The Noise
> >Caveat Lector Ya All
> >
> Damn, I thought I had received a definitave answer, and now I get a
> contrary view... ;-(
> goes away muttering untypeable utterances....

1831. Re: FYI: FSK Mark and Space (Was Tuning Beacons)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 22:35:58 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f5e5390.566834007@news.freeserve.net>
Source record: 32697

On Tue, 9 Sep 2003 14:24:43 -0700, "Caveat Lector" <CL@latin.com>
wrote:

>Ok lets simplifies it

No need I've been sending and receiving RTTY for years so I know what
FSK and AFSK is and what it sounds like.
The question was..
Which frequency is the carrier frequency as regards HF and VHF
Beacons, and I suppose A/FSK data, in the Amateur service.
The Mark, the Space or in the middle for Amateur usage (the frequency
you log in your logbook).
Keying can be normal or inverted making the space either higher or
lower than the mark so saying that the mark is the carrier frequency..
occasionally.. is'nt much use is it ?.

1832. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 23:16:53 UTC
From: Roy McCammon <rmccammon@austin.rr.com>
Message-ID: <3F5E5F6C.6090109@austin.rr.com>
Source record: 32699
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Tue, 09 Sep 2003 15:18:00 GMT, Roy McCammon
> <rmccammon@austin.rr.com> wrote:
>
>
>>Heck, I thought her strategy was to latch on to the
>>best provider and then during that small period of maximum
>>fertility sneak out and laid by the biggest baddest stud
>>available.
>
>
> I assume your comment is made in jest,

no, I believe that they are pretty much wired that way.

1833. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 23:18:17 UTC
From: Roy McCammon <rmccammon@austin.rr.com>
Message-ID: <3F5E5FC0.9020509@austin.rr.com>
Source record: 32700
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:

> And to Roy, it occurred to me that you may have misunderstood my comment
> on "women selects", I was of course, meaning selects to have sex with,
> not as a long term partner.

I was distinguishing between "selects to have sex with"
vs "selects to get pregent by"

1834. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-09 23:21:16 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <m7kslvsjnvn268j3r18lm1qavp1m2vfbe6@4ax.com>
Source record: 32698
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 9 Sep 2003 09:13:49 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>By and large, this is not significant. The numbers can be increased by
>quality or quantity. A man will have sex pretty much with *any* women,
>so long as they're not fat:-). If a women goes up to a man stranger, in
>a pub and says, lets go back to my place, its a done deal. There is no
>much of a disadvage numbers wise, a man has offspring by every women he
>can so he does. On the over hand, a women can not do this. Once she's
>pregnant, that's her out of the game for 9 months. The only way she can
>get her genes to replicate faster is by choosing better gene stock. This
>makes her absolutely choosy.

Not quite. She's out of the game for considerably more than 9 months
and not only that, she's run off her feet nurturing for years to come.
Consider the disparity in investment:
Male: 15 minutes 'work-ouk' producing two teaspoons of semen. Total
cost to male: the semen that would be naturally lost anyway, plus
maybe having to forego the time to down half a pint of beer with his
chums in the local pub.

Female: 9 months carrying, physical disfigurement, much physical pain
and then she's lumbered with a unceasingly demanding child who keeps
her from doing anything else than looking after it, morning noon and
night for years to come. Opportunity cost: work it out for yourself
but it's *enormous*. She's choosy because her investment into the
project is vast and has to be worth it in the long term. He's not
because his investment is negligable. Anything in a skirt will
suffice, particularly after a few beers.

>I think you have still missed an important point here. Yes, I agree that
>there is some truth in this, and this is a pretty obvious analysis, but
>it is not that significant. The most important facter is good gene
>stock. Its the only factor. She will chose a mate based on what
>characteristics the offspring will have. Not what's in her personal best
>interest. The body is only a vehicle for the genes. Bodies don't copy
>themselves, so cant form a basis for replication, only genes replicate.
>If it is the net best interest of the genes, they will sacrifice the
>vehicle to enable better success for themselves.

I'm not sure I understand you fully here. Some of your above remarks a
a bit disjointed. If you can re-phrase it to make more sense I'll try
and tackle this paragraph before I have to jet-off 2morrow.

>But in practice, the single most significant aspect, even today, is
>physical appearance. It has to be. Its pretty much universal what is
>considered good looking, many studies have been done. Sure, its useful
>to have other aspects. A show of wealth, is obviously an indicator that
>her offspring may also get this characteristic (ignoring the details of
>how for now), but in pracise, you have to be pretty damn weathy if you
>want to take Liz Harley to bed.

No thanks. It's *she* who'd have to be bloody well-off. I'm rather
fussy, I'll have you know.
But I'd agree that physical appearance is the single most significant
aspect with the accent on *single* and probably has been for all time
so far as the human race is concerned.
Shows of wealth are often a bit misleading. Wimmin do find them highly
attractive. But the reason they *think* they find them attractive
(nice house, nice holidays, nice car etc) and not the same as the
real reason they do, which is simply their genes trying to ensure
for themselves that the mate in question will be able to give the
offspring the best possible shot at life: better diet, better
schooling, better upbringing, better adult prospects of that offspring
attracting a similarly classy mate for him/herself.

>>> I don't agree. Reviews mean f'all. Have you actually read all the
>>> "review" on the later editions of Hawking's "Brief history of time".
>>> It make you want to vomit. Sure, his a very clever dude, but he is
>>> ceratyinly not a god.
>>
>> I didn't say he was. In fact he admitted to wasting much time working
>> on 'singularities' with Roger Penrose donkey's years ago.
>>
>>> As noted above, it was the selfish gene that revolutionised the
>>> approach to evolution as to the body being a mere vehicle for the
>>> masters, the genes and memes.
>>
>> Let's just put it down to a matter of personal preference, then.
>>
>> [not particularly relevant Einstein example snipped]
>
>Oh?

Straying too far off the subject for too long, Kev. I'm familiar with
Albert's work, too. And all the others of his ilk that were kicking
around in the early years of the 20th Century. Can't afford to get
bogged down in yet another off-topic discussion on the net. This
little excursion into human nature is taking the piss as it is.
Remember this is supposed to be an electronics design group!

>That's because you didn't see the point of the Einstein example. Go back
>and read it again to get the *bigger* picture.

I should only have to read your postings *once* m8. If you took more
trouble with your spelling, grammar and phraseology, these frequent
accusations you make about others' failing to understand you would

take up a good deal less of your time.

>Nope. I happen to believe in conservation of energy and momentum. You
>views denied this. I look at the bigger picture. I am not familiar with
>all the details of economics so I didn't want to get bogged down there.
>A general theorem that you cant get blood from a stone doesn't need the
>details, but as I said, cant be bothered expanding on it.

Whatever. In any event I have no wish to piss decent people off by
making a habit of this kind of unfortunate off-topic exchange.

>If you mean that we might be able to override the gene's "intentions", I
>don't know if what he says is really what he believes, or is an attempt
>to appease the masses for politically correct reasons.

The pressure from the PC brigade in the writer's mind must always be
considered when reading these kind of books. It's outrageous that some
ingorant pigs appear to take the view that their own personal
prejudices (like for a more equal world) should take precidence over
Truth. :-(

>The problem is, the only way to override a Replicator, is make a better
>one. Unfortunately, the ones we have, have millions of years of a head
>start. You try not getting a hard on if naked striper sits on your lap.

I'm not like most other men so kindly don't judge me in such crude
terms.

>I explained this, the 5 team bunch of skinheads verses the single guy,
>although there is a number of factors. The fundermental reason is that
>the genes expect a payback. Of course, detrimental characteristics are
>still being randamly generated, so some of them are fools. Have you been
>to the dawin awards site http://www.darwinawards.com/ ?

I'm sufficiently aware of the concept not to need to. In any event,
there are staggering numbers of fools wherever one looks in everyday
life without having to seek them out on the 'net to add to one's woes
over the state of humanity.

>In *general*, is it good or bad to gain a respected reputation?

Generally good, of course. A few exceptions for pop stars, writers,
actors and artists, though.
>
>Genes don't know when helping is going to be beneficial or not, they
>cant think. They don't know the future. Replication is only based on
>probabilities. If you help nobody, what's the probability you will get
>help back? One has to look at the numbers from game theory. Give various
>traits, e.g helpfulness, punishment, slyness, e.g. tit for tat strategy
>etc. The final numbers give what strategies are stable, or drive the
>group to extinction.
>
>So, people are helpful to others because, statistically, this strategy

>results in net benefit to themselves, statisticly.

Well maybe you've finally explained with reasonable clarity what you
were struggling to explain earlier. If you'd now agree with me that
the charitable types, in the main, *believe* they are genuinely giving
something away to a worthy cause at a net cost to themselves, out of
the kindness of their hearts, then maybe we can at last say we've
found some common ground!
Let's hope so! :-)

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1835. Re: FYI: FSK Mark and Space (Was Tuning Beacons)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 00:00:22 UTC
From: Caveat Lector <CL@latin.com>
Message-ID: <qQt7b.31036$S_.24931@fed1read01>
Source record: 32701

Does this URL help
http://www.ref-union.org/thf/9aa2.pdf

--
73 From The Signal In The Noise
Caveat Lector Ya All
"Mike W" <mike@corn2.freeserve.co.uk> wrote in message
news:3f5e5390.566834007@news.freeserve.net...
> On Tue, 9 Sep 2003 14:24:43 -0700, "Caveat Lector" <CL@latin.com>
> wrote:
>
> >Ok lets simplifies it
>
> No need I've been sending and receiving RTTY for years so I know what
> FSK and AFSK is and what it sounds like.
> The question was..
> Which frequency is the carrier frequency as regards HF and VHF
> Beacons, and I suppose A/FSK data, in the Amateur service.
> The Mark, the Space or in the middle for Amateur usage (the frequency
> you log in your logbook).
> Keying can be normal or inverted making the space either higher or
> lower than the mark so saying that the mark is the carrier frequency..
> occasionally.. is'nt much use is it ?.
>

1836. Re: FYI: FSK Mark and Space (Was Tuning Beacons)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 00:53:10 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vlstfq7thcd2ee@corp.supernews.com>
Source record: 32702

I believe it is pretty much standard that the Mark is the lower RF frequency. For AFSK using a SSB transmitter that means that the audio Mark tone is the higher frequency and the transmitter is set to LSB which inverts it to the lower RF frequency.

For amateur and most commercial operation, the RF Mark frequency is generally given as the assigned frequency. The military uses the center, half way between Mark and Space as the assigned frequency. Because they assign channel frequencies as the center of the assigned bandwidth, this always puts the FSK signal in the center of the channel.

1837. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 01:45:26 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F5E8236.B4E699CE@ti.com>
Source record: 32704
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
>
> gwhite wrote:

> > Non-linearity is *not* required to create DSB-AM out of
> > transconductance type multipliers like the gilbert cell. In fact,
> > *non-linearity is specifically something that designers hope to
> > minimize* -- just like in any linear device. The standard linear
> > approximation practice ensues: that is, the taylor expansion of
> > exp(x) is done and the linear term is the desired one and *it is all
> > that is required or wanted for this linear multiplier*.
>
> Ahh... now I see where the confusion is, and I did already address this
> by my comment on the non availability of real, linear voltage controlled
> resisters. I stated that in principle, one might be able to find a
> device that was strictly linear in order to achieve modulation. I also
> stated that such devices do not appear to exist, such that in practise,
> one generally has to use a non-linear device to achieve multiplication.

Once again, it is *not* the non-linear aspect of it that "produces" the
multiplication (frequency translation in this case).

Maybe this will help you:

The Circuits and Filters Handbook
0849383412
CRC Press (c) 1995
Wai Kai Chen - Editor in Chief

Transconductance Multipliers

A direct, straightforward technique to realize the multiplication
function exploits the possibility of controlling the transconductance
of transistors through an electrical variable (current or voltage).
Although this feature is exhibited also by unilateral amplifiers,
most practical realizations use differential amplifiers to reduce
offset problems and enhance linearity [25]. Figure 32.32 shows a
generic schematic for a differential amplifier, consisting of two
identical three-terminal active devices with common bias current.
The expressions on the right display its associated transconductance
characteristics for npn-BJTs and n-channel MOSTs, respectively [25].
These characteristics are approximated to a first-order model as

i_y*v_x
i_z ~ --------- (BJT), i_z ~ sqrt(Beta*i_y)*v_x (32.39)

4*U_t

[~ := "approx. equal to"]

which clearly displays the multiplication operation, although restricted to a rather small linearity range. Practical circuits based on this idea focus mainly on increasing this range of linearity, and follow different design strategies. Figure 32.33 shows an example, known as the Gilbert cell, or Gilbert multiplier [23]. Corresponding realizations using MOS transistors are discussed in [2] and [53]. Sanchez-Sinencio et al. [61] present circuits to realize this multiplication function using OTA blocks. On the other hand, [17] presents a tutorial discussion of different linearization techniques for MOS differential amplifiers.

There you have it. For the BJT, i_z is linear according to i_y or v_x. That is, you change v_x by 1 dB and the ouput changes by 1 dB provided the coefficient for v_x (which is i_y) is not zero (vice versa for i_y too). Note all the talk about linearity from the circuits perspective: '...enhance linearity," and "although restricted to a rather small linearity range," and "Practical circuits based on this idea focus mainly on increasing this range of linearity," and "...a tutorial discussion of different linearization techniques." So explicitly again: *non-linearity is not required or even wanted for this particular multiplying function*. The circuits perspective of linearity is consistant with the Signals and Systems perspective. That some engineers don't know the definition is notwithstanding.

The following from Lathi may help get you up to speed on the linearity property:

SIGNALS, SYSTEMS AND COMMUNICATION
B. P. LATHI
Copyright ï¿½ 1965 by John Wiley & Sons, Inc.
Library of Congress Catalog Card Number: 65-22428
SECOND CORRECTED PBINTINC, SEPTEMBER, 1967

pp2-4

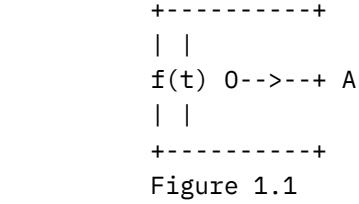


Figure 1.1

1.1 PROPERTIES OF LINEAR SYSTEMS

For every system there is an input signal (or driving function) and an output signal (or response function) (Fig. 1.1). A system processes the input signal in a certain fashion to yield the output signal. The word linear at once suggests that the response of a linear system should change linearly with the driving function (note that this is not the same as saying that the response should be linearly proportional to the driving function, although this is a special case of linearity); that is, if r(t) is the response

to f(t) then kr(t) is the response to kf(t). Symbolically, if

f(t) -> r(t)
then kf(t) -> kr(t) (1.1)

The linear system, however, implies more than Eq. 1.1. We define a linear system as a system for which it is true that if r1(t) is a response to f1(t) and r2(t) is a response to f2(t) then r1(t) + r2(t) is a response to f1(t) + f2(t), irrespective of the choice of f1(t) and f2(t). Symbolically, if

f1(t) -> r1(t)
f2(t) -> r2(t)
then f1(t) + f2(t) -> r1(t) + r2(t) (1.2)

Equation 1.2 actually expresses the principle of superposition symbolically. Thus linear systems are characterized by the property of superposition. We may consider Eq. 1.2 as the defining equation of a linear system; that is, a system is linear if and only if it satisfies Eq. 1.2, irrespective of the choice of f1(t) and f2(t).
Sometimes the condition is stated in the form,

aï¿½f1(t) + bï¿½f2(t) -> aï¿½r1(t) + bï¿½r2(t) (1.3)

irrespective of the choice of f1(t), f2(t) and constants a and b. This will be seen to be exactly equivalent to Eq. 1.2. Note that Eq. 1.2 is stronger than and implies Eq. 1.1.

1.2 CLASSIFICATION OF LINEAR SYSTEMS

Linear systems may further be classified into lumped and distributed systems. They may also be classified as time-invariant and time-variant systems. We shall briefly discuss these classifications.

Lumped and Distributed Systems

...

Time-Invariant and Time-Variant Systems

As already mentioned, linear systems can also be classified into time-invariant and time-variant systems. The systems whose parameters do not change with time are called constant-parameter or time-invariant systems. Most of the systems observed in practice belong to this category.

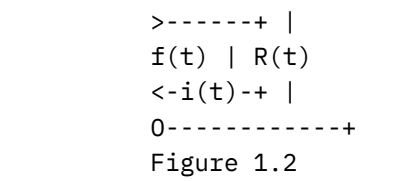


Figure 1.2

Linear time-invariant systems are characterized by linear equations (algebraic, differential, or difference equations) with constant coefficients. Circuits using passive elements are an example of time-invariant systems. On the other hand, we have systems whose parameters change with time

and are therefore called variable parameter or time-variant (also time-dependent) systems. Linear time-variant systems are characterized by linear equations with time-dependent coefficients in general. An example of a simple linear time-variant system is shown in Fig. 1.2. The driving function f(t) is a voltage source applied at the input terminals of a series R-L circuit where the resistor R(t) is a function of time. The response is the current i(t). Note that the principle of superposition must apply for a system to qualify as a linear system whether time-variant or time-invariant. The reader may convince himself that the system shown in Fig. 1.2 is a linear system. A linear modulator is another example of linear time-variant system. In this ease the gain of the modulator is proportional to the modulating signal.
The system characterized by Eq. 1.4

d^2r dr
---- + aï¿½-- + bï¿½r = f(t) (1.4)
dt^2 dt

is a linear time-invariant system, whereas the system characterized by Eq. 1.5

d^2r dr
---- + -- + (2ï¿½t + 1)ï¿½r = f(t) (1.5)
dt^2 dt

is a linear time-variant system. Note that both these systems satisfy the principle of superposition. This can be easily verified from Eqs. 1.4 and 1.5.
It is evident that for a time-invariant system if a driving function f(t) yields a response function r(t), then the same driving function delayed by time T will yield the same response function as before, but delayed by time T. Symbolically, if

f(t) ï¿½> r(t)
then f(t-T) -> r(t-T) (1.6)

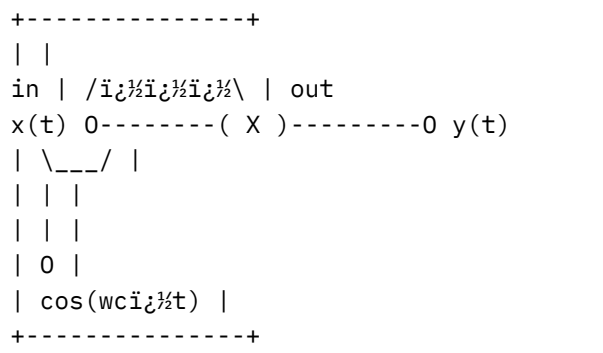
This property is obvious, in view of the time invariance of the system parameters. Time-variant systems, however, do not in general satisfy Eq. 1.6.

Some of Lathi's key statements with regard to this thread are:
1. "... note that this is not the same as saying that the response should be linearly proportional to the driving function, although this is a special case of linearity"
2. "Linear systems may further be classified into lumped and distributed systems. They may also be classified as time-invariant and time-variant systems."
3. "...linear systems can also be classified into time-invariant and time-variant systems"
4. "Linear time-variant systems are characterized by linear equations with time-dependent coefficients in general."
5. "A linear modulator is another example of linear time-variant system.

In this ease the gain of the modulator is proportional to the modulating
signal."

Note that these remarks are from pp2-4 of text for a BS level course in the
EE curriculum. You can't get more basic than that.

With regard to #4 & #5 specifically, the following is a linear system with
time dependent coefficients *and* is also a "linear modulator":



I used this example early on to emphasize the points of #4 & #5. I made
it as simple as I could think of for the purpose of making it simple for
you -- all to no avail. After all this work, I really hope you finally
"got it," because if you have not, I am done helping.

~~~~~~~~~~~~~~~~~~~~~~~~

"No. Its Yes. Non-linear action generates the multiplication products. I
was not drawing any real distinction between class c and b in this
context. The practical difference is minimal. They both do not amplifier
the waveform in a linear manner. I was not meaning to infer that it was
an "only" c. I was referring to the fact that you need at least some
method that generates non linarity." -- Kevin Aylward

"You can not achieve multiplication without a non-linear circuit."
-- Kevin Aylward

But the worm does turn:

> It should go without comment that when one analyses the simple
> transistor multiplier that one only selects the first order linear term,
> and that this is term that generates the multiplication.

I see you are finally coming around, or maybe. One can never be too sure.

> This is trivially obvious, and was
> what I showed in my original analysis, gm is
> inherently a small signal property.

Yes, and it is all you need for "multiplication." Your original claim
that "non-linearity" was "required" for multiplication was false, as
I wrote some 10,000 or so words ago.
~~~~~~~~~~~~~~~~~~~~~~~~

Back and forth,... you are all over the map.

> Indeed, as this is only valid for
> small signals, more complex multipliers log the input signal so that in
> conjunction with the exponential relation results in perfect
> multiplication at all signal levels, originally due to Gilbert I might
> add.

Doesn't matter. Non-linearity is not required for the modulation to occur
and that is what started you out on your march. You said it was, you
were wrong.

> This confusion here appears to me to be one of semantics or x-wires, as
> is often the case on strongly held, but oppositely apposed views. gwhite
> claims that you don't inherently require a non-linear device to achieve
> multiplication, ...

You are squirming. That "nothing is perfectly linear" is irrelevent.
Linear circuits are popular and much work goes into making non-ideal
(in the sense of being non-linear) devices appear as linear as possible.
Finally, the non-linear aspect (although ever present in some amount) is
not requisite for modulation to occur. If anything is trivally obvious
it should be that no device is a perfect ideal in *whatever* manner ideal
has been defined.

> I claim that all practical devices have a non-linear
> transfer function, ...

That is not now, nor has it ever been under contention.

> ...and it is this transfer function that results in
> multiplication.

Well it can... sure. That is not now, nor has it ever been under
contention. But it is not *only* that aspect that can produce the
multplication. The actual configuration can use the first order terms
alone to acheive the multiplication.

To the extent the original circuit was non-linear, it was not that
non-linear aspect that was needed or even desired to produce the
modulation. In fact, a lot of work goes into linearizing the
transfer characteristic rather than the opposite. That the LO or
carrier port of the circuit can be driven Class C or D is
notwithstanding: that non-linear aspect is not inherently needed
for the modulation to occur. It exists more as an annoying non-
ideality that simply must be acknowledged and then mitigated in
many modulation applications.

The reason for Class C or D is for efficiency, as I wrote long ago.
The amp is not Class C or D "so that the modulation will occur."
In fact, the point is to find out how Class C or D can be used and
still achieve the desired effect. For tubes, that will likely be
plate modulation. The desire is for efficiency, and then to find
a way to make it work effectively. The point was not to "use Class

C or D so that modulation will occur."

> I don't believe we are arguing about the same point.

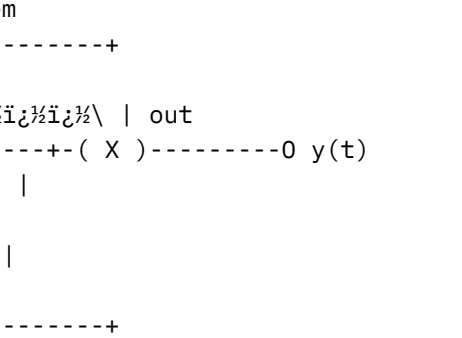
Dude, it is pretty straightforward stuff. If you don't know what
is under discussion you might want to think before you write how
stupid someone else is.

> I have better things to do.

Gee, thanks for making it so easy. So what if there are some
things you are shaky on? Get over it -- that is life. No one
knows everything.

~~~~~~
> If gm(Vi) is represented by a Taylor expansion, any required terms
> linear in Vi will integrate to Vi^2, that is
>
> I = aV^2 + terms...
>
> That is, the I verses V relation must be non-linear to achieve a gm that
> is a function of voltage or current.

I don't know what your point was with all the gm stuff, but if you hook
it up like this:



...then the system is indeed a non-linear one [y(t) = x(t)^2].
This squaring function is a perfect example of why I wrote a long
time ago: "'Multipliers' cannot be generally stated to be either
linear or non-linear. A system which includes a multiplier must
be put through the linearity test to see if the configuration is
linear or non-linear. IOW, it can be either."

It takes a lot of work for designers to produce linear characteristics
in their linear multipliers. They like to draw straight and long lines
on their z = xï¿½y graphs. That one non-linear operation is cleverly used
to cancel another (and get those nice long straight lines) is a design
detail. The bottom line is the end linearity, the linearity they use as
a selling point.

From AN-531
The analysis of operation of the MC1496 is based on the
~~~~~~

ability of the device to deliver an output which is proportional
to the product of the input voltages V_x and V_y. This holds true
when the magnitudes of V_x and V_y are maintained within the
limits of linear operation of the three differential amplifiers in
the device. Expressed mathematically, the output voltage
(actually output current, which is converted to an output
voltage by an external load resistance), V_o is given by

V_o = Kï¿½V_xï¿½V_y (1)

... The MC1595 multiplier contains the basic circuit configuration
of the MC1496 plus additional circuitry which results in linear
multiplier operation over a large input voltage range.
...
Figure 3 shows the MC1496 in a balanced modulator
circuit operating with +12 and ï¿½8 volt supplies. Excellent
gain and carrier suppression can be obtained with this circuit
by operating the upper (carrier) differential amplifiers at a
saturated level and the lower differential amplifier in a linear
mode...
Operating with a high level carrier input has the
advantages of maximizing device gain and insuring that any
amplitude variations present on the carrier do not appear on
the output sidebands. It has the disadvantage of increasing
some of the spurious signals...
[Saturation has nothing to do with the multiplication function.
In fact the extra non-linearity has the caveat of spuroius products.]
...
Operation with the carrier differential amplifiers in a
linear mode theoretically should produce only the desired
sidebands with no spurious outputs. Such linear operation is
achieved by reducing the carrier input level to 15 mV rms or
less.
This mode of operation does reduce spurious output
levels significantly...
[Again, non-linear operation is not required to produce the
modulation. In fact, it reduces spurious products that would
otherwise need filtering, if possible.]

And it goes on and on and on and on. Linear means linear.
Get over it.

1838. UHF 70cm receiver schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 02:48:01 UTC
From: someone@nospam.com
Message-ID: <1xup8ila.fsf@zyan.org>
Source record: 32705

I'm looking for a 70cm receiver schematics. Nothing fancy just
something simple that works.

Thanks.

1839. Re: UHF 70cm receiver schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 03:03:46 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F5E9244.FAF8DC83@gte.net>
Source record: 32706

someone@nospam.com wrote:

> I'm looking for a 70cm receiver schematics. Nothing fancy just
> something simple that works.
>
> Thanks.

Does mode matter?

1840. Re: Measuring small inductances using a return loss bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 03:38:12 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <E0x7b.407103$Ho3.62141@sccrnsc03>
Source record: 32707

You don't even need a bridge. Just put a BNC "tee" in line between
any signal generator and any detector. Now put your LC series
resonant tank on the third port of the tee. At resonance, the LC
will suck out the signal and you will see a dip in the response.
This method is more accurate than the bridge method you describe.

Regarding small inductances: the capacitor has to have negligible
inductance compared to the inductor you want to measure.

Rick Karlquist N6RK

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3f57cc32$0$23610$5a62ac22@freenews.iinet.net.au...
> My Friend Rod VK6KRG uses a snazzy method of calculating inductance using
a
> return loss bridge
> I have tried it to measure a 500nH inductance and the result agrees
closely
> with the calculated result for an inductor of that physical size and
number
> of turns.
>
> Basically he uses the unknown inductor, in series with a known capacitor,
in
> series with a 50 ohm load across the "unknown" arm of the bridge. When
> XC=XL, then the two reactances cancel (assuming they approximate to an
ideal
> reactance) and load presented to the bridge by the RLC circuit = 50 ohms.
> Thus you tune the system to best return loss which is a null and calculate
> XL at this frequency You can even do this at the end of a section of 50
ohm
> coax, assuming the loss isnt too great
>
> No doubt all you RF experts out there have known about this for a long
> time - has it been published as an idea before?
>
> Richard
>
>

1841. Re: Tuning Beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 03:53:00 UTC
From: "Dick Carroll;" <dixie@townsqr.com>
Message-ID: <bjm76shjl0@208.206.142.67>
Source record: 32708

TeeAye wrote:

> On 9 Sep 2003 14:07:15 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:
>
> >> For amateur radio, the frequency is considered to be that of the MARK
> >> signal.
> > >
> > >Also known as the "resting frequency", IIRC
> > >
> > >Dick
> >
> > ----------
> >
> > New one on me.

From the ARRL Handbook, 1978 edition, page 460:

Frquency-Shift Keyers

"The keyboard contacts of the teletypwritrr actuate a direct-current circuit
that operates the prnter magnets. In the "resting" condition the contacts are closed
(mark). In operastion the contacts open for "space"......

Dick

1842. Re: Measuring small inductances using a return loss bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 05:11:15 UTC
From: MikeN <mnewman@clear.net.nz>
Message-ID: <9hctlvc4haej30qopdjt5pcrlqfcpjsl6i@4ax.com>
Source record: 32709

Can this be used to check antenna resonance?

MikeN ZL1BNB

On Wed, 10 Sep 2003 03:38:12 GMT, "Rick Karlquist N6RK"
<richard@karlquist.removethis.com> wrote:

>You don't even need a bridge. Just put a BNC "tee" in line between
>any signal generator and any detector. Now put your LC series
>resonant tank on the third port of the tee. At resonance, the LC
>will suck out the signal and you will see a dip in the response.
>This method is more accurate than the bridge method you describe.
>
>Regarding small inductances: the capacitor has to have negligible
>inductance compared to the inductor you want to measure.
>
>Rick Karlquist N6RK
>
>
>"Richard Hosking" <richardh@iinet.net.au> wrote in message
>news:3f57cc32$0$23610$5a62ac22@freenews.iinet.net.au...
>> My Friend Rod VK6KRG uses a snazzy method of calculating inductance using
>a
>> return loss bridge
>> I have tried it to measure a 500nH inductance and the result agrees
>closely
>> with the calculated result for an inductor of that physical size and
>number
>> of turns.
>>
>> Basically he uses the unknown inductor, in series with a known capacitor,
>in
>> series with a 50 ohm load across the "unknown" arm of the bridge. When
>> XC=XL, then the two reactances cancel (assuming they approximate to an
>ideal
>> reactance) and load presented to the bridge by the RLC circuit = 50 ohms.
>> Thus you tune the system to best return loss which is a null and calculate
>> XL at this frequency You can even do this at the end of a section of 50
>ohm
>> coax, assuming the loss isnt too great
>>
>> No doubt all you RF experts out there have known about this for a long
>> time - has it been published as an idea before?
>>
>> Richard

>>
>>
>

1843. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 06:13:42 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <tiz7b.18$Cg3.1@newsfep3-gui.server.ntli.net>
Source record: 32710
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Roy McCammon wrote:
> Kevin Aylward wrote:
>
>> And to Roy, it occurred to me that you may have misunderstood my
>> comment on "women selects", I was of course, meaning selects to have
>> sex with, not as a long term partner.
>
> I was distinguishing between "selects to have sex with"
> vs "selects to get pregent by"

Ahh... but essentially, there is no difference. The introduction of the pill a handful of years ago, doesn't override millions of years of gene selection.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1844. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 08:09:19 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <S_A7b.40$Cg3.5@newsfep3-gui.server.ntli.net>
Source record: 32711
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Russell Shaw wrote:
> Kevin Aylward wrote:
>> gwhite wrote:
>>
>>> The simple fact is you are wrong in thinking you can all of the
>>> sudden make up your own definition of linearity, or carry forward
>>> without challenge the mistaken definition of others.
>>
>> Absolute crap. Show me one respectable math reference that says if
>> y=exp(x), that y is a linear function of x.
>>
>> You were right about one
>
>> Show me one real practical example that does not use a device with a
>> functional relation between input and output voltage/current that is
>> linear, as I defined above. As did note as an after thought, it may
>> be possible in principle, for example, maybe one could construct a
>> true, linear with voltage, voltage controlled resistor. However, I
>> am not aware of such magic devices.
>>
>> The physical reality is that it is not possible. Produce one and I
>> will retract my claim.
>
> A light dependant resistor. One input drives a LED via a linearizer
> to compensate for LDR non-linearity. The LDR resistance is unaffected
> by the voltage across it. Therefore, the resulting current
> Io=f(V1,V2)= k.V1*V2 (4-quadrant multiplier or compensated gilbert
> cell)
>

I have already pointed out the light dependant resistor in another post in this thread, so I did already do a retraction and a qualification on this point. This was a minor oversight. The distinction is whether or not the controlling elements output terminals are connected to its controlling terminals. If the controlling terminals, are connected to the controlled terminals then we have a non-linear resister de-facto. A resister can only be linear if its resistance does not depend on the current through it, or the voltage across it.

In the case of the transistor, the gain is set by its small signal resistance re=1/gm. However, the control of the value of gm is by its own current, therefore it has to be non-linear.

An easy way to see this is the transistor is equivalent to a voltage being applied across a resister re. Make the voltage a sine wave. Now apply an additional current through the resister. If the resister was linear, only an additional fixed dc current would flow, the peak to peak value of the sine wave would not change.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1845. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 09:25:49 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <B6C7b.67$Cg3.66@newsfep3-gui.server.ntli.net>
Source record: 32712
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

gwhite wrote:
> Kevin Aylward wrote:
>>
>> gwhite wrote:

>
> Once again, it is *not* the non-linear aspect of it that "produces"
> the multiplication (frequency translation in this case).

Indeed it is, in the case of the bipolar or fet multiplier, I proved it mathematically. Unfortunately it appears you cannot understand the proof. See below for a more exact analysis.

>
> Maybe this will help you:
>

{snip ramblings}

Nope.

>
> ~~~~~~~~~~~~~~~~~~~~~~~~
>
> "No. Its Yes. Non-linear action generates the multiplication
> products. I was not drawing any real distinction between class c and
> b in this context. The practical difference is minimal. They both do
> not amplifier the waveform in a linear manner. I was not meaning to
> infer that it was an "only" c. I was referring to the fact that you
> need at least some method that generates non linarity." -- Kevin
> Aylward
>
> "You can not achieve multiplication without a non-linear circuit."
> -- Kevin Aylward

I retracted this in the pure technical sense. I restricted the claim to electrical connected, real devices. However, this statement was made in support of my fundamental claim that the Class A amp you presented achieved multiplication specifically because of its non-linear transfer function due to the diode equation. I stand by that claim, which is the one that matters for this discussion. I have proved this, as an extension to my prior diode presentation, in detail below.

>
> But the worm does turn:
>

>> It should go without comment that when one analyses the simple
>> transistor multiplier that one only selects the first order linear
>> term, and that this is term that generates the multiplication.
>
> I see you are finally coming around, or maybe. One can never be too
> sure.

Nope. I was trying to give you your due on some points.

>
>> This is trivially obvious, and was
>> what I showed in my original analysis, gm is
>> inherently a small signal property.
>
> Yes, and it is all you need for "multiplication." Your original claim
> that "non-linearity" was "required" for multiplication was false, as
> I wrote some 10,000 or so words ago.

You shouldn't have bothered, it was much wasted much effort. I
mathematically proved that the diode has to have a non-linear transfer
function in order to obtain a gm that varies with a control signal, and
thus achieve multiplication.

The fact that you are unable to explicitly, understand, discuss and
refute that proof on mathematical points says much about your ability
and credibility.

>
> Back and forth,... you are all over the map.
>
>> Indeed, as this is only valid for
>> small signals, more complex multipliers log the input signal so that
>> in conjunction with the exponential relation results in perfect
>> multiplication at all signal levels, originally due to Gilbert I
>> might add.
>
> Doesn't matter. Non-linearity is not required for the modulation to
> occur and that is what started you out on your march. You said it
> was, you were wrong.

Nope. I am correct. I prove it below. Excluding, my retraction of the
ideal, unavailable VRC, or the light bulb and light dependant resister,
where the controlled terminals are not connected to the controlling
terminals. This was a minor slip-up as I was implicitly referring to
transistor type circuits. I regret not being more precise, but nobody's
perfect.

>
>> ...and it is this transfer function that results in
>> multiplication.
>
> Well it can... sure. That is not now, nor has it ever been under

> contention. But it is not *only* that aspect that can produce the
> multplication. The actual configuration can use the first order terms
> *alone* to acheive the multiplication.

Not in the transistor case it can't. I have proven otherwise. All you
are doing here is throwing away non-linear terms after the fact. This
dose not mean that non-linear terms are not required in order to achieve
the final linear result.

Cut the bullshit, and show me an actual mathematical derivation
supporting your view, rather than quoting end results from books you
don't understand.

>
> To the extent the original circuit was non-linear, it was not that
> non-linear aspect that was needed or even desired to produce the
> modulation.

I have mathematically proved otherwise. Refute my proof by a
mathematical argument or retract your claims.

In fact, a lot of work goes into linearizing the
> transfer characteristic rather than the opposite.

Yeah... and I don't know this...get real. What part of "I have been a
successful analogue design engineer for over 20 years" do you fail to
understand.

That the LO or
> carrier port of the circuit can be driven Class C or D is
> notwithstanding: that non-linear aspect is not inherently needed
> for the modulation to occur. It exists more as an annoying non-
> ideality that simply must be acknowledged and then mitigated in
> many modulation applications.
>

{snip more waffel}

>
>> I don't believe we are arguing about the same point.
>
> Dude, it is pretty straightforward stuff.

Indeed it is. Stuff that you have missed by not doing the actual
details. You made a simple mistake. Live with it.

>
>
> ~~~~~~
>> If gm(Vi) is represented by a Taylor expansion, any required terms
>> linear in Vi will integrate to Vi^2, that is
>>
>> I = aV^2 + terms...
>>

>> That is, the I verses V relation must be non-linear to achieve a gm
>> that is a function of voltage or current.
>
> I don't know what your point was with all the gm stuff,

I know you don't. Its quite sad really. You have no idea of electronic circuits and are unable to do a derivation of the gain of an amplifier. I honestly though you were sufficiently qualified to understand these mathematical details, obvious I was wrong.

I am taking a guess here that you still wont understand my black and white disproof of your claims, because you simple don't have the mathematical competence to do so, nor the competence to understand that you lack such competence.

>but if you
> hook it up like this:

Oh dear...

I showed that if gm = kVi., i.e. the required linear gm, then the only way to achieve this was if its defining equation was non-linear. This is because gm=dI/dv. Linear gm vith its own current controlling it, inherently implies nonlineaity of the I/V graph. The fact that you introduce some daft multiplier connected up as a squaring circuit shows you just haven't got a clue.

{snip irrelevant}

Notes:
Vin1 is applied across an effective resistance re=1/gm. To get any gain change gm,re must be a function of either the current or voltage i.e. Vin2 or Ini2, in this case its the current though it. A resistance that changes is value based on the current through it is necessarily a non-linear resister. Its that simple.

{snip irelevent waffle}

Stop quoting text you don't understand. Show me real mathematical derivations.

>
>
> From AN-531
> The analysis of operation of the MC1496 is based on the
> ability of the device to deliver an output which is proportional
> to the product of the input voltages V_x and V_y. This holds true
> when the magnitudes of V_x and V_y are maintained within the
> limits of linear operation of the three differential amplifiers in
> the device. Expressed mathematically, the output voltage
> (actually output current, which is converted to an output
> voltage by an external load resistance), V_o is given by
>

> V_o = K*V_x*V_y (1)

>Get over it.

Err. where is your derivation of this equation? I wager if you could, you would.

Let me do it for you.

The small signal output current of a transister amplifier is given by:

Iout = V1*gm

Where gm is the transister gm, and is given by, gm=d(Ie)/d(Vbe)

Ie is the emitter current, Vbe = V1 is the voltage across the base emitter diode, and V1 is the input signal.

Now, please let me know where you disagree with any exact point.

I am now going to assume that the transistors gm is controlled by another current I.

That is, gm = k.I

so that, from the above expression for Iout:

Iout = V1.k.I

That is, a linear multiplication of I and V1. All well and good so far.

However, we noted that

gm = dI/dV, so that we must have

k.I = dI/dV

or

dI/I = k.dV

and upon solving this differential equation, we obtain

I = c.exp(V.k)

That is, to achieve linear multiplication by this transistor gm method, it necessarily requires a non-linear relation between I and V for the transistors gm characteristics. This forms a proof of my statement that the class A modulator achieves such modulation by a non-linear process.

gwhite:

Please do not respond if you are going to past masses of waffle text that you don't understand. Provide a *mathematical* *explicit* disproof of my mathematics or present your retraction.

Kevin Aylward
salesEXTRACT@anasoft.co.uk

http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1846. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 09:41:43 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <tlC7b.70$Cg3.45@newsfep3-gui.server.ntli.net>
Source record: 32713
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Russell Shaw wrote:
> Kevin Aylward wrote:
>> gwhite wrote:
>>
>>> The simple fact is you are wrong in thinking you can all of the
>>> sudden make up your own definition of linearity, or carry forward
>>> without challenge the mistaken definition of others.
>>
>> Absolute crap. Show me one respectable math reference that says if
>> y=exp(x), that y is a linear function of x.
>>
>> You were right about one
>
>> Show me one real practical example that does not use a device with a
>> functional relation between input and output voltage/current that is
>> linear, as I defined above. As did note as an after thought, it may
>> be possible in principle, for example, maybe one could construct a
>> true, linear with voltage, voltage controlled resistor. However, I
>> am not aware of such magic devices.
>>
>> The physical reality is that it is not possible. Produce one and I
>> will retract my claim.
>
> A light dependant resistor. One input drives a LED via a linearizer
> to compensate for LDR non-linearity. The LDR resistance is unaffected
> by the voltage across it. Therefore, the resulting current
> Io=f(V1,V2)= k.V1*V2 (4-quadrant multiplier or compensated gilbert
> cell)
>

I have already pointed out the light dependant resistor in another post in this thread, so I did already do a retraction and a qualification on this point. This was a minor oversight. The distinction is whether or not the controlling elements output terminals are connected to its controlling terminals. If the controlling terminals, are connected to the controlled terminals then we have a non-linear resister de-facto. A resister can only be linear if its resistance does not depend on the current through it, or the voltage across it.

In the case of the transistor, the gain is set by its small signal resistance re=1/gm. However, the control of the value of gm is by its own bias current, therefore it has to be non-linear.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1847. Re: UHF 70cm receiver schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 13:35:10 UTC
From: someone@nospam.com
Message-ID: <he3k3gxd.fsf@zyan.org>
Source record: 32714

Dale Parfitt <parinc@gte.net> writes:

> someone@nospam.com wrote:
>
>> I'm looking for a 70cm receiver schematics. Nothing fancy just
>> something simple that works.
>>
>> Thanks.
>
> Does mode matter?
>

Regular FM voice I guess for listening into 70cm repeaters/simplex freqs.

1848. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 14:10:38 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <cq4ulv4bhfrhm86b7i4pv3pe98ha1o42qn@4ax.com>
Source record: 32715
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 10 Sep 2003 10:25:49 +0100, "Kevin Aylward"
<kevin@anasoft.co.uk> wrote:

>
>That is, to achieve linear multiplication by this transistor gm method,
>it necessarily requires a non-linear relation between I and V for the
>transistors gm characteristics. This forms a proof of my statement that
>the class A modulator achieves such modulation by a non-linear process.
>
>gwhite:
>
>Please do not respond if you are going to past masses of waffle text
>that you don't understand. Provide a *mathematical* *explicit* disproof
>of my mathematics or present your retraction.

Well this is compelling stuff, I must say. I'd hoped to be able to
disappear on holiday for a week and return refreshed, but it looks
like I'm going to have to seek out cybercafes to keep up to date on
these exchanges instead. :-(Still no outright winner so far...

--

"I believe history will be kind to me, since I intend
to write it." - Winston Churchill

1849. Re: UHF 70cm receiver schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 15:08:53 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19c8de6465353e50989685@news-central.giganews.com>
Source record: 32716

In article <he3k3gxd.fsf@zyan.org>, someone@nospam.com says...
> Dale Parfitt <parinc@gte.net> writes:
>
> > someone@nospam.com wrote:
> >
> >> I'm looking for a 70cm receiver schematics. Nothing fancy just
> >> something simple that works.
> >>
> >> Thanks.
> >
> > Does mode matter?
> >
>
> Regular FM voice I guess for listening into 70cm repeaters/simplex freqs.

If there's not a whole lot of 70cm activity near you, you can build a simple single-conversion NBFM receiver with any of several chips from this product line (http://www.semiconductors.philips.com/similar/SA604AD.html) in an afternoon. Just leave the front end untuned. You won't have any image rejection with a 455 kHz IF, but chances are better than good that you won't have any images to reject on that band.

DigiKey sells ceramic filters (TK2332-ND is a good choice for NBFM as well as AM applications) and slug-tuned discriminator coils for 455 kHz (e.g., TK2502-ND) for use with the Philips chips.

A Mini-Circuits POS-500W VCO (200-500 MHz, -100 dBc/Hz phase noise, +10 dBm out) would give you coverage of both 220 and 440 MHz. Tune it with a 10-turn or 20-turn precision pot and a well-filtered power supply. Not the greatest stability, but it'd work. It also wouldn't be too hard to add a digital frequency display with a microcontroller (to subtract the 455 kHz IF) and prescaler....

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1850. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 16:13:32 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0309100813.545b4e91@posting.google.com>
Source record: 32717
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Kevin Aylward" <kevin@anasoft.co.uk> wrote in message
news:<8pY6b.157$xM3.93242@newsfep1-win.server.ntli.net>...
> Frank Raffaeli wrote:
> > "Kevin Aylward" <kevin@anasoft.co.uk> wrote in message
> > news:<Mxp6b.8669$Ci1.1468148@newsfep2-win.server.ntli.net>...
> >
> > [snipped much voluminous banter]
> >>
> >> Whilst, I do agree that Win is very knowledgeable and an expert, I am
> >> also an expert. I have been doing this rather a long time as well you
> >> know. The fact that I am not an academic is not relevant. In all
> >> honesty, there is not much I don't know about general analogue
> >> design, although, obviously, I don't claim to know it all. Does Win
> >> know more than me? Unlikely. Or do I know more than Win. Unlikely.
> >> However, we may well know different things.
> >>
> > [snipped more banter]
> >
> > Does the above pose a question, or is it mere rhetoric? Could the
> > scientific method be applied with gusto? Are Win and Kev evenly
> > matched?
>
> I don't know. How tall is he, I'm only 5'8"
>
All talk, then. Pity, I would have enjoyed the sport of a contest. It
seems this issue has been smothered with words. If one could apply the
"science" to "design", the words would have more meaning.

Frank Raffaeli
http://www.aomwireless.com/

1851. Re: Measuring small inductances using a return loss bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 18:50:55 UTC
From: k7itm@aol.com
Message-ID: <3200347.0309101050.4275749a@posting.google.com>
Source record: 32718

"Rick Karlquist N6RK" <richard@karlquist.removethis.com> wrote in message news:<E0x7b.407103$Ho3.62141@sccrnsc03>...
> You don't even need a bridge. Just put a BNC "tee" in line between
> any signal generator and any detector. Now put your LC series
> resonant tank on the third port of the tee. At resonance, the LC
> will suck out the signal and you will see a dip in the response.
> This method is more accurate than the bridge method you describe.
>
> Regarding small inductances: the capacitor has to have negligible
> inductance compared to the inductor you want to measure.

Another caveat: keep the leads between your LC to be measured and the coax tap point very small compared with the wavelength. For example, if you have a quarter wave of line between the "T" and the LC, at LC resonance it reflects back an open instead of a short. And if it's even just 0.05 waves, for example, with 50.66nH and 50pF on the end, the suck-out frequency drops from 100MHz (the LC resonance) to about 83MHz, and you're going to make a big error in your estimate of the inductance. That 0.05 waves of line is only about 4 inches at 100MHz. In a typical BNC "T", you probably have 0.01 waves at 100MHz, and even that shifts the apparent resonance by over 4MHz in the example given, resulting in 9% or so error in the estimate of L. Looking at it another way, not only does the capacitance have to have negligible inductance compared with the inductor, but the connection to the line must also. -- So though the return-loss-bridge technique where a Zo resistor is added may not be as accurate as a resonance measurement, it does have the advantage that it can be done at the end of a line without regard to the line length, and sometimes that can be very handy.

Another poster asked about using these techniques to find antenna resonance. The problem for the typical ham's instrumentation is that the antenna is generally a low Q and presents a fairly high resistance (in the neighborhood of 50 ohms, presumably, but not necessarily very close to that) at resonance. It's easy enough to measure the system resonance (lack of reactance) at the shack end of the line feeding the antenna, but AFAIK, most hams don't have an analyzer they can calibrate at the end of a piece of transmission line like you can with modern lab network analyzers. So you'd have to measure the impdeance (R+jX, complex value) you see at the shack end of the line and put that into a calc that backs the line out so you can know the impedance at the antenna feedpoint. -- But why bother? It doesn't generally matter whether an antenna is _resonant_ or not, only that it radiates efficiently with the desired pattern, and that you have a way to get power to it efficiently. So at least at a given frequency, you can

trim the antenna and/or put a small matching network at the antenna to get the line SWR low enough to suit you. If you can stand the resulting SWR over the range of freqs you want to use, then any additional matching can be done at the shack end of the line.

Yet another note. ;-) When the measurement is done in a system with a 50-ohm impedance, and the components (L and C) in the resonant tank have fairly low reactance, you won't get a very sharp null with the return-loss bridge and additional series R as the OP suggested. The additional R makes the tank Q very low. With Rick's suck-out circuit suggestion, you'll need a detector with pretty wide dynamic range (like a receiver perhaps) to see where the deepest null occurs, because even fairly far off resonance, there will be significant attenuation.

Cheers,
Tom

1852. Re: Phase modulated carrier thru rf amp tank circuit??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 19:18:47 UTC
From: k7itm@aol.com
Message-ID: <3200347.0309101118.2c5f45ad@posting.google.com>
Source record: 32719

gpatterson53@hotmail.com (gary) wrote in message
news:<9c2b8e62.0309040934.1b984b44@posting.google.com>...
> Can someone explain to me how a rf carrier that is phase shift
> modulated, for lets say digital transmission, can be amplified in an
> amp with a tank circuit output. Why doesnt the tank "flywheel effect"
> prohibit or inhibit the abrupt phase changes in the signal. thanks

The ensuing discussion reminded me of when I learned about required tank circuit bandwidths for some given modulation. Can you say, "hit myself over the head with a hammer"? In this particular case, I wanted a quick output pulse at 150MHz, and my first trial was to pulse a lower-power stage in a multiplier chain. The output was anything but a fast pulse! But it was still fairly wide bandwidth, compared with what's needed in voice-bandwidth systems or probably even video. The solution, after I realized what was going on (didn't take long...a lot shorter time than it took to build the thing, for sure!), was to pulse-modulate the screen of the power amplifier stage. Then the main limitation to RF pulse rise time was the Q of the tank and the ability of the power tube to drive that tank with high current pulses to quickly build up the RF level.

So as others have noted, you WON'T change the phase 180 degrees in half a cycle of the RF...it will take lots of cycles...but that's OK because you don't NEED to change it that fast. For example, if your digital bits last for, say, 1000 cycles of the RF, that would be a bit time of 286 microseconds, or 3500 baud, at 3.5MHz carrier frequency.

Please note that at the receive end, you will do FAR MORE RF filtering than on the transmitter end (in the RF tank circuits)! In fact, on the transmitter end, you better band-limit the modulation signal somehow, because the RF tank circuits will NOT limit it enough, in general. So there will be filters in the modulation input path that make SURE that you don't even try to change the phase that quickly anyway. That's because such abrupt changes -- in phase or in amplitude -- result in wide transmitted bandwitdh and cause interference to other users of the spectrum. So the whole system, including the modulation technique, data rate, transmitter, receiver, and decoder/demodulator, work together to transmit the information in "just enough" bandwidth to get the job done, and in general they DO NOT use abrupt changes in phase or amplitude or frequency.

Cheers,
Tom

1853. Re: Rockwell IC - what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 19:34:22 UTC
From: k7itm@aol.com
Message-ID: <3200347.0309101134.2ae92b03@posting.google.com>
Source record: 32720

MikeN <mnewman@clear.net.nz> wrote in message
news:<0o9llvkkcfjkg1rul6fp2noi19gu0vv53a@4ax.com>...
> I have a surplus PLL pc board which has on board a Fujitsu MB1507 PLL
> chip, an OP123 op amp chip, and a Rockwell chip which I am unable to
> identity.
>
> The device is a Rockwell 41404P-34HK, and appears to be in line with
> the rf feed from the VCO (external to the board) the rf input pin of
> the PLL chip. In this location the chip could likely be acting as a
> rf preamp or signal conditioner.

That would be the usual place to put a frequency divider in a PLL
chain. Could it be programmable? Could it be a prescaler? Google
wasn't very helpful in this case.

Cheers,
Tom

1854. Re: UHF 70cm receiver schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 20:43:49 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <NTednYakzMNQEMKiXTWJlg@ctc.net>
Source record: 32721

> >
> >> I'm looking for a 70cm receiver schematics. Nothing fancy just
> >> something simple that works.
> >>
> >> Thanks.
> >
> > Does mode matter?
> >
>
> Regular FM voice I guess for listening into 70cm repeaters/simplex freqs.

YOu should be able to pick up a used scanner that has the 440 band on it
cheaper than you can build anything.

1855. Re: FYI: FSK Mark and Space (Was Tuning Beacons)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-10 21:36:10 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vlv6ajk6l5au9d@corp.supernews.com>
Source record: 32722

Yup, I said it backwards. Mark is the higher RF frequency.

1856. Re: Measuring small inductances using a return loss bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 02:17:27 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <WWQ7b.412761$Ho3.65366@sccrnsc03>
Source record: 32723

Yes if the antenna is a voltage fed type (most antennas)
and is connected directly to the tee without
intervening coax. (Or if an integral number of half waves
of coax are used).

Rick N6RK

"MikeN" <mnewman@clear.net.nz> wrote in message
news:9hctlvc4haej30qopdjt5pcrlqfcpjsl6i@4ax.com...
> Can this be used to check antenna resonance?
>
> MikeN ZL1BNB
>

1857. Re: Tuning Beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 02:52:15 UTC
From: Dick Carroll <dixie@townsqr.com>
Message-ID: <bjoo0v$g9f$0@208.206.142.100>
Source record: 32724

TeeAye wrote:

> On 10 Sep 2003 03:53:00 GMT, "Dick Carroll;" <dixie@townsqr.com> wrote:
>
> > From the ARRL Handbook, 1978 edition, page 460:
> >
> >Frquency-Shift Keyers
> >
> >"The keyboard contacts of the teletypwritrr actuate a direct-current circuit
> >that operates the prnter magnets. In the "resting" condition the contacts are closed
> >(mark). In operastion the contacts open for "space"......
> >
>
> ----------
>
> I see why I have never heard of a "resting frequency". They're talking
> about relay contacts, not the frequency being transmitted.
>

In this particular quotation. But the concept is the same - when the transmitter is at 'rest', it sits at the 'mark' frequency. Under modulation it shifts to the space freq.

When a RTTY station modulation stops prior to turning it over to the other station,the last thing you hear before he cuts the carrier is his 'resting' frequency-the mark frequency..

Hey, I didn't invent the term!

I recall the term being used from around 30 years ago

1858. Wtd: NE605N

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 02:57:08 UTC
From: Barry Newberger <bnsbp@texas.net>
Message-ID: <bnsbp-BDD19A.21570810092003@news.texas.net>
Source record: 32725

Looking for an NE/SA605N. Please drop email to bnewberger@winstead.com.

Thanks,

Barry Newberger

1859. Re: LED education needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 04:15:03 UTC
From: mcalhoun@ksu.edu
Message-ID: <bjoss7$elj@unix1.cc.ksu.edu>
Source record: 32726

....[snip]....
>One thing which I will point out is that each LED (generally) needs its own
>current limiting resistor. Don't try to parallel LEDs with only one current
>limiting resistor.
....[snip]....

But, if you have a few extra volts, they CAN be placed in series.
Aren't the super-bright traffic-light LEDs usually 5-6 in series?

--Myron, W0PBV.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

1860. Best way to feed a vertical?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 04:23:56 UTC
From: mcalhoun@ksu.edu
Message-ID: <bjotcs$fbu@unix1.cc.ksu.edu>
Source record: 32727

I need to re-erect (after major house remodeling) a 33-foot flag pole
(also known as a 40-meter vertical) and would like to know the best
way to feed it.

Prior to the remodeling, the base of the pipe was held a few inches above
ground and the antenna was fed by simply connecting a 50-ohm coax shield
to a ground rod (with radials, etc.) and the center conductor to the pipe.

I later added an inductor (from memory: maybe 30 turns of B&W with a
diameter of maybe an inch and a half) from the base of the antenna to
the ground rod, hoping it would discharge any static electricity that
might build up. The inductor changed the tuning a little bit but I
never saw any other differences.

Any suggestions?

--Myron, W0PBV.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

1861. need advice aligning a vaccum tube spectrum analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 06:18:07 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <aNKdnYQwdoAIk_2iXTWJiw@comcast.com>
Source record: 32728

Hello, everyone.

It looks like I have a new, exciting, rather daunting project ahead of me. I'd like some advice
from anyone interested in providing it.

I have now adopted into my household (and home lab) a Lavoie LA-18M spectrum analyzer unit,
circa 1950's, completely tubes plus a few microwave crystal diodes. I also have a manual.

The manual is missing the overall schematic diagram of the entire unit but has schematic diagrams
of all the major sections, such as the IF strips, and it also has general troubleshooting procedure.

Given its age, it is in outstanding condition, because everything about it works. Given the fact that
I bought it for only 50 bucks, as a working antique it is an absolute treasure. However, I am concerned
about the weak signal sensitivity.

For calibration equipment, I have a late year 100 Mhz analog scope, a Wavetek 3001 signal generator,
and a digital multimeter, if that helps.

With the signal generator I was able to determine that the minimal discernable signal at 10 Mhz was
-34dBm. The manual on the Lavoie indicates that the sensitivity at that frequency should be 40 microvolt,
so that seems to tell me that age has affected the sensitivity.

There are several IF strips on the unit, and the manual tells me which strip needs to be aligned first, but
it does not go into any detail about how to align each of the IF strips for best performance... it merely
says "replace IF strips as necessary".

If I had a time machine I could probably follow the manual's suggestions, but short of that I am out of
luck there. I also understand that the alignment procedure for AM IF strips is differerent from FM IF
strips, and for IF strips used by spectrum analyzers it could be different still.

So, does anyone have any advice for me on how I should peak each vaccum tube IF strip. I will supply

specific information on each, and will email scans of the schematics for each, to those who want to
consider the problem.

Thanks,

The Eternal Squire

1862. Pixie II help needed!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 06:41:16 UTC
From: Paul Jordan <pauljordan@gci.net>
Message-ID: <vm06akbuq4ev6d@corp.supernews.com>
Source record: 32729

OK, I've put my Pixie II together and I see where there's a simple mod to go to 40 meters instead of 80 meters by switching the crystal and one inductor. Does anyone know if this mod could be carried a little farther and take this little gem up to 20 meters??

Any help is greatly appreciated. 80 meters is OK but, here in Alaska, you can't reach very many people..

Thanks,

Paul Jordan
kl0an

1863. Re: Pixie II help needed!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 06:54:48 UTC
From: PaoloC <convlist@hotmail.com>
Message-ID: <bjp67d$kustl$1@ID-199778.news.uni-berlin.de>
Source record: 32730

Paul Jordan wrote:

Hi Paul
For the most complete Pixie II reference, I'd suggest you to read the
past posts at http://groups.yahoo.com/group/QRPp-I/ .

> OK, I've put my Pixie II together and I see where there's a simple mod to go
> to 40 meters instead of 80 meters by switching the crystal and one inductor.
> Does anyone know if this mod could be carried a little farther and take this
> little gem up to 20 meters??

Yes, the mod works for 20 meters as well. BUT you have to make sure that
the RF choke on the PA transistor is not self-resonating on 20m,
otherwise you burn up the 2N2222 with excessive current.

I do have built a Pixie II for 20m. I certainly had the problem
mentioned above, but I have no oscilloscope for troubleshooting.
Moreover there are other drawbacks:
- the LM386 is muuuuch more likely to produce "hum" or "motorboat" than
on lower frequencies (I tried plugging all my XTALs from 2 to 15 MHz)
- you are likely to loose sensitivity in the receiver (but you might
consider using a separate RX at the beginning)
- the 2N2222 PA might not give as much power output as on 80-40m

Go ahead and let us know how it progresses!
Paolo ik1zyw

1864. Re: need advice aligning a vaccum tube spectrum analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 07:17:03 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vm08bsmsqualb9@corp.supernews.com>
Source record: 32731

I don't have any knowledge of your particular unit, but in general the shape of the IF filters is very important to spectrum analyzer operation. Unless you use a good sweep generator and calibrated detector, or better yet a network analyzer, along with good information about what the proper IF response should be, you're almost certain to ruin the response by tweaking. You also won't recover anything like 40 dB, which is what it's lacking, by fiddling with the alignment. If I were you, I'd first make sure that I measured the MDS properly. If the unit has a selectable bandwidth (or dispersion, as I recall it was called), be sure it's at the correct setting for the specified MDS, since the bandwidth will directly impact the MDS. (This won't, however, account for any but a small part of the total shortage.) With about 40 dB deficiency in MDS, you should be looking for something that's broken, not just out of alignment. I'd suspect the diodes first, since they're fragile and vulnerable. Next I'd check the tubes. You should be able to trace a moderate amplitude signal through the analyzer with your scope, and find replacement parts on eBay.

Roy Lewallen, W7EL

The Eternal Squire wrote:
> Hello, everyone.
>
> It looks like I have a new, exciting, rather daunting project ahead of me.
> I'd like some advice
> from anyone interested in providing it.
>
> I have now adopted into my household (and home lab) a Lavoie LA-18M spectrum
> analyzer unit,
> circa 1950's, completely tubes plus a few microwave crystal diodes. I
> also have a manual.
>
> The manual is missing the overall schematic diagram of the entire unit but
> has schematic diagrams
> of all the major sections, such as the IF strips, and it also has general
> troubleshooting procedure.
>
> Given its age, it is in outstanding condition, because everything about it
> works. Given the fact that
> I bought it for only 50 bucks, as a working antique it is an absolute
> treasure. However, I am concerned
> about the weak signal sensitivity.
>
> For calibration equipment, I have a late year 100 Mhz analog scope, a
> Wavetek 3001 signal generator,

> and a digital multimeter, if that helps.
>
> With the signal generator I was able to determine that the minimal
> discernable signal at 10 Mhz was
> -34dBm. The manual on the Lavoie indicates that the sensitivity at that
> frequency should be 40 microvolt,
> so that seems to tell me that age has affected the sensitivity.
>
> There are several IF strips on the unit, and the manual tells me which strip
> needs to be aligned first, but
> it does not go into any detail about how to align each of the IF strips for
> best performance... it merely
> says "replace IF strips as necessary".
>
> If I had a time machine I could probably follow the manual's suggestions,
> but short of that I am out of
> luck there. I also understand that the alignment procedure for AM IF
> strips is differerent from FM IF
> strips, and for IF strips used by spectrum analyzers it could be different
> still.
>
> So, does anyone have any advice for me on how I should peak each vaccum tube
> IF strip. I will supply
> specific information on each, and will email scans of the schematics for
> each, to those who want to
> consider the problem.
>
> Thanks,
>
> The Eternal Squire
>
>

1865. Re: Phase-locked loop filter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 08:12:08 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <s7W7b.137160$3o3.9766112@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32732

It's on the way. Anyway, a ground plane will help a great deal, in cleaning
up some of those problems.

Pete

Damien Teney <damien.teney@sobelairva.net> wrote in message
news:bjd6rg$51e$1@reader08.wxs.nl...
> I don't have any ground plane. I only have a veroboard, which I took the
> unused tracks apart. I also don't have an "anti-slewing filter"; I first
> tried to do it but the output signal was very "unclean", so I removed the
> two capacitors. I'm now having two resistors in serial between the
> phase-detector and the op-amp, and it is much better.
> I would be interested if you could mail me the schematic of your loop
filter
> ;-) (mail it to damien.teney@mcarsweb.com)
>
> Damien
>
> > I had used that chip for several years, with a 2.5kHz reference
frequency,
> > and never ran into those kinds of problems. My first iteration of that
> > synthesizer did have some high level reference sidebands (-40dBc), but
> after
> > I redid the board with a top layer ground plane, all of the problems
> cleared
> > up. Are you using a ground plane on your board? Are you also using
that
> > anti-slewing filter at the op-amp input, whereby you split one of the
Rs,
> > and use a shunt C between the two?
> > If you would like a schematic of my loop filter, give me a shout.
> >
> > Pete
>
>
>

1866. Re: need advice aligning a vaccum tube spectrum analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 09:34:37 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000086.00710a18@btinternet.com>
Source record: 32733

Hi,

>
> circa 1950's, completely tubes plus a few microwave crystal diodes.
>

Just a suggestion but the commonest cause of low sensitivity in spectrum analysers, that I've experienced, is the front-end mixer diodes. I wonder if you have checked them out?

Cheers - Joe, G3LLV

1867. Re: need advice aligning a vaccum tube spectrum analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 12:40:19 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <n8hzg7Bz0GY$EASW@ifwtech.co.uk>
Source record: 32734

Roy Lewallen wrote:
>With about 40 dB deficiency in MDS, you should be looking for something
>that's broken, not just out of alignment.

The worst thing you can ever do is start to re-align something that's actually broken. It won't make anything better, and can easily make things worse.

Electronic equipment is quite unlikely to wander so far out of alignment that it completely stops working. So if does stop (and -40dB pretty much qualifies as "stopped") you know that something has broken.

In that case you need to look for it, find it, and then either fix it or change it. There is no other way.

There are many different ways to find a faulty component - but *none* of them begins with: "Before I do anything else, I'm going to twiddle every adjustment in sight."

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1868. Re: Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-11 22:10:18 UTC
From: denton <denton@oregontrail.net>
Message-ID: <bjqrfi$a87$1@news.oregontrail.net>
Source record: 32735

Try the municipal building and planning departments...see if they can help.
"D & B Rude" <brewman@merr.com> wrote in message
news:Joa7b.7689$cQ1.2119815@kent.svc.tds.net...
> GeryD.,
> I read your posting with interest and sympathy. I have to same damn
problem
> here. I too am looking for a way to zap the stereo. Sometimes they just
have
> FM radio cranked up. I was thinking an FM broadcast band xmitter with a
beam
> and some extra help from a "brick" amp would be a good thing. Find
approiate
> music (music they hate) and broadcast it their way. Just a thought. If you
> could figure out a way to zap their noise in the microwave range that
would
> really be cool. Good luck and I will check for further postings, as the
> "law" has laws on the books they won't enforce, and it's getting to be a
> joke (the law(s)
> dave
> "G�ry Duyck" <gery@duyck-co.be> wrote in message
> news:3f5233ff$0$8542$ba620e4c@reader0.news.skynet.be...
> > We have a little problem in our neighborhood.
> >
> > Recently some *vulgar* people moved in a couple of houses away from
mines.
> > There 2 family's of them in 2 different houses.
> >
> > Every evening and night the whole street get to hear some very loud
music.
> > It's hard to get some sleep over here !
> >
> > We went several times to them to talk, and ask to put the volume down,
but
> > they
> > don't wanna listen to us. (with us I mean me and the rest of the
> > neighborhood ...)
> > As a matter of fact they only turned it louder...
> >
> > Calling the police won't help much too, the only thing they said is "go
to
> > ask if they wanna
> > set there volume down" when I say we already done this they say "go ask
> > again"

> >
> > It's really frustrating, and it's driving me bananas !!!
> >
> > So now I'm looking for some good circuit to disturb there hi-fi
equipment!
> >
> > Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in
> the
> > power
> > supply in conduction, so he won't hear anything and shut his device off.
> > This will of course only work if he hasn't got a filter installed.
> >
> > I also saw some thinges about transmitting static to disturb there
> devices.
> >
> > Anyone who got's hint's and tip's for helping me to teach them a lesson
> are
> > greatly
> > appreciated.
> > I know this is maybe not the right way to do this but with some people
you
> > don't have any other choise ...
> >
> > 73 --... ...--
> > Gery D.
> >
> >
> >
>
>

1869. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-12 06:50:58 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <r1e8b.1380$1x6.458317@newsfep2-win.server.ntli.net>
Source record: 32736
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Wed, 10 Sep 2003 10:25:49 +0100, "Kevin Aylward"
> <kevin@anasoft.co.uk> wrote:
>
>>
>> That is, to achieve linear multiplication by this transistor gm
>> method, it necessarily requires a non-linear relation between I and
>> V for the transistors gm characteristics. This forms a proof of my
>> statement that the class A modulator achieves such modulation by a
>> non-linear process.
>>
>> gwhite:
>>
>> Please do not respond if you are going to past masses of waffle text
>> that you don't understand. Provide a *mathematical* *explicit*
>> disproof of my mathematics or present your retraction.
>
> Well this is compelling stuff, I must say. I'd hoped to be able to
> disappear on holiday for a week and return refreshed, but it looks
> like I'm going to have to seek out cybercafes to keep up to date on
> these exchanges instead. :-(Still no outright winner so far...

Not to me aint. The case is closed.

The problem with gwhite, is that his arguments are all based on "an appeal to authority", and we all know that is not the way science is done. He pastes reams of stuff without the slightest idea of what the documents are talking about. The assumption being that such documents back him up. They don't. He hasn't presented one, not even one derivation of his claim, only end results. This is typical of all vacuous claims. It says so in the bible, so it must be true sort of thing.

On the otherhand, he does have a very valid point that one, could in principle, make a modulator that does not depend on an inherent non-linearity, he just happened to pick the wrong examples, and the wrong person to debate with. He obviously learnt the basic concept from a coarse he took, but never understood
enough to know when and how to apply it. For the active bipolar or fet case, the gain setting is gm based, and this gm is electrically controlled by the value of its
own current, hence, as a I proved, must have a non-linear V/I curve. However, for example, in a passive case, things are different. If one used a fet as a passive voltage controlled resister, the resistance is a

function of the gate source voltage, but the control voltage is not connected accross the controlled resistance, and the resistance variation is not implied to be a function of its own current, therefore a non-linear resistance is not implied. Indeed, this technique is used in guitar phaser pedals to produce a swept notch filter, and I designed and built my
first one of those around 25 years ago, based on this concept. To make the fet even more linear, as qwhite correctly suggested, I used, as is well known standard practice, a series gate resister and feedback resistor from drain to gate. Unfortunately, I made a mistake...in my "there is only a world market for 5 computers" statement, I forgot what I already knew:-)

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1870. Re: RF amps: tuned load in Class A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-12 07:17:30 UTC
From: Kevin Aylward <kevin@anasoft.co.uk>
Message-ID: <kqe8b.1389$1x6.458036@newsfep2-win.server.ntli.net>
Source record: 32737
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
> On Mon, 08 Sep 2003 10:23:36 -0700, gwhite <gwhite@ti.com> wrote:
>
>> That is clever -- you want me to "declare" something is true that
>> I've made no reference to. You are quite the inventor. Face it:
>> you had an incorrect notion about linearity. All the rest of your
>> words are twisting, squirming, and turning to try to save face after
>> you acted condescending (and still do) about a very simple matter.
>> That's all.
>
> I have to say I've been wrestling with this attitude problem of kev's
> as well. Earlier this evening I postulated to myself that the reason
> for all these contradictory posts

What contradictory posts?

As far as attitude goes, I think we can all get rather exasperated when someone else uses very strong rhetoric against ones own competence, when it is trivially obvious that such claims are completely without any merit whatsoever.

>and arguments over semantics might
> possibly be due to Kev's impared usage of English.

See below.

>If the guy's
> dyslexic or has some other comprehension problem, he might very well
> be an electronics genius but we'd find it hard to tell because this
> veil between he and us muddies the water both ways.

This makes little sense. Most of my posts are very clear, although not necessarily pristine in all aspects of their structure. Any lack of comprehension of them, is often a problem with the reader.

> You view as
> expressed above is a very much more cynical one, but I'm forming the
> view that one or t'other must explain it. But Kev has admitted to
> English not being his strong suit elsewhere on the group

My fundamental problem with English is that I have a very poor memory, in conjunction with the fact that I am a two fingered typist. This results in an inability to spell or type accurately. I usually function by understanding and deriving results from basic concepts, rather than by remembering millions of facts. Unfortunately I don't always check the spell checked version that well. For instance, "simplely" might come out

as "simple" instead of "simply", making the statement "Its that simply", grammatically wrong.

> and if that's
> the case and he really *does* know what he's talking about then

Of course I do.

> I feel
> sorry for him. It must be pretty shitty and exceedingly frustrating
> for anyone in that position. I know; I've met a few and it's ruined
> their lives.

My life is quite fine thank you. I have wrote volumes of decent technical reports, with no complaints.

I usually write quite accurately, expressing exactly what I want to say in order to cover my arse. I do this explicitly, deliberately and seriously as a general rule, with the method of "Yes Minister" TV series speak. Often, it is a joy to watch other people fail to understand what was actually said. For example, suppose the Minister had read a paper indicating that a proposal of his would generate 500 redundancies. In the House of Commons, he would say "No person informed me that there would be any redundancies from my proposal". If you actually go back and check my posts, you might be well surprised how subtle some of the points are. Of course, at times I have made what might have been inaccurate statements, but this is often simply because I have temporally forgot something that I know well, or I have made an assumption, that the obvious exceptions, are being deliberately ignored for the purposes of the discussion. The issue here, is that the novice, interprets this as a lack of understanding on my part. It just gets too cumbersome addressing all the details, when only the general picture is required.

Kevin Aylward
salesEXTRACT@anasoft.co.uk
http://www.anasoft.co.uk
SuperSpice, a very affordable Mixed-Mode
Windows Simulator with Schematic Capture,
Waveform Display, FFT's and Filter Design.

1871. Re: Best way to feed a vertical?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-12 10:25:46 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f619f4c$0$23606$5a62ac22@freenews.iinet.net.au>
Source record: 32738

Myron
I presume the antenna is resonant ie about a quarter wave and you feed it against ground
Ground resistance is likely to be at least 20-30 ohms unless you have lots of radials and the antenna radiation resistance will be 35 ohms in theory. So the total load will be 55-65 ohms which is not a bad match to 50 ohms So you could feed it directly with coax and get away with it.

Richard

mcalhoun <mcalhoun@ksu.edu> wrote in message news:bjotcs$fbu@unix1.cc.ksu.edu...
> I need to re-erect (after major house remodeling) a 33-foot flag pole
> (also known as a 40-meter vertical) and would like to know the best
> way to feed it.
>
> Prior to the remodeling, the base of the pipe was held a few inches above
> ground and the antenna was fed by simply connecting a 50-ohm coax shield
> to a ground rod (with radials, etc.) and the center conductor to the pipe.
>
> I later added an inductor (from memory: maybe 30 turns of B&W with a
> diameter of maybe an inch and a half) from the base of the antenna to
> the ground rod, hoping it would discharge any static electricity that
> might build up. The inductor changed the tuning a little bit but I
> never saw any other differences.
>
> Any suggestions?
>
> --Myron, W0PBV.
> --
> Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
> PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
> NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

1872. WTB: Practical Antenna Handbook by Joseph Carr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-12 19:22:44 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <Abp8b.3276$Gr.195672@read1.cgocable.net>
Source record: 32739
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap

Looking for a copy of:
PRACTICAL ANTENNA HANDBOOK BY JOSEPH J. CARR BY MCGRAW-HILL,NY,1998,THIRD EDITION,
If anyone has one they wish to part with, please advise with price & shipping to Canada.
73...Norm VE3CZI

1873. Re: Tuning Beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-12 19:46:48 UTC
From: dplatt@radagast.org
Message-ID: <vm48l8s9oi0bad@corp.supernews.com>
Source record: 32740

In article <3lk3mvgqufnajabr5775r1pssmci8fr4f3@4ax.com>,
TeeAye <noway@nohow.com> wrote:

>With the original Baudot transmission over wires, a pen was used to make
>a "mark" on a piece of paper (hence the name), and the "space" was, of
>course, no mark. Given that terminology, I'd think the "space" was the
>resting mode and "mark" was the active, or non-resting, mode. It's all
>semantics though, anyone is free to define it any way they like.
>
>An interesting, if irrelevant, discourse into history. :-)

If I recall correctly: these systems were set up as closed loops,
with a single current source, and with all of the transmitters and
receivers in series. The normal, resting state was to have a current
flowing through the loop, "marking" the recording medium. The active
state was to temporarily break the link, creating a "space" on the
recording medium.

This method had two advantages:

- It provided positive confirmation at all times that the loop was
intact. A broken wire would be noticed immediately even if there
was no active traffic on the wire, as it would cause all of the
recorders to drop out.

- One station could interrupt another station's transmission (to e.g.
send emergency traffic) by pressing the BREAK key on the
transmitter (or holding down the Morse sender key for a few
seconds). This would interrupt current flow in the loop, causing
all of the recorders or Morse sounders at all stations (including
the one currently sending) to lift their pens or stop chattering,
thus signalling the sending operator to cease transmission.

The terminology survived into the ASCII era, and there are still
traces of it in UART manuals to this day: the BREAK button on a
standard ASCII terminal creates a condition known as a "long space" by
changing the state of the transmission line from its resting state to
its active state for substantially longer than one normal character
time.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1874. Upconverter Weirdness

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-12 20:53:43 UTC
From: donrm@soco.agilent.com
Message-ID: <1063400023.451927@cswreg.cos.agilent.com>
Source record: 32741
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

See if you can figure this one out.

I recently bought a used Palomar VLF-A converter and am experiencing a strange frequency offset problem. WWVB 60 KHz appears about 5 KHz low on the upconvert receiver, in this case a TS-130 transceiver.

This converter was evaluated in the January 2000 pg 59 issue of _QST_ and the author had the same problem, only in his case the receiver was an ICOM IC-706.

When operating the converter into a direct conversion receiver WWVB comes out on the correct frequency. Suspecting a problem with the VLF converter's LO (3.5 MHz in this case), a peek at this LO signal with a high-end spectrum analyzer shows a clean output with very little phase noise, no spurs and exactly on 3.5 MHz.

BTW, I tried replacing the MC1496 active balanced modulator with a Minicircuits SRA-6 passive DBM, same result. I don't suspect any problems with the upconverter receiver's LO either.

So - what's going on?

73 Don K6LTS
donrm@soco.agilent.com

1875. Re: Practical Antenna Handbook by Joseph Carr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 00:09:05 UTC
From: Tom Coates <tecoatesHatesSpam@comcast.net>
Message-ID: <Hc6dnVd81riC_f-iXTWJhQ@comcast.com>
Source record: 32742
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap

Amazon.com is a source for used books, including several editions of this one. So is addall.com. I have used both several times with no difficulty. YMMV.

Tom, N3IJ

"Norm VE3CZI" <ve3czi@arrl.net> wrote in message news:Abp8b.3276$Gr.195672@read1.cgocable.net...
> Looking for a copy of:
> PRACTICAL ANTENNA HANDBOOK BY JOSEPH J. CARR BY MCGRAW-HILL,NY,1998,THIRD
> EDITION,
> If anyone has one they wish to part with, please advise with price &
> shipping to Canada.
> 73...Norm VE3CZI
>
>
>
>
>
>

1876. Re: Practical Antenna Handbook by Joseph Carr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 01:25:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vm4sgj2sortqaf@corp.supernews.com>
Source record: 32743
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap

And I highly recommend our local super-bookstore, which has a very good selection of used books -- Powell's, http://www.powells.com.

Roy Lewallen, W7EL

Tom Coates wrote:
> Amazon.com is a source for used books, including several editions of this
> one. So is addall.com. I have used both several times with no difficulty.
> YMMV.
>
> Tom, N3IJ
>
>
> "Norm VE3CZI" <ve3czi@arrl.net> wrote in message
> news:Abp8b.3276$Gr.195672@read1.cgocable.net...
>
>>Looking for a copy of:
>>PRACTICAL ANTENNA HANDBOOK BY JOSEPH J. CARR BY MCGRAW-HILL,NY,1998,THIRD
>>EDITION,
>>If anyone has one they wish to part with, please advise with price &
>>shipping to Canada.
>>73...Norm VE3CZI

1877. Re: Tuning Beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 01:55:00 UTC
From: Dick Carroll <dixie@townsqr.com>
Message-ID: <bjttdk$s7f$1@208.207.71.157>
Source record: 32744

TeeAye wrote:

> On 11 Sep 2003 02:52:15 GMT, Dick Carroll <dixie@townsqr.com> wrote:
>
> > In this particular quotation. But the concept is the same - when the transmitter is at
> >'rest', it sits at the 'mark' frequency. Under modulation it shifts to the space freq.
> >
> >When a RTTY station modulation stops prior to turning it over to the other station,the
> >last thing you hear before he cuts the carrier is his 'resting' frequency-the mark
> >frequency..
> >
> >Hey, I didn't invent the term!
> >
> >I recall the term being used from around 30 years ago
>
> ____
>
> With the original Baudot transmission over wires, a pen was used to make
> a "mark" on a piece of paper (hence the name), and the "space" was, of
> course, no mark. Given that terminology, I'd think the "space" was the
> resting mode and "mark" was the active, or non-resting, mode. It's all
> semantics though, anyone is free to define it any way they like.
>
> An interesting, if irrelevant, discourse into history. :-)

Agreed!

1878. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 02:43:44 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F628460.3AE19F69@ob-wan.com>
Source record: 32745

Dick Carroll; wrote:
>
> W7TI wrote:
>
> > On 3 Sep 2003 10:13:00 -0700, snarflemike@yahoo.com (Mike Silva) wrote:
> >
> > >Another question resulting from too much time on my hands. Why do we
> > >have rectifier diodes (e.g. 1N4xxx, 1N54xx) with different voltage
> > >ratings? Other than the voltage rating I don't see any differences on
> > >the data sheets I've looked at. Why not just make and use 1kv diodes
> > >alone?
> > >
> > >73,
> > >Mike, KK6GM
> >
> > ----------
> >
> > $$$
> >
> > --
> > Bill, W7TI
>
> Yep. And I'd wager if one did breakdown tests on a variety of diodes many would show the
> same specs regardless of their different markings.
>
> Another pet peeve-
> Several times I've seen failure of low voltage capacitors which were run too close to
> their ratings for comfort, IMO. Like 16 vdc rated on a 13.8 DC line in mobile gear.
> Spikes are sure to take 'em out eventually, it would seem. Why designers do that I've
> never understood, and I never replace them as rated, but use 25 or 30 volt caps. Never
had
> a problem from doing that, and no repeats.
> I remember years ago troubleshooting a dead board in an Atlas 210 transciever that had a
> shorted - leaky 16 volt rated electrolytic across a 13.8 dc line on the board. But it
> still had enough internal resistance that it didn't smoke anything, just killed the
> operation of the board.
>
> I cussed the (unknown) designer of that thing for awhile! /:-D))

Dick,

Electrolytics should be run near their rated voltage to "form" properly.
The spikes should be taken out by a parallel 100nF cap, or clipped by a
zener.

Rob

1879. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 03:12:17 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F628B11.29E80E95@ob-wan.com>
Source record: 32746

Richard,

How extremely strange. I just announced a week or so ago on a private forum that I was designing exactly the same thing. And I've also searched the net to see whether this was an original idea, and it seemed to be unique at the time. You wouldn't be another SDR-1000 owner by any chance?

BTW, I'm still trying to locate relays also. My reply at the quoted $10.00 price from CIT was "Freow! Skip it!" or something similar. As you say, 20-30 of those makes it VERY expensive indeed.

Rob

Richard Hosking wrote:
> Anyone know a good source of surface mount latching relays DPST or DPDT, 5V
> to be driven by logic?
> I want to build an automatic antenna tuner for HF QRP
> Digikey has them but they areUS$12 ea and it is a bit too expensive if I
> want about 20 of them
> I would prefer a permanent source if possible - not only a temporary
> surplus - although this would be better than nothing
>
> Thanks in advance
>
> Richard

1880. Re: Practical Antenna Handbook by Joseph Carr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 04:38:02 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F629F15.80709@attbi.com>
Source record: 32547
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap

You mean there's any other bookstore besides Powell's
Bill Higdon
Roy Lewallen wrote:
> And I highly recommend our local super-bookstore, which has a very good
> selection of used books -- Powell's, http://www.powells.com.
>
> Roy Lewallen, W7EL
>
> Tom Coates wrote:
>
>> Amazon.com is a source for used books, including several editions of this
>> one. So is addall.com. I have used both several times with no difficulty.
>> YMMV.
>>
>> Tom, N3IJ
>>
>>
>> "Norm VE3CZI" <ve3czi@arrl.net> wrote in message
>> news:Abp8b.3276$Gr.195672@read1.cgocable.net...
>>
>>> Looking for a copy of:
>>> PRACTICAL ANTENNA HANDBOOK BY JOSEPH J. CARR BY
>>> MCGRAW-HILL,NY,1998,THIRD
>>> EDITION,
>>> If anyone has one they wish to part with, please advise with price &
>>> shipping to Canada.
>>> 73...Norm VE3CZI
>>
>

1881. WTB: 10.7 Mhz hc-6u crystal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 04:46:34 UTC
From: dobrien25NOSPAM@comcast.net
Message-ID: <Kix8b.427743$YN5.290621@sccrnsc01>
Source record: 32548

Please email me if you have a 10.7 Mhz hc-6u crystal for sale. I need one for
a RCA rf generator I want to use for aligning my old fm tube radios.
thanks,
Don

1882. Re: Practical Antenna Handbook by Joseph Carr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 04:53:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vm58ndm871fd8c@corp.supernews.com>
Source record: 32549
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap

Bill Higdon wrote:
> You mean there's any other bookstore besides Powell's
> Bill Higdon

I hope not! It's a short trip downtown by light rail to Powell's main store and their nearby Technical Bookstore. Considering how much money I drop there, I'd go bankrupt if there was another one.

Roy Lewallen, W7EL

1883. Re: Practical Antenna Handbook by Joseph Carr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 05:05:56 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F62A59F.8080606@attbi.com>
Source record: 32550
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap

It's truly amazing what you can find while wandering through Powells.
Bill
Roy Lewallen wrote:
> Bill Higdon wrote:
>
>> You mean there's any other bookstore besides Powell's
>> Bill Higdon
>
>
> I hope not! It's a short trip downtown by light rail to Powell's main
> store and their nearby Technical Bookstore. Considering how much money I
> drop there, I'd go bankrupt if there was another one.
>
> Roy Lewallen, W7EL
>

1884. Re: New Amature seeks to make his own small radio..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 09:19:19 UTC
From: Dave <daveg_drop.this_@dr.com>
Message-ID: <Xns93F569DF79E27kierenmail@195.129.110.130>
Source record: 32551

I find it remarkable that, in a hobby that requires a multitude of non-English expressions and anachronisms, we have an old timer who's faulting someone's use of the Queens English! Presumably, W7TI also refuses QSO's with anyone who is unable to speak fluent, clear English. Even in my humble experience, I can see that such an approach to our hobby is inappropriate and one must surely feel sorry for W7TI and the small world he has limited himself to. Bill; you have my sympathy and thoughts.

Scott, on behalf of all amature radio operators who uphold the tradition of making contact with a fellow enthusiast despite the QRM around them, I wish you all the best. I, to, am in the process of selecting a suitable HF design and I'll follow this thread with interest.
For what it's worth, here's my observations of starting out at homebrewing - and I'll bet this starts a run of mail as well!:

1. Select a kit if your confidence or experience is minimal. Some kit manufacturers even offer a 'get-you-running' service to iron out those little bugs that creep in.

2. Ensure you can beg / borrow suitable test kit. You'll probably need a multimeter or two, a resonable power supply (ideally, a current-limiting one), an RF probe (do a Google search; they're easy & cheap to make), dummy loaad (again, Google) and an oscilloscope. There's nothing worse than having a circuit board on the desk & no means of knowing if it's okay to proceed with the next bit!
Other items might well include: RF Watt meter, Frequency counter, RF Generator.... the list can go on! Make friends with locals.

3. Accept that this project will take about three times more time than you planned for. On reflection, that might just be me: I'm not that skilled!

Re. the earlier post about 'by small you mean simple'. I couldn't agree more! Personally, I'd avoid building the all-singing, all dancing radio some of the books advocate unless you or one of the locals you're now very friendly with has experience of debugging such a beast. For me, half the fun is building, so I'm already poking about for a suitable something for when the current VHF SSB set is finished!

Good luck & I hope you find a suitable diagram / kit / idea to work on. I look forward to hearing you on the air with it - there's nothing better than that first QSO with a homebrew!

Regards,
Dave

Anyone who wants to comment on the essential tools for beginners, would you mind starting a new post please? It will help keep this one on-topic.

Thanks & see you all on-air.

==========

> _____
>
> "not perfect"? Understatement of the day.
>
> Like they say, Martin, you're either part of the solution or part of
> the problem. Apologists like you who accept and tolerate lousy
> grammar and spelling help perpetuate the problem. Like I said, the
> rules of English exist for a reason. Learn them and do it right.
>
> I don't care about the occasional typo - I make 'em too - but when a
> message is so laden with errors it becomes hard to merely read it....
>

1885. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 10:25:36 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f62f0c2$0$23584$5a62ac22@freenews.iinet.net.au>
Source record: 32552

Rob
My long term goal is to design a backback portable HF SSB/data rig to compete with the current offerings (SG2020) and Elecraft. I will probably never get there! I think with some new ideas and SM technology I could get the current drain << 100mA on receive and keep the size V small, while having digital programmability etc
BTW I would be interested in formiong a cooperative group on this if anyone is interested.

Richard

Rob Judd <judd@ob-wan.com> wrote in message news:3F628B11.29E80E95@ob-wan.com...
> Richard,
>
> How extremely strange. I just announced a week or so ago on a private
> forum that I was designing exactly the same thing. And I've also
> searched the net to see whether this was an original idea, and it seemed
> to be unique at the time. You wouldn't be another SDR-1000 owner by any
> chance?
>
> BTW, I'm still trying to locate relays also. My reply at the quoted
> $10.00 price from CIT was "Freow! Skip it!" or something similar. As you
> say, 20-30 of those makes it VERY expensive indeed.
>
> Rob
>
>
> Richard Hosking wrote:
> >
> > Anyone know a good source of surface mount latching relays DPST or DPDT, 5V
> > to be driven by logic?
> > I want to build an automatic antenna tuner for HF QRP
> > Digikey has them but they areUS$12 ea and it is a bit too expensive if I
> > want about 20 of them
> > I would prefer a permanent source if possible - not only a temporary
> > surplus - although this would be better than nothing
> >
> > Thanks in advance
> >
> > Richard

1886. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 11:28:58 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f62ff9b$0$23615$5a62ac22@freenews.iinet.net.au>
Source record: 32553

Further to this
I thought I would use a Palm Pilot as the mechanism for entering data/E
mails and maybe even CW
You could have an infrared port as the connection between them
Has anyone done this?

Richard

Rob Judd <judd@ob-wan.com> wrote in message
news:3F628B11.29E80E95@ob-wan.com...
> Richard,
>
> How extremely strange. I just announced a week or so ago on a private
> forum that I was designing exactly the same thing. And I've also
> searched the net to see whether this was an original idea, and it seemed
> to be unique at the time. You wouldn't be another SDR-1000 owner by any
> chance?
>
> BTW, I'm still trying to locate relays also. My reply at the quoted
> $10.00 price from CIT was "Freow! Skip it!" or something similar. As you
> say, 20-30 of those makes it VERY expensive indeed.
>
> Rob
>
>
> Richard Hosking wrote:
> >
> > Anyone know a good source of surface mount latching relays DPST or DPDT,
5V
> > to be driven by logic?
> > I want to build an automatic antenna tuner for HF QRP
> > Digikey has them but they areUS$12 ea and it is a bit too expensive if I
> > want about 20 of them
> > I would prefer a permanent source if possible - not only a temporary
> > surplus - although this would be better than nothing
> >
> > Thanks in advance
> >
> > Richard

1887. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 14:20:39 UTC
From: Woody <spamho@att.net>
Message-ID: <MPG.19cf94e6f3781509989681@netnews.worldnet.att.net>
Source record: 32554

In article <3f5afaf4$0$23601$5a62ac22@freenews.iinet.net.au>,
richardh@iinet.net.au says...
> Anyone know a good source of surface mount latching relays DPST or DPDT, 5V
> to be driven by logic?
> I want to build an automatic antenna tuner for HF QRP
> Digikey has them but they areUS$12 ea and it is a bit too expensive if I
> want about 20 of them
> I would prefer a permanent source if possible - not only a temporary
> surplus - although this would be better than nothing
>
> Thanks in advance
>
> Richard
>
>
>
>

Richard,

How 'bout this one?

5 VDC LATCHING RELAY, DPDT
Nais # DS2Y-SL2-DC5V. Nominal 5vdc, 139 ohm 2 coil latching relay. DPDT
contacts rated 2 amps (switching), 3 amps (carry). Small sealed case.
0.787" x 0.39" x 0.366" high. Fits 16 pin IC socket DIP pattern. UL,
CSA.
CAT# LRLY-155 Your Price: $1.50 each

($1.25 >25qty - They must have plenty)

http://www.allelectronics.com/cgi-bin/category.cgi?category=500
&item=LRLY-155&type=store

No vested intrest, just a customer...

73, Woody

1888. Re: Hy-Gain 203BA-S, 3 Element 20 Meter Beam

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 16:20:22 UTC
From: a6au6 <xxxa6au6z@hotmail.com>
Message-ID: <atH8b.6838$NM1.1708@newsread2.news.atl.earthlink.net>
Source record: 32555
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

The beam was sold.

Thanks for all the interest.

==========
"a6au6" <xxxa6au6z@hotmail.com> wrote in message
news:KrM6b.4948$BG6.3218@newsread1.news.atl.earthlink.net...

> This is a USED 20 meter three element full size monoband 20 meter beam:
>
> Boom Length - 16.5 feet
> Longest Element - 37 feet
> Weight - 35 pounds
> Wind Surface - 5.4 square feet
> Turning Radius - 20 feet
> Gain - 8.5 dB
> FTB - 29-25 dB
>
> The bean was installed on a tower for several years. I took it down to
> install a tri-bander.
>
> It was carefully taken down with a bucket truck, disassembled and packaged
> in the original box; with all the hardware necessary to reassemble the
beam.
> It is in excellent physical and electrical condition. The original
assembly
> manual is included. However, the elements are tarnished (i.e. not shiny)
due
> to exposure to the weather.
>
> The box is 7 feet long by 6 inches by 5 inches and weighs about 45 pounds.
>
> $175.00 plus shipping from 08809.
>
> Please contact me at .
>
> Thanks,
>
>

1889. Re: Crystal Oscillator for 3.560MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 19:49:46 UTC
From: wieland@copland.udel.edu
Message-ID: <bjvscqeav1@copland.udel.edu>
Source record: 32556

>"Chris" <chrismatchett@hotmail.com> wrote in message
>news:vO22b.170$ml5.293361@newsfep1-win.server.ntli.net...
>> This is my first visit to this newsgroup...I am a new MI3.
>>
>> I would like to put together a very simple QRP CW transceiver. The
>> schematic
>> I am using includes a 3.560MHz crystal oscillator.
>>
>> Maplin's, Farnell etc. sell 3.579545MHz or 3.686400MHZ crystal oscillators
>> respectively and I am wodering will these do the job or should I be
>> looking for a 3.560MHz crstal? The circuit does have a 65pF trimmer
>> capacitor for tuning but I want to sure about the crystal before I
>> order.
>>
>> Thanks for your help.
>>
>> Chris

Chris,

I have a couple of HC-6 package 3.559858 crystals with wire leads instead
of pins. That's 141 Hz below your frequency of interest. I believe these
are parallel-mode, calibrated at 32 pF capacitance. These came from Fair
Radio Sales of Nebraska. Send me your postal address & I'll mail you one.
--

R F Wieland Newark, DE 19711-5323 USA 39.68N 75.74W
Icom R75 Heathkit GR-81 Inverted-L in the attic
Reply to wieland at me dot udel dot edu

1890. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 19:57:48 UTC
From: wieland@copland.udel.edu
Message-ID: <bjvsrs$m45$1@copland.udel.edu>
Source record: 32557

In article <20030905135424.07383.00000642@mb-m27.aol.com>,
Limitedselection <limitedselection@aol.com> wrote:
>To "Caveat Lector":
>
>Thanks for your 'help'!
>
>Apparently you are a lawyer (or play one on usenet)?

You don't need to be a lawyer to know the law, nor a weatherman to know which way the wind blows.

You will be interfering with an authorized radio service. That's illegal.

You will be transmitting (outside Part 15 limits) without a license. That's illegal.

You will be putting on the air transmitting equipment that is neither inspected-and-accepted nor type-accepted. That's illegal.

You do not own nor control the airwaves on your property. I could try to list the things that are illegal even though you own the property they're done on, except that I have a 10-Meg limit on my temporary file size.

I agree you probably won't get caught, but don't kid yourself about what you're doing...
--

R F Wieland Newark, DE 19711-5323 USA 39.68N 75.74W
Icom R75 Heathkit GR-81 Inverted-L in the attic
Reply to wieland at me dot udel dot edu

1891. Re: FL200 Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-13 23:46:06 UTC
From: la8ak.xnd@online.no
Message-ID: <3f638ee3.33699672@news.online.no>
Source record: 32558

On Sat, 6 Sep 2003 20:59:58 +0000 (UTC), "Howard James"
<howardwj@btinternet.com> wrote:

>Does anyone have a schematitic of the Yaesu FL200 that could be emailed to
>me please.
>Thanks.
>Howard.
>
>
had the circuit diagram 30 years ago to compare whether the
differences between Sommerkamp FL-200 and FL-500 transmitters were
improvements or not, but it has vanished long time ago. Studied it and
found it was not too much differences from my FL-dx-500 of early
version, so if you could find this circuit it should be be good help,
but believe the version I sent to K4XL (BaMa) might be the newer
version, and the copies are no more here. I donated FL-dx-500 to a
friend in 1980, and the mechanical filter was replaced with a KVG XF9A
9MHz xtal filter which improved the spruious responses tremendous

73
Jan-Martin
LA8AK
http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

1892. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 01:37:14 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F63C64A.DC42D2BA@ob-wan.com>
Source record: 32559

Richard,

I believe the K2 is what you should be aiming to compete with. It
evidently is fairly good for the money.

I'm in Melbourne and would be happy to help in any way I can, time
allowing.

All the best,

Rob

Richard Hosking wrote:
>
> Rob
> My long term goal is to design a backback portable HF SSB/data rig to
> compete with the current offerings (SG2020) and Elecraft. I will probably
> never get there! I think with some new ideas and SM technology I could get
> the current drain << 100mA on receive and keep the size V small, while
> having digital programmability etc
> BTW I would be interested in formiong a cooperative group on this if anyone
> is interested.
>
> Richard
>
> Rob Judd <judd@ob-wan.com> wrote in message
> news:3F628B11.29E80E95@ob-wan.com...
> > Richard,
> >
> > How extremely strange. I just announced a week or so ago on a private
> > forum that I was designing exactly the same thing. And I've also
> > searched the net to see whether this was an original idea, and it seemed
> > to be unique at the time. You wouldn't be another SDR-1000 owner by any
> > chance?
> >
> > BTW, I'm still trying to locate relays also. My reply at the quoted
> > $10.00 price from CIT was "Freow! Skip it!" or something similar. As you
> > say, 20-30 of those makes it VERY expensive indeed.
> >
> > Rob
> >
> >
> > Richard Hosking wrote:
> > >
> > > Anyone know a good source of surface mount latching relays DPST or DPDT,
> 5V

> > > to be driven by logic?
> > > I want to build an automatic antenna tuner for HF QRP
> > > Digikey has them but they areUS$12 ea and it is a bit too expensive if I
> > > want about 20 of them
> > > I would prefer a permanent source if possible - not only a temporary
> > > surplus - although this would be better than nothing
> > >
> > > Thanks in advance
> > >
> > > Richard

1893. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 02:58:33 UTC
From: Eddie Haskel <wiseguy@clever.com>
Message-ID: <tPQ8b.28$Il6.5302494@newssvr21.news.prodigy.com>
Source record: 32560

This one is tried and proven to be a winner. Start with some kind of mild spark generator (large buzzer or mechanical bell). Isolate the device from it's power source with a pair of chokes (and place in soundproof box). Feed from the device(one lead to each side of spark gap or points) VIA 450Ohm open ladder line to a dipole cut to the 11 Meter band and orient it in the direction of the CB'ers antenna. This setup TRASHES AM and SSB RCVRS!!! I'ts possible your neighbors might see some sparklies in their picture on the low VHF channels. Want to make it REAL efficiant? take the CB radio you have and put a COR on it's RCVR. Set it up without an antenna to his favorite channel.When the COR closes it starts a time relay and transmits for about 10 minutes. Each time it hears the jerk it pops up and jams his RCVR. This scheme will NOT work over 500 feet. If this guy lives next door or behind you he IS game. He can not talk with someone ifhe can HEAR them to begin with. Even the dumbest of animals will soon learn....Eddie

"Limitedselection" <limitedselection@aol.com> wrote in message news:20030905131927.17988.00000282@mb-m24.aol.com...
> Help!
>
> I want to effectively "jam" CB reception on my property.
> The "jammer" would need to be low power and cover an area about as large as a
> 'small' city block.
>
> I have searched google, but I have only found references to schematics that
> were either posted to usenet as a picture (thus not saved in google archives),
> or located on web servers in domains that no longer exist.
>
> Any information would be appreciated!
>
>
>

1894. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 07:39:17 UTC
From: limitedselection@aol.com
Message-ID: <20030914033917.21879.00001005@mb-m04.aol.com>
Source record: 32561

>Subject: Re: want circuit/schematic for CB "jammer"
>From: wieland@copland.udel.edu (Robert F Wieland)
>Date: 9/13/2003 12:57 PM Pacific Daylight Time
>Message-id: <bjvsrs$m45$1@copland.udel.edu>
>
>In article <20030905135424.07383.00000642@mb-m27.aol.com>,
>Limitedselection <limitedselection@aol.com> wrote:
>>To "Caveat Lector":
>>
>>Thanks for your 'help'!
>>
>>Apparently you are a lawyer (or play one on usenet)?
>
>You don't need to be a lawyer to know the law, nor a weatherman to know
>which way the wind blows.
>
>You will be interfering with an authorized radio service. That's illegal.
>
>You will be transmitting (outside Part 15 limits) without a license.
>That's illegal.
>
>You will be putting on the air transmitting equipment that is neither
>inspected-and-accepted nor type-accepted. That's illegal.
>
>You do not own nor control the airwaves on your property. I could try to
>list the things that are illegal even though you own the property they're
>done on, except that I have a 10-Meg limit on my temporary file size.
>
>I agree you probably won't get caught, but don't kid yourself about what
>you're doing...
>--
>
>R F Wieland Newark, DE 19711-5323 USA 39.68N 75.74W
>Icom R75 Heathkit GR-81 Inverted-L in the attic
>Reply to wieland at me dot udel dot edu
>
Wieland,
I am not kidding myself. I never stated, asserted, proposed or implied that
jamming was legal.

I am very sorry that you completely misinterpreted my post.

I know that it jamming is illegal, okay Wieland?

Thanks for your help!

1895. cap question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 14:35:12 UTC
From: swells8044@aol.com
Message-ID: <20030914103512.23785.00001035@mb-m22.aol.com>
Source record: 32562

is a cap marked 22 with a line under it the same as a 221; 220pf??
Steve

1896. Re: cap question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 14:48:27 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f647fa6.40038660@news.freeserve.net>
Source record: 32563

On 14 Sep 2003 14:35:12 GMT, swells8044@aol.com (Swells8044) wrote:

>is a cap marked 22 with a line under it the same as a 221; 220pf??
>Steve
who can say?. but its probably a 22pF cap

1897. Re: Yahoo Group for Radio Shack DX-394 Users

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 16:01:43 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <n609b.106$mv6.24564@news20.bellglobal.com>
Source record: 32564
Cross-posted to:
rec.radio.shortwave,alt.radio.scanner,alt.radio.scanner.uk,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Welcome to the RADIOSHACKDX394 group!
http://groups.yahoo.com/group/RADIOSHACKDX394/

Here you will find a community of users of this dandy little tabletop LW/MW/SW receiver/scanner. Some members are keen short wave listeners; others are into AM DXing and a few enjoy long wave. Many experiment with antennas and some are ardent modifiers - customising and souping up the rig as hot rodders would do with cars. You'll find lots to interest you and help get the most out of your radio.

The group would like to hear from you. Send a message to introduce yourself. Tell us what you like to do with your DX-394 and what you would like to find in the group. It's as simple as sending an e-mail to RADIOSHACKDX394@yahoogroups.com. A suggested subject is "Newbie from (your location)".

If you have subscribed by e-mail, please proceed to register on the website so that you can enjoy all the resources available there, only to registered Yahoo members who have joined the group. You'll need to associate the e-mail address from which you sent the subscription request with your new Yahoo ID. As a registered member you can control the frequency that group messages are sent to your e-mail account - individually, daily digest, Special Notices only, or never.

Here's what's currently available, just a few mouse clicks away:

Message Archive: over 1446 messages as of Aug. 23/03. Use the search tool to find content of interest to you. Post messages right on the website or by e-mail.

Links: probably the most complete collection of links to other web sites and resources having something to do with the DX-394. Each one is described so you can speedily pick the most relevant ones. Try out the Google Search link for checking the latest on Usenet groups about the DX-394.

Files: certainly the most complete and comprehensive collection of modifications, explanations, and tips for this radio - all the 'famous' Frank Cathell mods from Usenet group rec.radio.shortwave are here along with recent ones by Tom Holden and others - and it continues to grow. Members are actively developing computer control, external Digital Signal Processing interfaced at 455 kHz, 455kHz/12kHz downconverter for interfacing to sound card for PC-based DSP, and simpler ones such as 1/4" phone jack, SSB Clarifier, etc. Look here for a comprehensive index with over 50 entries: Mods List. Have you got a mod to offer?

Photos: a growing collection of photos of modified rigs and of DX-394 shacks. Upload a photo of your set-up - no matter how simple or messy, with you or your cat in the picture, too!

Database: See the Survey of members. In one convenient spot, read what others are using their DX-394 for, what antennas and accessories they have, mods they have done or plan to do, what they like/dislike about the receiver. Take a couple of minutes and contribute your input to the survey - in fact, do that first and let us know you have done so in your first posting!

Members: over 450 as at Aug 23/03! You can browse the list and maybe find someone in the same city; it's possible to send a message to a member privately via the group's message server, even though you cannot see the member's full address.

Polls, Chat, Calendar: these resources are not regularly active. Maybe you have a suggestion and would like to initiate something.

Etiquette
Group membership is subject to approval by a Moderator to control spam-bots. Messages, however, are immediately reflected without Moderator approval. We want to keep it that way as long as the postings are on-topic, spam-free, use language and express opinions that we would be happy for our children to hear. The group Moderators will exercise their rights and responsibilities to delete messages and to remove or ban members that, in their opinion, violate these basic principles.

When you reply to a message or add to an ongoing thread, please trim off all or most of the previous person's text before you send your message. If you need to keep some of their text because you might refer to it, please hold-back only the amount needed so the readers can understand the dialog. Please strip away everything else. Why? This will help readability for all, and be especially beneficial to our friends in digest-mode.

Group Email Addresses

Post message: RADIOSHACKDX394@yahoogroups.com
Subscribe: RADIOSHACKDX394-subscribe@yahoogroups.com
Unsubscribe: RADIOSHACKDX394-unsubscribe@yahoogroups.com

1898. Re: cap question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 16:37:13 UTC
From: Capoot <rlcap@xprt.net>
Message-ID: <vm96b9fmc69611@corp.supernews.com>
Source record: 32565

Too many different marking systems to tell for sure. I don't install a cap, resistor, or inductor without measuring it first!
Ray
"Swells8044" <swells8044@aol.com> wrote in message news:20030914103512.23785.00001035@mb-m22.aol.com...
> is a cap marked 22 with a line under it the same as a 221; 220pf??
> Steve

1899. Re: Practical Antenna Handbook by Joseph Carr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 17:57:14 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <l729b.4802$Gr.285419@read1.cgocable.net>
Source record: 32566
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap

Must be a real interest in Antennas ! ! Searched around to Web and finally
bought a copy at Amazon.com which had the "best" price.
Tnx for all the comments..
73..Norm

"Norm VE3CZI" <ve3czi@arrl.net> wrote in message
news:Abp8b.3276$Gr.195672@read1.cgocable.net...
> Looking for a copy of:
> PRACTICAL ANTENNA HANDBOOK BY JOSEPH J. CARR BY MCGRAW-HILL,NY,1998,THIRD
> EDITION,
> If anyone has one they wish to part with, please advise with price &
> shipping to Canada.
> 73...Norm VE3CZI
>
>
>
>
>
>

1900. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-14 23:56:19 UTC
From: la8ak.xnd@online.no
Message-ID: <3f64e64a.121623066@news.online.no>
Source record: 32567

On 14 Sep 2003 07:39:17 GMT, limitedselection@aol.com
(Limitedselection) wrote:

>>Subject: Re: want circuit/schematic for CB "jammer"
>>From: wieland@copland.udel.edu (Robert F Wieland)
>>Date: 9/13/2003 12:57 PM Pacific Daylight Time
>>Message-id: <bjvsrs$m45$1@copland.udel.edu>
>>
>>In article <20030905135424.07383.00000642@mb-m27.aol.com>,
>>Limitedselection <limitedselection@aol.com> wrote:
>>>To "Caveat Lector":
>>>
>>>Thanks for your 'help'!
>>>
>>>Apparently you are a lawyer (or play one on usenet)?
>>
>>You don't need to be a lawyer to know the law, nor a weatherman to know
>>which way the wind blows.
>>
>>You will be interfering with an authorized radio service. That's illegal.
>>
>>You will be transmitting (outside Part 15 limits) without a license.
>>That's illegal.
>>
>>You will be putting on the air transmitting equipment that is neither
>>inspected-and-accepted nor type-accepted. That's illegal.
>>
>>You do not own nor control the airwaves on your property. I could try to
>>list the things that are illegal even though you own the property they're
>>done on, except that I have a 10-Meg limit on my temporary file size.
>>
>>I agree you probably won't get caught, but don't kid yourself about what
>>you're doing...
>>--
>>
>>R F Wieland Newark, DE 19711-5323 USA 39.68N 75.74W
>>Icom R75 Heathkit GR-81 Inverted-L in the attic
>>Reply to wieland at me dot udel dot edu
>>
>Wieland,
>I am not kidding myself. I never stated, asserted, proposed or implied that
>jamming was legal.
>
>I am very sorry that you completely misinterpreted my post.

>
>I know that it jamming is illegal, okay Wieland?
>
>Thanks for your help!
>
a friend made a jammer for a difficult person who caused a lot of
problems for the surrounding world. The jammer had photodiode, and
would only operate when dark, it transmitted only after a CB
transmission - for the next 20 minutes causing reception impossible
for this guy, and it was hidden in a nearby trea

So this bloke couldn't make 2-way communication and after some time
resigned to find a new house somewhere far away from this place

He had caused very much problems running high power and blocking
TV-and broadcast-reception, so it was a good idea to keep him from
activitating the CB or what ever band

It happened many years ago, but still it is told to amuse the friends

-jm

--
remove ,xnd to reply (Spam precaution!)

1901. Re: RF amps: tuned load in Class A?

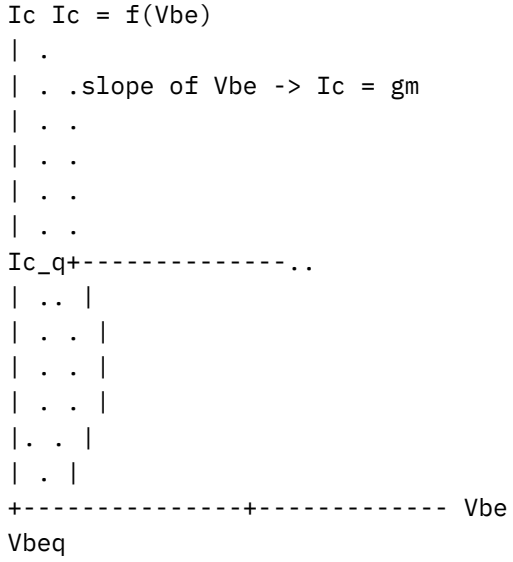
Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 04:02:52 UTC
From: gwhite <gwhite@ti.com>
Message-ID: <3F6539EC.BA56BB17@ti.com>
Source record: 32568
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Kevin Aylward wrote:
>

> >> Provide a *mathematical* *explicit*
> >> disproof of my mathematics or present your retraction.

You are correct about the specific device (BJTs) biased class-A for multipliers such as the gilbert cell. They need to have the gm "slope" change for the gain to change, and changing the gain is what the modulation is all about. By definition that means those "slopes" are tangent to something that can't be straight (the Vbe -> Ic function). I was wrong about the specific device used in this type of application. The system in this application (DSB-AM) is most certainly linear (all phase and amplitude information is completely preserved -- the definition of linearity -- albeit at a translated frequency), but the Vbe -> Ic function for the transistor isn't linear and it can't be for it to work in the given configuration.

ï¿½ Gain is a direct function of gm.
ï¿½ Gain must change for amplitude modulation to occur, by definition.
.ï¿½. not only must gm move along the curve, the curve has to be a curve (not straight), otherwise the gain would not change.



Pretty simple really. No wonder I was so bored and fell asleep in EDSN101.

1902. What motors do you use to turn potentiometers and air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 04:51:38 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309142051.1eecb49d@posting.google.com>
Source record: 32569

Has anyone here used a motor to control a potentiometer or variable
capacitor? (An automatic tuner would be such an application.)

What type of motor do you use? Servo? Stepper? Something else?
What do I need to look for in a motor?

Jason Hsu, AG4DG
usenet@@@@@jasonhsu.com

1903. Re: cap question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 06:53:11 UTC
From: Leon Heller <leon_heller@hotmail.com>
Message-ID: <3f6561d7$0$255$cc9e4d1f@news.dial.pipex.com>
Source record: 32570

Swells8044 wrote:

> is a cap marked 22 with a line under it the same as a 221; 220pf??
> Steve

It's 22 pF.

Leon

1904. Peoria Superfest 2003 Sept 19-20-21!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 10:09:27 UTC
From: Larry Saletzki <wa9vrh@mtco.com>
Message-ID: <Pag9b.1129$5M.28880@dfw-read.news.verio.net>
Source record: 32571
Cross-posted to: alt.radio.amateur.club,rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Peoria's Superfest 2003 September 19-20-21 Peoria Illinois. Large outdoor flea market and many indoor commercial exhibitors.

FCC testing Sunday only 11:30- AM - 1PM. For more information http://www.peoriasuperfest.com/

Lots of antique radios, boatanchors, AM gear, military equipment and much more.

See you there!! 73 Larry WA9VRH

1905. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 10:50:26 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bk45hh$pe5$1@sparta.btinternet.com>
Source record: 32572

>Other than the voltage rating I don't see any differences on
>the data sheets I've looked at. Why not just make and use 1kv diodes
>alone?

==========

Because somebody like you would complain about no 2kv diodes being
available.

1906. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 11:52:57 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f65a83b$0$23609$5a62ac22@freenews.iinet.net.au>
Source record: 32573

Rob

A quick search of the revealed not much apart from the two mentioned. I have not used either but on paper at least, the 2020 appeared the most attractive. Elecraft kindly published their tuner design, which is simply a series of capacitors and inductors in a L network configuration switched by relays. They use a conventional SWR bridge to measure the match, with the whole thing controlled by a micro. Is that how you are planning to do yours? I have done a few successful projects using AVRs to control RF devices (see http://members.iinet.net.au/~richardh/VK6BRO.htm) so I reckon I could do the board design.
The code would take a bit of work - I am not sure what algorithm would be used
Do you have any ideas on this?

Richard

Rob Judd <judd@ob-wan.com> wrote in message news:3F63C64A.DC42D2BA@ob-wan.com...
> Richard,
>
> I believe the K2 is what you should be aiming to compete with. It
> evidently is fairly good for the money.
>
> I'm in Melbourne and would be happy to help in any way I can, time
> allowing.
>
> All the best,
>
> Rob
>
>
> Richard Hosking wrote:
> >
> > Rob
> > My long term goal is to design a backback portable HF SSB/data rig to
> > compete with the current offerings (SG2020) and Elecraft. I will
probably
> > never get there! I think with some new ideas and SM technology I could
get
> > the current drain << 100mA on receive and keep the size V small, while
> > having digital programmability etc
> > BTW I would be interested in formiong a cooperative group on this if
anyone
> > is interested.

> >
> > Richard
> >
> > Rob Judd <judd@ob-wan.com> wrote in message
> > news:3F628B11.29E80E95@ob-wan.com...
> > > Richard,
> > >
> > > How extremely strange. I just announced a week or so ago on a private
> > > forum that I was designing exactly the same thing. And I've also
> > > searched the net to see whether this was an original idea, and it
seemed
> > > to be unique at the time. You wouldn't be another SDR-1000 owner by
any
> > > chance?
> > >
> > > BTW, I'm still trying to locate relays also. My reply at the quoted
> > > $10.00 price from CIT was "Freow! Skip it!" or something similar. As
you
> > > say, 20-30 of those makes it VERY expensive indeed.
> > >
> > > Rob
> > >
> > >
> > > Richard Hosking wrote:
> > > >
> > > > Anyone know a good source of surface mount latching relays DPST or
DPDT,
> > 5V
> > > > to be driven by logic?
> > > > I want to build an automatic antenna tuner for HF QRP
> > > > Digikey has them but they areUS$12 ea and it is a bit too expensive
if I
> > > > want about 20 of them
> > > > I would prefer a permanent source if possible - not only a temporary
> > > > surplus - although this would be better than nothing
> > > >
> > > > Thanks in advance
> > > >
> > > > Richard

1907. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 13:07:13 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f65b8ee.120251370@news.freeserve.net>
Source record: 32574

On Sun, 7 Sep 2003 17:31:00 +0800, "Richard Hosking"
<richardh@iinet.net.au> wrote:

>Anyone know a good source of surface mount latching relays DPST or DPDT, 5V
>to be driven by logic?

Anyone have a URL on to how to use latching relays ?. I've found
single coil and double coil examples but no info on how they function
or how to switch them.

1908. Re: What motors do you use to turn potentiometers and air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 13:33:12 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0309150533.61bd9931@posting.google.com>
Source record: 32575

Hi Jason,
a modeller's servo seems to be fine: it has a high torque and while powered, it keeps its position actively. Disadvantages are their price and the fact they are controlled by AF PWM / PPM (unless one modifies them, of course).
A cheap source are scrap FDDs and CD-ROMs: there are 2 - 3 classic and stepper motors in each of these animals. They are used for positioning the head, rotating the media, ejecting the CD etc. It needs a bit of skill and effort to put them into new life, though.

BR from Ivan

jason_hsu@my-deja.com (Jason Hsu) wrote in message news:<f7d9a152.0309142051.1eecb49d@posting.google.com>...
> Has anyone here used a motor to control a potentiometer or variable
> capacitor? (An automatic tuner would be such an application.)
>
> What type of motor do you use? Servo? Stepper? Something else?
> What do I need to look for in a motor?
>
> Jason Hsu, AG4DG
> usenet@@@@@jasonhsu.com

1909. Re: cap question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 13:36:07 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0309150536.320bf354@posting.google.com>
Source record: 32576

Hi Steve,
IMHO it is a 22 pF capacitor. The line under the number should mean a
negative temperature coefficient.

BR from Ivan

swells8044@aol.com (Swells8044) wrote in message
news:<20030914103512.23785.00001035@mb-m22.aol.com>...
> is a cap marked 22 with a line under it the same as a 221; 220pf??
> Steve

1910. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 17:41:16 UTC
From: snarflemike@yahoo.com
Message-ID: <20619edc.0309150941.34c2cb8f@posting.google.com>
Source record: 32577

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:<bk45hh$pe5$1@sparta.btinternet.com>...
> >Other than the voltage rating I don't see any differences on
> >the data sheets I've looked at. Why not just make and use 1kv diodes
> >alone?
>
> ================================
>
> Because somebody like you would complain about no 2kv diodes being
> available.

Like me in what way? Curious? Uninformed? Ignorant? Whipped with
extension cords as a child? Raised by circus performers? Eats
mayonnaise out of the jar when depressed?

Come to think of it, why the heck *aren't* there any 2kv diodes
available?!

And how come I can't buy air-variables for a buck down at the corner
electronics store?!

73,
Mike, KK6GM

1911. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 19:20:26 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vmc4pt79uujg69@corp.supernews.com>
Source record: 32578

The latching relays are fairly obvious, actually.

For the dual coil ones, you apply current to one coil to open, to the other coil to close. The single coil ones generally have you reverse polarity on the coil to change state. If they are latching relays, in both cases they won't change state with no current applied.

..

"Mike W" <mike@corn2.freeserve.co.uk> wrote in message news:3f65b8ee.120251370@news.freeserve.net...
> On Sun, 7 Sep 2003 17:31:00 +0800, "Richard Hosking"
> <richardh@iinet.net.au> wrote:
>
> >Anyone know a good source of surface mount latching relays DPST or DPDT, 5V
> >to be driven by logic?
>
> Anyone have a URL on to how to use latching relays ?. I've found
> single coil and double coil examples but no info on how they function
> or how to switch them.

1912. Re: What motors do you use to turn potentiometers and air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 20:30:21 UTC
From: Jack Smith <jsmith@mnsinc.com>
Message-ID: <238cmv4qgh7aje8qjbh8oe4dk4lf9mutbp@4ax.com>
Source record: 32579

On 14 Sep 2003 21:51:38 -0700, jason_hsu@my-deja.com (Jason Hsu)
wrote:

>Has anyone here used a motor to control a potentiometer or variable
>capacitor? (An automatic tuner would be such an application.)
>
>What type of motor do you use? Servo? Stepper? Something else?
>What do I need to look for in a motor?
>
>Jason Hsu, AG4DG
>usenet@@@@@jasonhsu.com

The military has historically used small DC gear motors, Pittman,
Globe, etc. Fair Radio has these at reasonable prices. The control
mechanism is all analog, classical servomechanism and error detector
and amplifier approach.

Alpha uses stepper motors to turn the tuning and loading caps in the
auto tune amplifier. These are fair size steppers with gearing.

If your control mechanism is analog, look at DC motors. If you are
going to use digital control, think steppers.

Jack K8ZOA

1913. HP 8565A CRT ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-15 22:32:53 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vmcfgue3v4avb7@corp.supernews.com>
Source record: 32580

I have one with a broken crt and wonder if there is any other HP equpiment
that use the same tube? Also would like to know the CRT part number just in
case one shows up on ebay.
tnx
hank wd5jfr

1914. Re: HP8640B output amplifier failure

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 00:04:48 UTC
From: jackgxyz@nuvox.net
Message-ID: <3f6653a0$0$12611$a0465688@nnrp.fuse.net>
Source record: 32581

Harke,

I had the same thing happen to an 8640a. The failure was the output gold IC.
I found one for about $150 bucks. The failure happened when I had some
low voltage ac get back into the output, and I happened to have the attenuator
in the max out (no attenuation) setting.

As a note to anyone who has an 8640a or b, there is a reverse power option
that might save the power amp. I found the best preventative is to use a 20db
external N connector pad connected right at the output. Just divide the output
voltage level by 10 (20 db). eg, if you have .75 volt output, you actually
have .075 volt output from the 20 db pad.

Jack

1915. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 00:55:24 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f665f9e$0$23609$5a62ac22@freenews.iinet.net.au>
Source record: 32582

Thanks
I wanted to know this as well!

Richard

xpyttl <xpyttl_nospam@earthling.net> wrote in message
news:vmc4pt79uujg69@corp.supernews.com...
> The latching relays are fairly obvious, actually.
>
> For the dual coil ones, you apply current to one coil to open, to the
other
> coil to close. The single coil ones generally have you reverse polarity
on
> the coil to change state. If they are latching relays, in both cases they
> won't change state with no current applied.
>
> ..
>
> "Mike W" <mike@corn2.freeserve.co.uk> wrote in message
> news:3f65b8ee.120251370@news.freeserve.net...
> > On Sun, 7 Sep 2003 17:31:00 +0800, "Richard Hosking"
> > <richardh@iinet.net.au> wrote:
> >
> > >Anyone know a good source of surface mount latching relays DPST or
DPDT,
> 5V
> > >to be driven by logic?
> >
> > Anyone have a URL on to how to use latching relays ?. I've found
> > single coil and double coil examples but no info on how they function
> > or how to switch them.
>
>

1916. Re: Interstage filtering between FM RF amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 01:50:17 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f666be5.5262041@news.cantech.net.au>
Source record: 32583

On 16 Sep 2003 00:47:01 GMT, fornewspost@aol.com (ForNewsPost) wrote:

>
> My question is whether I need interstage filtering between two 900MHz
>saturated amplifiers in an FM (FSK) transmitter. One stage is the driver
>amplifier outputting about +15dBm, and the other stage is the PA, outputting
>+30dBm. I want to keep parts count and insertion losses down, but do I need
>such filtering to keep mixing products to a minimum, or is the standard TX
>output bandpass filter all that I need in an FM system?

What "mixing products"? The signal into the driver should be fairly
clean of unwanteds - if it isn't, that's a problem to be fixed in the
exciter.

I'd personally use interstage impedance matching with just a low-pass
which is often inherent in the matching circuit.

1917. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 02:03:24 UTC
From: Zombie Wolf <zmbwf@acadia.net>
Message-ID: <vmcrrecb2a2ie1@corp.supernews.com>
Source record: 32584

Here is an interesting idea. A guy could use a 555 timer chip to make a circuit that would literally key up in the guys face every time he keyed his rig, by connecting the trigger input on the timer chip to the signal from the s-meter , which is filtered dc. the amount of time it would key up for could be set by the timing interval of the chip . Now, we simply turn the sensitivity of the receiver down, and turn the power output down also on transmit. this means a 12- volt car battery could run this setup for a loooong time. The receive sensitivity is turned down until only strong local signals produce enough s-meter output to trigger the chip into keying the rig up. This ensures that it only keys on him, since you will place this somewhere near his residence.
A friend of mine did this with great success, since he took a regular breaker box, and mounted it on a light pole near the guy's house, along with a bunch of other boxes that were on the pole already, and ran a 9-foot wire up the pole. It was quite a while before the power company discovered the 'superfluous" box on the back of the light pole, long after it had served its purpose well. the 12- volt car battery that ran it lasted over a month with this setup..... total cost ? it might have cost two or three dollars to make the circuit on a piece of perfboard...

"Caveat Lector" <CL@latin.com> wrote in message
news:iF36b.28605$S_.20371@fed1read01...
> Golly -- FYI:
> Jamming is illegal -- subject to an FCC fine
>
> --
> 73 From The Signal In The Noise
> Caveat Lector Ya All
> "Limitedselection" <limitedselection@aol.com> wrote in message
> news:20030905131927.17988.00000282@mb-m24.aol.com...
> > Help!
> >
> > I want to effectively "jam" CB reception on my property.
> > The "jammer" would need to be low power and cover an area about as large
> as a
> > 'small' city block.
> >
> > I have searched google, but I have only found references to schematics
> that
> > were either posted to usenet as a picture (thus not saved in google
> archives),
> > or located on web servers in domains that no longer exist.
> >
> > Any information would be appreciated!

> >
> >
>
>

1918. Re: LED education needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 02:31:18 UTC
From: Zombie Wolf <zmbwf@acadia.net>
Message-ID: <vmctfne721ju71@corp.supernews.com>
Source record: 32585

voltage / resistance = current. simple ohm's law.

E
I R

voltage / current = required resistance

"Bob Liesenfeld" <wb0poq@visi.com> wrote in message
news:3F4D8062.5F61B5F5@visi.com...
>
>
> bobinphx wrote:
> >
> > To All, I need to understand a few things about LED's, such as amperage,
> > current limiting and light output.. Anyone an expert that can explain
things
> > and answer my further rising questions in terms an electronics hack
(myself)
> > can understand...
> >
> > Thanks
> > Bob in phx...
>
>
> Well, as a start it is generally assumed that an LED when under
> forward bias and lit up has 2V across it with 20mA flowing through it.
> This allows you to calculate a series resistor with any applied voltage.
> Does this help? Any other questions?
>
> Bob WB0POQ

1919. Re: What motors do you use to turn potentiometers and air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 04:13:54 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F668E59.36E2053C@bellatlantic.net>
Source record: 32586

Jason Hsu wrote:
>
> Has anyone here used a motor to control a potentiometer or variable
> capacitor? (An automatic tuner would be such an application.)
>
> What type of motor do you use? Servo? Stepper? Something else?
> What do I need to look for in a motor?
>
> Jason Hsu, AG4DG
> usenet@@@@@jasonhsu.com

DUAL 10K LINEAR TAPER MOTORIZED POT CAT# MPOT-10K
http://www.allelectronics.com/cgi-bin/category.cgi

4 dollars.

Also, I've used surplus 1 rpm motors to drive capacitors.
You want DC, small and slow.

1920. Re: Chassis-bashing revisited

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 05:25:09 UTC
From: Zombie Wolf <zmbwf@acadia.net>
Message-ID: <vmd7ll1biamtf4@corp.supernews.com>
Source record: 32587

the last time i had to do this, i used a saber saw with a hacksaw blade in it. I clamped the metal between two pieces of scrap3/8 in plywood, then clamped this to the edge of the bench, and sawed thru wood, metal, and all at the same time. The wood prevents the metal from vibrating, and it just cuts like a regular wood strip would. This works equally well on sheet aluminum or steel sheet. You can even cut shapes out quite efficiently.

"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.0000007b.0054fcac@btinternet.com...
> Hi,
>
> Whatever metal-working skills I acquired during my training as
> a radar fitter in the Royal Air Force so many year ago have
> evaporated it would seem (RAF Locking 1958). Just now I tried to
> cut some short strips from a 3mm aluminium sheet using a hacksaw
> and made the worst possible mess of it.
>
> No matter how I tried, I couldn't stop the cut veering to the
> right. In the end I just cut out the pieces larger than required
> and filed them to shape. The end result was OK but what a waste
> of material.
>
> So, what is the technique for hacksawing a straight-ish line
> by hand. I guess that as my cuts always went the same way it was
> something to do with how I was standing and holding the hacksaw.
> Any tips would be gratefully received.
>
> All those years ago I passed the necessary trade tests so I
> must have had it down pat then.
>
>
> 73 de Joe, G3LLV
>
>

1921. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 06:33:56 UTC
From: Peter PE1CUO <pgloeipitfakes@xs4all.nl>
Message-ID: <3f66aeef$0$58706$e4fe514c@news.xs4all.nl>
Source record: 32588

> >
> > "Mike W" <mike@corn2.freeserve.co.uk> wrote in message
> > news:3f65b8ee.120251370@news.freeserve.net...
> > > On Sun, 7 Sep 2003 17:31:00 +0800, "Richard Hosking"
> > > <richardh@iinet.net.au> wrote:
> > >
> > > >Anyone know a good source of surface mount latching relays DPST or
> DPDT,
> > 5V
> > > >to be driven by logic?
> > >
> > > Anyone have a URL on to how to use latching relays ?. I've found
> > > single coil and double coil examples but no info on how they function
> > > or how to switch them.
> >
> >

Mayby this is what you looking for:

http://www.allelectronics.com

http://www.allelectronics.com/cgi-bin/category.cgi?category=500600&type=stor
e

$ 0.85 - $ 2.00

Best regards

Peter,
PE1CUO

1922. Re: What motors do you use to turn potentiometers and air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 06:35:27 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <IQX4LmDv8qZ$EAcd@ifwtech.co.uk>
Source record: 32590

wrote:
>
>
>Jason Hsu wrote:
>>
>> Has anyone here used a motor to control a potentiometer or variable
>> capacitor? (An automatic tuner would be such an application.)
>>
>> What type of motor do you use? Servo? Stepper? Something else?
>> What do I need to look for in a motor?
>>
>> Jason Hsu, AG4DG
>> usenet@@@@@jasonhsu.com
>
>DUAL 10K LINEAR TAPER MOTORIZED POT CAT# MPOT-10K
>http://www.allelectronics.com/cgi-bin/category.cgi
>
>4 dollars.
>
>Also, I've used surplus 1 rpm motors to drive capacitors.
>You want DC, small and slow.

Some people have also used a cheap battery-powered barbecue spit rotator
- again it's DC, small and slow.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

1923. Re: HP 8565A CRT ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 08:26:32 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000008b.001cde5a@btinternet.com>
Source record: 32589

Henry,

Try -

http://www.sphere.bc.ca/test/hp-crts.html

Cheers - Joe

1924. FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 09:04:45 UTC
From: horana123@yahoo.com
Message-ID: <f3353f3c.0309160104.a55a1cd@posting.google.com>
Source record: 32591

My wife and I have two cars. While traveling, most of the time we go in two cars. I am looking a device that we can talk to each other while driving. Some thing like a FM Transmitter.

Can anybody help.

Thanks,
Karl

1925. Re: Why different rectifier diode voltage ratings?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 10:20:30 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bk6o5dnpg1@hercules.btinternet.com>
Source record: 32592

```
> Like me in what way? Curious? Uninformed? Ignorant? Whipped with
> extension cords as a child? Raised by circus performers? Eats
> mayonnaise out of the jar when depressed?
>
====================================
Mike, you and I have much in common. I really do sympathise. Pleased to
make your acquaintance.
---
Reg, G4FGQ
```

1926. Re: FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 10:56:04 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3F66EC44.BF897E5B@bloomer.net>
Source record: 32593

You mean something like a set of FRS radios? Or CB walkie talkies (or regular mobile CBs)? Oh, wait, I think I just got what you mean...you want to transmit so that the other person can hear you over the car radio? There are several commercial made "wireless microphones" that will transmit to broadcast FM receivers, available at Radio Shack no doubt...(I'd still opt for the FRS radios)

Scott
N0EDV

Karl Hemilton wrote:
>
> My wife and I have two cars. While traveling, most of the time we go
> in two cars. I am looking a device that we can talk to each other
> while driving. Some thing like a FM Transmitter.
>
> Can anybody help.
>
> Thanks,
> Karl

--

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

1927. Re: Source of SM Latching Relays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 12:59:09 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vme29poaechdfd@corp.supernews.com>
Source record: 32594

"Peter PE1CUO" <pgloeipitfakes@xs4all.nl> wrote in message
news:3f66aeef$0$58706$e4fe514c@news.xs4all.nl...
>
> Mayby this is what you looking for:

Well, it looks like you bought ALL of them from ALL. There's nothing there
anymore,

Try this:

http://rocky.digikey.com/WebLib/Omron%20Web%20Data/G6H.pdf

..

1928. External Mixer board for Heathkit SB-620?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 14:13:33 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <sUE9b.8$rA6.11872@news.ntplx.net>
Source record: 32595

Does anyone sell an external mixer board for
the SB-620 Panadapter? One of our members
is sure he saw it announced or advertised in QST, but
we can't locate it. He is aware of the web pages detailing
how to change the components for different IFs, but
doesn't want to hack up a working panadapter.

Zack Lau W1VT

1929. Re: FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 15:17:04 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.19d0c94dbc0bee9d989a15@192.168.42.131>
Source record: 32596

In article <f3353f3c.0309160104.a55a1cd@posting.google.com>, Karl Hemilton says...

> My wife and I have two cars. While traveling, most of the time we go
> in two cars. I am looking a device that we can talk to each other
> while driving. Some thing like a FM Transmitter.

You have a number of options.

(1) FRS radios. Small, cheap, easily strong enough to go at least a half-mile, no license required. Obtainable at most electronic and office-supply stores.

(2) You and your wife could get amateur radio licenses, and use 2m or 70cm rigs on a simplex channel. You can switch to a repeater if you get separated. Requires study, a license exam, etc. You are also restricted from passing commercial messages ("Buy product X at store Y," etc.) by Part 97 regs.

(3) Get a pair of MURS radios. More powerful than FRS, same no-license-required, can go a little further, but considerably more expensive than FRS units.

Good hunting.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

1930. Re: FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 17:05:23 UTC
From: Tom Sedlack <cts050@nospamhere.email.mot.com>
Message-ID: <bk7fig$3mm$1@avnika.corp.mot.com>
Source record: 32597

Get two wireless microphones set to two different frequencies and you will have full duplex capabilities. This way, she'll be able to interrupt you whenever she wants ;-)

"Scott" <acepilot@bloomer.net> wrote in message news:3F66EC44.BF897E5B@bloomer.net...
> You mean something like a set of FRS radios? Or CB walkie talkies (or
> regular mobile CBs)? Oh, wait, I think I just got what you mean...you
> want to transmit so that the other person can hear you over the car
> radio? There are several commercial made "wireless microphones" that
> will transmit to broadcast FM receivers, available at Radio Shack no
> doubt...(I'd still opt for the FRS radios)
>
> Scott
> N0EDV
>
> Karl Hemilton wrote:
> >
> > My wife and I have two cars. While traveling, most of the time we go
> > in two cars. I am looking a device that we can talk to each other
> > while driving. Some thing like a FM Transmitter.
> >
> > Can anybody help.
> >
> > Thanks,
> > Karl
>
> --
>
> Scott
> http://corbenflyer.tripod.com
> http://groups.yahoo.com/group/ParasolAirplanes
> Building RV-4
> Gotta Fly or Gonna Die!

1931. Re: FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 17:40:33 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <8hiemv4oa5pguq5pi817miakve9j59al7k@4ax.com>
Source record: 32598

On Tue, 16 Sep 2003 10:56:04 +0000, Scott <acepilot@bloomer.net>
wrote:

>Karl Hemilton wrote:
>>
>> My wife and I have two cars. While traveling, most of the time we go
>> in two cars. I am looking a device that we can talk to each other
>> while driving. Some thing like a FM Transmitter.
>>
>You mean something like a set of FRS radios? Or CB walkie talkies (or
>regular mobile CBs)? Oh, wait, I think I just got what you mean...you
>want to transmit so that the other person can hear you over the car
>radio? There are several commercial made "wireless microphones" that
>will transmit to broadcast FM receivers, available at Radio Shack no
>doubt...(I'd still opt for the FRS radios)
>
>Scott
>N0EDV
>
Yes, that is what I was thinking. The legal LPFM, which does transmit
on conventional FM broadcast frequencies, has a tiny power output and
a maximum range of something like 1/4 mile, which is 15 seconds apart
at highway speeds. They make much more sense around your home, and out
into the yard. You would also have to retune as you travel, to work
around broadcast stations.

I think that FRS or CB would make much more sense, work better ,and be
easier to use.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

1932. Re: HP 8565A CRT ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-16 20:54:48 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vmeu52b017bcf4@corp.supernews.com>
Source record: 32599

The HP part no. is 5083-4471..
hank
"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vmcfgue3v4avb7@corp.supernews.com...
> I have one with a broken crt and wonder if there is any other HP equpiment
> that use the same tube? Also would like to know the CRT part number just
in
> case one shows up on ebay.
> tnx
> hank wd5jfr
>
>

1933. Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 00:01:42 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19c948eff151cd42989686@news-central.giganews.com>
Source record: 32600
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

http://www.aftenposten.no/english/local/article.jhtml?articleID=609108

I've always assumed that the performance of ferrite-rod antennas in
transmitting applications was limited by core saturation. Wonder if
there's anything to this "invention"?

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1934. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 05:10:40 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.19d1b6e03028ce4198985a@news.east.earthlink.net>
Source record: 32601
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <MPG.19c948eff151cd42989686@news-central.giganews.com>,
jmiles@pop.removethistomailme.net says...
> http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
>
> I've always assumed that the performance of ferrite-rod antennas in
> transmitting applications was limited by core saturation. Wonder if
> there's anything to this "invention"?
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --
>
not much info there, but i've read articles about russian experiments on
small antennae and something about a capacitive antenna.

somewhere in the jumble, i came across a theory/claim supposedly
originated by Nikolai Tesla. the theory being that applying a large
voltage - low freq. ac, dc... i don't remember - to a short antenna
would set up an electrically large antenna by virtue of the electric
field.

say you applied 1000V to a 1m whip. that's 1000V/m. or it's 1V/m over a
length of 1000m effective antenna length. that's the theory... key word
"theory".

brs,
mike

1935. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 06:36:51 UTC
From: Kevin McMurtrie <mcmurtri@dslextreme.com>
Message-ID: <mcmurtri-69371E.23365116092003@corp-radius.supernews.com>
Source record: 32602
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <MPG.19d1b6e03028ce4198985a@news.east.earthlink.net>,
Active8 <mcolasono@earthlink.net.invalid> wrote:

> In article <MPG.19c948eff151cd42989686@news-central.giganews.com>,
> jmiles@pop.removethistomailme.net says...
> > http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
> >
> > I've always assumed that the performance of ferrite-rod antennas in
> > transmitting applications was limited by core saturation. Wonder if
> > there's anything to this "invention"?
> >
> > -- jm
> >
> > --
> > http://www.qsl.net/ke5fx
> > Note: My E-mail address has been altered to avoid spam
> > --
> >
> not much info there, but i've read articles about russian experiments on
> small antennae and something about a capacitive antenna.
>
> somewhere in the jumble, i came across a theory/claim supposedly
> originated by Nikolai Tesla. the theory being that applying a large
> voltage - low freq. ac, dc... i don't remember - to a short antenna
> would set up an electrically large antenna by virtue of the electric
> field.
>
> say you applied 1000V to a 1m whip. that's 1000V/m. or it's 1V/m over a
> length of 1000m effective antenna length. that's the theory... key word
> "theory".
>
> brs,
> mike

Saturating the air becomes a problem. Coronas will sap away the power
and slowly incinerate the antenna with ozone.

1936. ** FLEA at MIT ** Sunday September 21st Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 08:18:03 UTC
From: w1gsl@mit.edu
Message-ID: <3f6818bb$0$564$b45e6eb0@senator-bedfellow.mit.edu>
Source record: 32603
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors

This coming Sunday....

+++ Now even more Buyers Parking !!!
Thanks to TKT we have use of their new parking lot
across Albany St from the SWAPFEST !!!

!! ** More Buyers PARKING is available ** for details see
http://web.mit.edu/w1gsl/Public/flyer

*** !!!! In our Traditional GARAGE and the adjacent lot !!!! ****
so come rain or shine or super heat the Flea is on !!!

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
Sunday September 21st 2003
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >2000 cars!

Buyers admission is $5 (you get $1 off if
you're lucky enough to have a copy of our ad)
and sellers spaces are $20 for the first and
$15 for each additional at the gate.

The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
time starting at 7AM.

*** Attention Sellers ***
Prepaid vendors.. Season Pass or monthly,
will be admitted FIRST.
Separate lines will form prior to gate opening
for prepaid and nonprepaid vendors

!! RAIN or SHINE !! Have no fear of rain, a covered
well illuminated tailgate area is available for all
sellers (6'8" clearance).

Talk-in: 145.23- (PL 88.5) W1BOS/R and
W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ************

<<<<<<<<<<<<<<<<<<<<<<< cut here >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

Mail the coupon below by the 5th of the month to be a Prepaid Vendor.

FLEA at MIT 2003 Rates

SELLERS

This year each vendor must have a Cambridge Vendor License.
We will do all the paperwork to get the one day Cambridge licenses.
To keep the spaces affordable we are discounting your first space.
To use your spaces the named vendor MUST be present.
Rates include one admission per space.

Advance $17 First space - includes $10 Cambridge Vendor License
$12 Additional Spaces
Must be received by the 5th of the month.

Gate Admission $20 First Space - includes $10 Cambridge Vendor License
$15 Additional Spaces
Admission is after the prepaid vendors

Early Bird Buyer -Admission after the prepaid vendor line is admitted. ~ 7:15AM
** You may not sell. **
$15 per person at the gate.

****************************** cut here ******************************

FLEA at MIT 2003 Advance Space Application

____April ____May ____June ____ July ____Aug ___Sept ____Oct
@ $17 for the first each month + $12 each additional

Name _____ Call _____ $ Included_____

Address _____ Phone _____ Make Check to
The MIT Radio Society
City _____ State _____ Zip _____ PO Box 397082
Cambridge MA 02139
E-mail _____

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

1937. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 10:18:05 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <5yW9b.30654$Hb.468814@news4.e.nsc.no>
Source record: 32604
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> > http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
> >
> not much info there,

Here's some more info: http://www.ancom.no/presentation01.htm

I saw it on Norwegian TV a week or two ago, and it sounded impressive to me.

Sverre
www.qsl.net/la3za

1938. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 13:07:04 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-609303.09070617092003@news.verizon.net>
Source record: 32605
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <MPG.19d1b6e03028ce4198985a@news.east.earthlink.net>,
Active8 <mcolasono@earthlink.net.invalid> wrote:

> In article <MPG.19c948eff151cd42989686@news-central.giganews.com>,
> jmiles@pop.removethistomailme.net says...
> > http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
> >
> > I've always assumed that the performance of ferrite-rod antennas in
> > transmitting applications was limited by core saturation. Wonder if
> > there's anything to this "invention"?
> >
> > -- jm
> >
> > --
> > http://www.qsl.net/ke5fx
> > Note: My E-mail address has been altered to avoid spam
> > --
> >
> not much info there, but i've read articles about russian experiments on
> small antennae and something about a capacitive antenna.
>
> somewhere in the jumble, i came across a theory/claim supposedly
> originated by Nikolai Tesla. the theory being that applying a large
> voltage - low freq. ac, dc... i don't remember - to a short antenna
> would set up an electrically large antenna by virtue of the electric
> field.
>
> say you applied 1000V to a 1m whip. that's 1000V/m. or it's 1V/m over a
> length of 1000m effective antenna length. that's the theory... key word
> "theory".
>

You're misusing the word "theory." You mean hypothesis. I know, I know,
I'm nitpicking. But I once was chewed out by a physicist at MIT for
misusing the word when I was temping there. Ouch.

Al

PS:

theory - a proven fact which explains an aspect of nature; i.e., the
Theory of Relativity.

hypotheses - A tentative explanation that accounts for a set of facts
and must be proven by further experimentation.

--
There's never enough time to do it right the first time.......

1939. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 13:25:12 UTC
From: Active8 <mcolasono@earthlink.net.invalid>
Message-ID: <MPG.19d22ac919808ee198985b@news.east.earthlink.net>
Source record: 32606
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <5yW9b.30654$Hb.468814@news4.e.nsc.no>,
la3za.0junk4me@qsl.net says...
>
> > > http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
> > >
> > not much info there,
>
> Here's some more info: http://www.ancom.no/presentation01.htm
>
> I saw it on Norwegian TV a week or two ago, and it sounded impressive to me.
>
> Sverre
> www.qsl.net/la3za
>
>
>

geeze. a one sentence per page presentation that tells me nothing. i
wonder how it works.

i can finally build an HF shoe phone and those trees won't wreck the
intergalactic commo array on the fuel truck that services my flying
saucer.

brs,
mike

1940. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 16:00:47 UTC
From: Active8 <mREMOVEcolasono@earthlink.net.invalid>
Message-ID: <MPG.19d24f3c9c93807998985f@news.east.earthlink.net>
Source record: 32607
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

```
In article <no.spam-609303.09070617092003@news.verizon.net>,
no.spam@here.com says...
> In article <MPG.19d1b6e03028ce4198985a@news.east.earthlink.net>,
> Active8 <mcolasono@earthlink.net.invalid> wrote:
>
> > In article <MPG.19c948eff151cd42989686@news-central.giganews.com>,
> > jmiles@pop.removethistomailme.net says...
> > > http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
> > >
> > > I've always assumed that the performance of ferrite-rod antennas in
> > > transmitting applications was limited by core saturation. Wonder if
> > > there's anything to this "invention"?
> > >
> > > -- jm
> > >
> > > ------------------------------------------------------
> > > http://www.qsl.net/ke5fx
> > > Note: My E-mail address has been altered to avoid spam
> > > ------------------------------------------------------
> > >
> > not much info there, but i've read articles about russian experiments on
> > small antennae and something about a capacitive antenna.
> >
> > somewhere in the jumble, i came across a theory/claim supposedly
> > originated by Nikolai Tesla. the theory being that applying a large
> > voltage - low freq. ac, dc... i don't remember - to a short antenna
> > would set up an electrically large antenna by virtue of the electric
> > field.
> >
> > say you applied 1000V to a 1m whip. that's 1000V/m. or it's 1V/m over a
> > length of 1000m effective antenna length. that's the theory... key word
> > "theory".
> >
>
> You're misusing the word "theory." You mean hypothesis. I know, I know,
> I'm nitpicking. But I once was chewed out by a physicist at MIT for
> misusing the word when I was temping there. Ouch.
>
> Al
>
> PS:
>
> theory - a proven fact which explains an aspect of nature; i.e., the
```

> Theory of Relativity.
>
> hypotheses - A tentative explanation that accounts for a set of facts
> and must be proven by further experimentation.
>
>
yup, it may be nitpicking, but yer right. that was explained on day 1 of
7th grade science.

mike

1941. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 16:47:48 UTC
From: John Larkin <jjlarkin@highSNIPlandTHIStechPLEASEnology.com>
Message-ID: <4j3hmv00en2p8tnv3p37k3dlj5liuquc3c@4ax.com>
Source record: 32608
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 17 Sep 2003 05:10:40 GMT, Active8
<mcolasono@earthlink.net.invalid> wrote:

>In article <MPG.19c948eff151cd42989686@news-central.giganews.com>,
>jmiles@pop.removethistomailme.net says...
>> http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
>>

Hmmm... sounds bogus to me.

>somewhere in the jumble, i came across a theory/claim supposedly
>originated by Nikolai Tesla. the theory being that applying a large
>voltage - low freq. ac, dc... i don't remember - to a short antenna
>would set up an electrically large antenna by virtue of the electric
>field.
>
>say you applied 1000V to a 1m whip. that's 1000V/m. or it's 1V/m over a
>length of 1000m effective antenna length. that's the theory... key word
>"theory".

An antenna has radiation resistance. If you deliver power into Rr, it,
well, radiates it. As an antenna gets smaller, its radiation
resistance increases, so to dump X watts into space using a smaller
antenna, you need to drive it from a higher voltage. P = E^2/Rr. One
gadget used to increase the voltage is an "antenna tuner", just a
resonant matching network. There are practical limits on how much
power you can force into a small antenna: skin effect heating,
ionization, matching network Q, stuff like that. Nothing mysterious
here.

John

>
>brs,
>mike

1942. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 17:30:19 UTC
From: Arie de Muynck <Sorry_I_hate_spam@nomail.com>
Message-ID: <3f689a39$0$58713$e4fe514c@news.xs4all.nl>
Source record: 32609
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"John Miles" wrote
> http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
>
> I've always assumed that the performance of ferrite-rod antennas in
> transmitting applications was limited by core saturation. Wonder if
> there's anything to this "invention"?

I especically like the statement:
"Our tiny antenna can be placed in the car or cast in metal, and is at least
as good"

Great, an antenna working even if cast in metal....

Arie.

1943. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 17:52:04 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <dv6hmvk0v2a8d9rts0nir3c5542l9ce3ve@4ax.com>
Source record: 32610

>I especically like the statement:
>"Our tiny antenna can be placed in the car or cast in metal, and is at least
>as good"
>
>Great, an antenna working even if cast in metal....

Time will tell.

It's likely we'll not find out the exact details (if it lives upto ad-bumk that is) but what else can it but a coil wound round a lump of ferrite ?

I don;t personally see why a ferrite can be used for transmitting - but then I'd need filling in as to what the technical reasons are for this supposed reasoning is.

Clive

1944. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 17:53:26 UTC
From: c.a.m@antijunk3.blueyonder.co.uk
Message-ID: <0s7hmv027f21vl7bced4no45453ki1t92m@4ax.com>
Source record: 32611

read 'can' as 'can't'

sorry.

1945. Re: Caveat Jammer (Was Disturb noisy neighbours)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 18:14:54 UTC
From: mcalhoun@ksu.edu
Message-ID: <bka8au$slg@unix1.cc.ksu.edu>
Source record: 32612

"Caveat Lector" <CL@latin.com> writes:
>I am amazed at all the illegal advice that goes on here regarding jamming
>the neighbors, cutting power line neutral etc.
>....[snip]....

Although actually FOLLOWING some of the advice I've seen in this thread
undoubtedly would be illegal, I don't think ADVICE, itself, is.
Especially if the advice is "for educational purposes".

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

1946. NYC, NNJ Radio Octoberfest

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 20:14:03 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030917161403.23672.00001148@mb-m22.aol.com>
Source record: 32613

Howdy Radio Afficionados!

Here it is again, if you missed it last year, here is your chance to have radio and beer/polka fun at Montville, NJ Oktoberfest!

There will be special Ham tables or you can book your exclusive. The price is paltry $25 per person, no need for donations, bribes or taxes. Unbelievable fun fueled by original, direct from Schwartzwald - Spaten Oktoberfest Bier on tap, all you can drink! You can also bring your favorite booze, setups - glasses will be provided, no need to hide it. Don't miss it, make your reservations now before we run out of tables.

Easy to get to: from Hwy 80 take 287 north, to exit 47 for 202 east, about 1/4 mile make right at traffic light by Exxon onto Changebridge Rd., St. Pius X Church and center is about 1/2 mile on the left, plenty of parking. No need to travel to Germany, it is right here in your backyard. Excellent opportunity to meet by good beer, tell the lies and have fun with your brothers and sisters hams.

Directions and poster are at www.K3BU.US

See you all there!

Oktoberfest Oberchairman
Yuri Blanarovich, K3BU

Montville Oktoberfest Dinner - Dance

Saturday, October 11, 2003 7 - 11 p.m.

Dinner includes:
Main course:
Sauerbraten mit gravy, Bratwurst,
Spaetzel, Red Cabbage

Desert:
Applestrudel, Coffee, Soft drinks

Main attraction:
Spaten Oktoberfest Beer on tap

For dancing and listening pleasure:
DJ music by popular European bands

by Knights of Columbus
at Msgr. Meyer Parish Center
St. Pius X RC Church
24 Changebridge Rd., Montville, NJ 07045

Admission $25/person, dinner and drinks included, BYOB setups

Reservations required by 10/4, tables for groups of 8 - 12 available

Call Yuri Blanarovich, tel. 973 808-1981, Email K3BU@aol.com
or mail your reservations by Oct. 4th with checks made to
St. Pius X KoC,
Box 282, Pine Brook, NJ 07058

Bring your friends and have a great time!

Ein prosit!

1947. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 20:22:03 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20030917162203.23672.00001149@mb-m22.aol.com>
Source record: 32614

Halleluja,
all our antenna and tower problems are solved.
Where is it? I will take dozen.

BUm

1948. Where do you buy air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 21:11:12 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309171311.5b67a80e@posting.google.com>
Source record: 32615

I'm building the noise cancelling device described at
http://www.qsl.net/g4lna/noisdes.html .

For those of you who have used air variable capacitors, who are your
favorite suppliers?

Jason Hsu, AG4DG
usenet@@@@jasonhsu.com

1949. Re: FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 21:52:00 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <0H4ab.8$OJ4.153@iad-read.news.verio.net>
Source record: 32616

"W7TI" <noway@nohow.com> wrote in message
news:i1ugmvc7t0jlfbq7q2pqgdqcfbeeju8qbd@4ax.com...
> On Tue, 16 Sep 2003 08:17:04 -0700, Dr. Anton Squeegee
> <SpammersAreVermin@dev.null> wrote:
>
> >You are also
> >restricted from passing commercial messages ("Buy product X at store
> >Y," etc.) by Part 97 regs.
>
> --
>
> This needs a little clarification. If you are talking about
> advertising, you are right; not allowed. If you are telling the wife to
> stop for pizza at the next Domino's, that is allowed. The test is
> whether the "commercial" content is used for your own money-making
> purposes. If you're *spending* your own money, the FCC won't care.
>
> --
> Bill, W7TI
>

To go another step or another way, it also allows YOU the operator to call in "yourself" for food, restaurant, motel, tow truck. So long as YOU the operator are not making the "monetary" profit from the transmissions. The above example was correct, but it implied somewhat 3rd party calls to a profit making venture As for the example you telling some one else to buy product x at store y, so long as you have no viable pecuniary interest in Store "y", you can refer anyone to that store. That would be no different than say directing a stranger in town via 2 meters where to buy the goods they need to enjoy their stay. The way it USED to be, you couldn't even call for a tow truck! Advertising? I can't advertise my own radio repair shop, but someone else could mention me, to anyone asking or in general discussion.

Lou

1950. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-17 22:41:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmhoovifnkhidc@corp.supernews.com>
Source record: 32617
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Well, actually, no. The radiation resistance generally decreases as an antenna gets smaller, assuming it's small compared to a wavelength.

Roy Lewallen, W7EL

John Larkin wrote:
>
> An antenna has radiation resistance. If you deliver power into Rr, it,
> well, radiates it. As an antenna gets smaller, its radiation
> resistance increases, so to dump X watts into space using a smaller
> antenna, you need to drive it from a higher voltage. P = E^2/Rr. One
> gadget used to increase the voltage is an "antenna tuner", just a
> resonant matching network. There are practical limits on how much
> power you can force into a small antenna: skin effect heating,
> ionization, matching network Q, stuff like that. Nothing mysterious
> here.
>
> John

1951. source for solar cells

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 00:11:43 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <XI6ab.140057$kP.137039@fed1read03>
Source record: 32618

Does anyone have any leads as to purchasing large quantities of solar cells???? Or any suggestions as to companies to contact???

Bob in phx.

1952. Re: Where do you buy air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 01:05:54 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <Sx7ab.143126$0v4.10558112@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32619

Ocean State Electronics sells the old AM radio tuning caps
http://www.oselectronics.com/. The capacitance ranges may vary, but you'll
certainly find something useful there.
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Time is what keeps everything from happening all at once.
"Jason Hsu" <jason_hsu@my-deja.com> wrote in message
news:f7d9a152.0309171311.5b67a80e@posting.google.com...
> I'm building the noise cancelling device described at
> http://www.qsl.net/g4lna/noisdes.html .
>
> For those of you who have used air variable capacitors, who are your
> favorite suppliers?
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

1953. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 02:47:48 UTC
From: John Larkin <jjlarkin@highlandSNIPtechTHISnologyPLEASE.com>
Message-ID: <bs6imvsvkp1dkpccvqk5ojdkgr4g6407rd@4ax.com>
Source record: 32620
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 17 Sep 2003 15:41:33 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Well, actually, no. The radiation resistance generally decreases as an
>antenna gets smaller, assuming it's small compared to a wavelength.
>
>Roy Lewallen, W7EL
>

At any given frequency, you can analyze the impedance of a small
antanna as a series R-C or a shunt R-C. Viewed as a shunt resistance,
Rr increases as the antenna gets smaller, and as a series network, it
gets smaller.

I guess the standard convention must be to treat Rr as a series
element, so it gets smaller as the antenna gets smaller.

Either way, it takes more volts (or, if you prefer, more amps) to
force a small antenna to radiate as much as a larger one.

John

1954. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 03:43:01 UTC
From: Stepan Novotill <snovotill@hotmail.com>
Message-ID: <1aaimv8od6ff12u3m4etcj3sb1nufopgpi@4ax.com>
Source record: 32621
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 17 Sep 2003 19:30:19 +0200, "Arie de Muynck"
<Sorry_I_hate_spam@nomail.com> wrote:

The old "Genie" garage door opener transmitters used a ferrite rod
antenna. It was very thick and short. Like an AA battery.
Then again, that was VHF/UHF to boot. I still have one in my scrap
pile. ....Stepan

1955. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 03:55:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmib5me802mj18@corp.supernews.com>
Source record: 32622
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Yes, "resistance" is traditionally used to mean the real part of an impedance, which in turn is expressed as a complex number. An equivalent circuit for an impedance is then a series R - X, with the R and X corresponding to the real and imaginary parts of the impedance respectively. Parallel equivalents are of course also used, but usually explicitly described as a parallel equivalent, or given as a complex admittance (G + jB, with G and B representing the shunt conductance and susceptance).

As an antenna gets smaller, the impedance does rise, causing a requirement for more voltage for a given power. The rise, however, is due to increasing (series) reactance, not radiation resistance. If you make the antenna long enough to reach resonance, then continue making it longer, the impedance again rises until you hit "anti-resonance" (parallel resonance). In that region it's due to both an increasing reactance and an increasing radiation resistance.

A real consequence of the low radiation resistance of a small antenna is that the conductor current is very high for a given applied power. This results in increased I^2 * R loss in the conductors. The loss can be very substantial in small antennas.

Roy Lewallen, W7EL

John Larkin wrote:
> On Wed, 17 Sep 2003 15:41:33 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>
>>Well, actually, no. The radiation resistance generally decreases as an
>>antenna gets smaller, assuming it's small compared to a wavelength.
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>>Roy Lewallen, W7EL
>>
>
>
> At any given frequency, you can analyze the impedance of a small
> antanna as a series R-C or a shunt R-C. Viewed as a shunt resistance,
> Rr increases as the antenna gets smaller, and as a series network, it
> gets smaller.
>
> I guess the standard convention must be to treat Rr as a series
> element, so it gets smaller as the antenna gets smaller.
>

> Either way, it takes more volts (or, if you prefer, more amps) to
> force a small antenna to radiate as much as a larger one.
>
> John
>
>

1956. Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 05:00:11 UTC
From: Bovine Hormones <9600nets3@junocattle.com>
Message-ID: <1063861730.403270@newshost03.voicenet.com>
Source record: 32623
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Art Bell Returns to Radio
as Weekend Host of Coast to Coast AM

Press Release www.coasttocoastam.com

LOS ANGELES, Sept. 17, 2003- Art Bell, the radio personality known for his spontaneous and compelling conversations about all things unexplained, will replace Barbara Simpson as weekend host of Coast to Coast AM - the program he made famous. He will broadcast live from 1-5 a.m. ET Saturdays and Sundays with a refeed from 5-9 a.m. ET from his home studio in Pahrump, Nev., beginning Sept. 20.

Bell stated, "For me, a return to radio is both mysterious and reassuring."

"We welcome Art back to the weekend microphone," said Kraig Kitchin - president/COO Premiere Radio Networks. "His return reflects his long-standing bond with this audience and his undying passion for radio."

1957. Re: Where do you buy air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 05:17:36 UTC
From: donut <none@none.com>
Message-ID: <Xns93F9E2069B7EAdonut@216.102.43.227>
Source record: 32624

jason_hsu@my-deja.com (Jason Hsu) wrote in
news:f7d9a152.0309171311.5b67a80e@posting.google.com:

> For those of you who have used air variable capacitors, who are your
> favorite suppliers?

Antique Electronic Supply. Fair Radio Sales. There are others. Contrary to popular belief, these capacitors are not rare nor expensive.

1958. Re: source for solar cells

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 08:49:40 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0309180049.30a58826@posting.google.com>
Source record: 32625

Recycle solar panels from served-out satellites before they burn in
the atmosphere. All you need is a cosmic rocket ... ;-)

BR from Ivan

"bobinphx" <rbelisle1@cox.net> wrote in message
news:<XI6ab.140057$kP.137039@fed1read03>...
> Does anyone have any leads as to purchasing large quantities of solar
> cells???? Or any suggestions as to companies to contact???
>
> Bob in phx.

1959. Re: source for solar cells

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 10:54:26 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <3F698EE2.B317ED9C@bloomer.net>
Source record: 32626

Check your local newstand for "Homepower Magazine". It is dedicated to
just about all of the various forms of generating power at home. They
have tons of supplier ads in the magazine. They also have a website at
http://www.homepower.com and you might be able to find what you're
looking for there...

Scott
http://corbenflyer.tripod.com
http://groups.yahoo.com/group/ParasolAirplanes
Building RV-4
Gotta Fly or Gonna Die!

bobinphx wrote:
>
> Does anyone have any leads as to purchasing large quantities of solar
> cells???? Or any suggestions as to companies to contact???
>
> Bob in phx.

--

1960. Re: Where do you buy air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 11:29:49 UTC
From: "Richard F. Gillette P.E., (W9PE)" <r.f.gillette@ieee.org>
Message-ID: <3F699702.691C978C@ieee.org>
Source record: 32627

Jason Hsu wrote:

> I'm building the noise cancelling device described at
> http://www.qsl.net/g4lna/noisdes.html .
>
> For those of you who have used air variable capacitors, who are your
> favorite suppliers?
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

Try a hamfest. This week you have one. see:
http://www.vahamfest.com

1961. Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 11:41:23 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <DRgab.3705$U6.2132@nwrdny03.gnilink.net>
Source record: 32628

Has anyone here built a GOOD antenna/network analyzer?

From what I can determine, the MFJ stuff doesn't resolve the sign of reactances, nor does it have a computer interface. I was looking at Analog Devices' AD8302 IC (http://www.analog.com) for this application. This is a single-chip device that measures the gain and phase difference between 2 RF inputs up to 2.7 GHZ with very high accuracy. It occurred to me that this chip, together with a PIC that has A-D conversion, and a computer-controlled station transceiver, could form the basis for a very nice programmable antenna/network analyzer that would run rings around the MFJ units.

Comments?

Joe
W3JDR

1962. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 12:22:55 UTC
From: Herbert Khaury <Herbert@tiptoe.tp>
Message-ID: <p6qcndcGHegCPvSiU-KYgg@comcast.com>
Source record: 32629
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Ha, his retirement is about as stable as many of his guests.

--

"Bovine Hormones" <9600nets3@junocattle.com> wrote in message
news:1063861730.403270@newshost03.voicenet.com...
> Art Bell Returns to Radio
> as Weekend Host of Coast to Coast AM
>
> Press Release www.coasttocoastam.com
>
> LOS ANGELES, Sept. 17, 2003- Art Bell, the radio personality
> known for his spontaneous and compelling conversations about
> all things unexplained, will replace Barbara Simpson as weekend
> host of Coast to Coast AM - the program he made famous.
> He will broadcast live from 1-5 a.m. ET Saturdays and Sundays
> with a refeed from 5-9 a.m. ET from his home studio in
> Pahrump, Nev., beginning Sept. 20.
>
> Bell stated, "For me, a return to radio is both mysterious and
reassuring."
>
> "We welcome Art back to the weekend microphone," said Kraig Kitchin
> - president/COO Premiere Radio Networks. "His return reflects his
> long-standing bond with this audience and his undying passion for radio."
>

1963. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 12:49:15 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F69A769.FC47FEFC@gte.net>
Source record: 32630

W3JDR wrote:

> Has anyone here built a GOOD antenna/network analyzer?
>
> From what I can determine, the MFJ stuff doesn't resolve the sign of
> reactances, nor does it have a computer interface. I was looking at Analog
> Devices' AD8302 IC (http://www.analog.com) for this application. This is a
> single-chip device that measures the gain and phase difference between 2 RF
> inputs up to 2.7 GHZ with very high accuracy. It occurred to me that this
> chip, together with a PIC that has A-D conversion, and a computer-controlled
> station transceiver, could form the basis for a very nice programmable
> antenna/network analyzer that would run rings around the MFJ units.
>
> Comments?
>
> Joe
> W3JDR

Hi Joe,
Look at:
http://www.njqrp.org/antanal/
Perhaps your IC could be combined with this controller.

Dale W4OP

1964. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 12:59:14 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bkca72$5l$1@titan.btinternet.com>
Source record: 32631

The technology has been available for several years to enable a manufacturer to produce a reasonably priced, small, hand-held, battery-operated, antenna analyser which displays the sign of jX.

But the manufacturers have not yet extracted all that's available from the market. Its too early to introduce a new model which would outclass the old.

What is needed in the market is a new manufacturer who has no history to take advantage of.

Chinese ?

1965. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 13:01:44 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <Y0iab.3717$U6.516@nwrdny03.gnilink.net>
Source record: 32632

Dale,
Actually, I was thinking that the controller is a PC or laptop. It would control the station transciever as a swept low-power frequency source, and get the phase and gain readings from the PIC that would be paired with the Analog Devices part (and of course a directional coupler of some sort...even a simple bridge would suffice). This design could result in a very simple, low-cost, and powerful vector network analyzer for the average ham.

Joe
W3JDR

"Dale Parfitt" <parinc@gte.net> wrote in message
news:3F69A769.FC47FEFC@gte.net...
>
>
> W3JDR wrote:
>
> > Has anyone here built a GOOD antenna/network analyzer?
> >
> > From what I can determine, the MFJ stuff doesn't resolve the sign of
> > reactances, nor does it have a computer interface. I was looking at
Analog
> > Devices' AD8302 IC (http://www.analog.com) for this application. This is
a
> > single-chip device that measures the gain and phase difference between 2
RF
> > inputs up to 2.7 GHZ with very high accuracy. It occurred to me that
this
> > chip, together with a PIC that has A-D conversion, and a
computer-controlled
> > station transceiver, could form the basis for a very nice programmable
> > antenna/network analyzer that would run rings around the MFJ units.
> >
> > Comments?
> >
> > Joe
> > W3JDR
>
> Hi Joe,
> Look at:
> http://www.njqrp.org/antanal/
> Perhaps your IC could be combined with this controller.
>
> Dale W4OP
>

1966. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 13:04:48 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <Q3iab.3720$U6.1132@nwrdny03.gnilink.net>
Source record: 32633

Reg,
I don't think it has much to do with planned product lifecycle...it's just inertia and complacency. Nor do I don't think there's enough volume for a "Chinese" manufacturer.

I think the main reason we haven't seen something better is that it's too small a market for a startup to tackle. It's definitely a product for a tiny company.

Joe
W3JDR

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message news:bkca72$5l$1@titan.btinternet.com...
> The technology has been available for several years to enable a manufacturer
> to produce a reasonably priced, small, hand-held, battery-operated, antenna
> analyser which displays the sign of jX.
>
> But the manufacturers have not yet extracted all that's available from the
> market. Its too early to introduce a new model which would outclass the old.
>
> What is needed in the market is a new manufacturer who has no history to
> take advantage of.
>
> Chinese ?
>
>

1967. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 13:19:52 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <Yhiab.496033$Ho3.84151@sccrnsc03>
Source record: 32634

The chip you're looking at does have a 180 degree ambiguity unresolved. Makes it tough to do the job you're asking of it. Wait a couple weeks and look on Google for N2PK. You'll find a real vector network analyzer good from 50 KHz to 60 MHz with narrow band application to 2 meters and 432 MHz.

W4ZCB

1968. New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 15:21:43 UTC
From: haf47@juno.com
Message-ID: <f03bf94f.0309180721.7c8f96ce@posting.google.com>
Source record: 32635

Hello to all,

I have looked with interest at the new Ten-Tec Vee Beam Terminated antenna. Is there a guru on the list who has the knowlege to share on how to duplicate this antenna?

It is a vee beam with each leg terminated to ground with a resistor, and there is a balun of sorts at the input.

I remember an antenna similar to this years ago, and I think ten-tec will have a winner with this if folks can get away from the supposed "horror" of a terminated antenna.

Details at www.tentec.com

I wish I could afford it at this time!!

Regards, Howard

1969. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 15:23:21 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bkcm4hgbb1@bob.news.rcn.net>
Source record: 32638

"Howard" <haf47@juno.com> wrote in message
news:f03bf94f.0309180721.7c8f96ce@posting.google.com...
> Hello to all,
>
> I have looked with interest at the new Ten-Tec Vee Beam Terminated
> antenna. Is there a guru on the list who has the knowlege to share on
> how to duplicate this antenna?
>
> It is a vee beam with each leg terminated to ground with a resistor,
> and there is a balun of sorts at the input.
>
> I remember an antenna similar to this years ago, and I think ten-tec
> will have a winner with this if folks can get away from the supposed
> "horror" of a terminated antenna.
>
> Details at www.tentec.com

It's just a half-rhombic, but must suffer seriously from the poor grounding that the ground rods provide. That will both reduce the front-to-back ratio and make the input impedance vary (much) more with frequency.

A real unidirectional rhombic has the single terminating resistor directly between the two sides, and needs no ground.

Does this terminated V have about the same gain as a rhombic the same length? I suspect so. The rhombic would require four tall supports - a clear disadvantage.

Rhombics were used at VHF years ago. The 1950s NBS (now NOAA) Cedar Rapids (IA) to Sterling (VA) and Longbranch (IL) to Boulder (CO) scatter links on 49.8 MHz (or nearby) used 600 foot long rhombics. Really strong Es allowed lighting a small lamp directly from the receiving antenna - the transmitter ran 20 kW, IIRC.

1970. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 15:39:21 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <Jkkab.5741$Cs1.1973@nwrdny02.gnilink.net>
Source record: 32636

Harold,

The chip's phase measurement transer function has a positive slope for phase angles less than 0deg and a negative slope for phase angles greater than 0deg. So it seems to me that resolving the 180 deg ambiguity is just a matter of knowing which slope you're on. This might be done by switching in a small known reactive component and observing which direction the phase output changes. Once you know which slope you're on, I think you're home free...no??

Joe
W3JDR
"Harold E. Johnson" <W4ZCB@mchsi.com> wrote in message
news:Yhiab.496033$Ho3.84151@sccrnsc03...
> The chip you're looking at does have a 180 degree ambiguity unresolved.
> Makes it tough to do the job you're asking of it. Wait a couple weeks and
> look on Google for N2PK. You'll find a real vector network analyzer good
> from 50 KHz to 60 MHz with narrow band application to 2 meters and 432
MHz.
>
> W4ZCB
>
>

1971. signal to noise ratio drops on connecting the antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 15:51:13 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0309180751.65c407e1@posting.google.com>
Source record: 32637

i am in the process of homebrewing a 7/14 mhz transciever. i am in india, we dont get toroids easily.i tried an double diode mixer built using tv baluns double barrels, but they were lossy (about 15db loss) and the third harmonic of the vfo created so many birdies that i couldnt tune anything beyond 14200. (the if is 10mhz and the vfo goes 4 t 4.4mhz on 14mhz operations). so, i switched over to a single FET mixer.

i measured Idss as 6ma, pinch-off at 2.4volts on the BFW11 that i have in the junkbox. i baised the BFW11 for 1.2 volts, 3 ma current. the input to the BFW11 is a double tuned band pass that i tune up for max signal. (a 14.318mhz computer crystal in a battery operated oscillator is my weak source). the antenna coupling is via a 2:15 link over the first coil of the bandpass. it has excellent signal handling and pretty low noise levels.

i have wired up a 300 ohms folded dipole using tv twin flex. i connect the 300 ohms line directly to the receiver (the two turn link over the first coild of the DTC bandpass filter). the antenna is about 6 feet off the terrace in a gangly inverted V.

i have noticed a strange behaviour. if i connect just one lead of the antenna to receiver input (leaving the grounding unconnected), i get pretty good signals. when i connect the ground input too (to the other end of the 300 ohm twin lead), then the noise and the signal goes up by 2-3 S points. however, the noise increase is nearly 10 db over and above the signal increase. esp., the shot noise. the weaker DX signals are nearly lost if both the leads are connected.

to resolve this problem, i have tried the following:
1) i inserted a 470 ohms pot in the antenna input, and tried attenuating the signal, the signal and noise go up and down proportionately. the increase in noise is the same at all attenuation levels as long as the attentuation keeps the atmospheric noise above the receiver noise level. so, attenuation is does not make the noise go away.
2) i tried putting a variable broadcast capacitor of 365 pf in series between the hot end of the first coil of the DTC and the hot end of the antenna and tuned it across the range. NO change, the signals and the noise increase and decrease proportionately upto 50 pf and no further change after that.
3) i tried detuning the FET drain tank. NO change. it behaved the same as above two. the signal and noise levels change together.

these days, we do have very high atmospheric noise on 14mhz in south india. but i guess that in anycase, connecting the antenna tigher

should increase the signal to noise ratio, not decrease it.

any ideas?

1972. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 17:18:51 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <%Nlab.502682$Ho3.84048@sccrnsc03>
Source record: 32639

> The chip's phase measurement transer function has a positive slope for
phase
> angles less than 0deg and a negative slope for phase angles greater than
> 0deg. So it seems to me that resolving the 180 deg ambiguity is just a
> matter of knowing which slope you're on. This might be done by switching
in
> a small known reactive component and observing which direction the phase
> output changes. Once you know which slope you're on, I think you're home
> free...no??

Do it the way you want to.

W4ZCB

1973. Re: source for solar cells

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 17:20:03 UTC
From: Ken Finney <kenneth.c.finney@boeing.com>
Message-ID: <HLF6tE.Bux@news.boeing.com>
Source record: 32640

"bobinphx" <rbelisle1@cox.net> wrote in message
news:XI6ab.140057$kP.137039@fed1read03...
> Does anyone have any leads as to purchasing large quantities of solar
> cells???? Or any suggestions as to companies to contact???
>
> Bob in phx.
>
>

http://www.plastecs.com/solar_cells.htm

1974. Re: Where do you buy air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 17:55:37 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bkcrip$55b$1@sparta.btinternet.com>
Source record: 32641

```
> This hamfest has been canceled - wiped out by Hurricane Isabel.
====================================

Have the Middle-east terrorist scientists overtaken the West and discovered
the formulae needed to control the weather ?
```

1975. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 17:57:23 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <7mmab.11862$hl4.5388@nwrdny01.gnilink.net>
Source record: 32642

> Do it the way you want to.

Harold,
I'm puzzled by your reply. Does it mean that you agree, or that you disagree, or that you're just brushing me off? If it's the latter, I can accept that too...I'm just looking for a sincere dialog about an idea.

Joe
W3JDR

1976. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 20:05:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmk3vum9t017ed@corp.supernews.com>
Source record: 32643
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Maybe we can finally get an explanation of how the cross field antenna works, why fractal antennas are the best of all possible antennas, how "critical coupling" works to get impossible gain, what happens when a wave of average power bounces off our final amp, and some of the other mysteries that have been plaguing us over at r.r.a.antenna. I've suspected the answers lie with aliens, black helicopters, chemtrails, or maybe a chi vortex, so I'm sure Art can set us straight.

Roy Lewallen, W7EL

1977. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 20:18:34 UTC
From: kf4tun <kf4tun@adelphia.net>
Message-ID: <uqoab.461$qK1.574638@news2.news.adelphia.net>
Source record: 32644
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Who in the hell is Art Bell? I'm 60 and I never heard of him. And no, I
don't live under a rock.

Jim

"Bovine Hormones" <9600nets3@junocattle.com> wrote in message
news:1063861730.403270@newshost03.voicenet.com...
> Art Bell Returns to Radio
> as Weekend Host of Coast to Coast AM
>
> Press Release www.coasttocoastam.com
>
> LOS ANGELES, Sept. 17, 2003- Art Bell, the radio personality
> known for his spontaneous and compelling conversations about
> all things unexplained, will replace Barbara Simpson as weekend
> host of Coast to Coast AM - the program he made famous.
> He will broadcast live from 1-5 a.m. ET Saturdays and Sundays
> with a refeed from 5-9 a.m. ET from his home studio in
> Pahrump, Nev., beginning Sept. 20.
>
> Bell stated, "For me, a return to radio is both mysterious and
reassuring."
>
> "We welcome Art back to the weekend microphone," said Kraig Kitchin
> - president/COO Premiere Radio Networks. "His return reflects his
> long-standing bond with this audience and his undying passion for radio."
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.518 / Virus Database: 316 - Release Date: 9/11/03

1978. Claculating noise figure from kTo

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 20:42:52 UTC
From: la8ak.xnd@online.no
Message-ID: <3f6a1833.180196957@news.online.no>
Source record: 32645

Hi

just curious, have some receiver data with stated sensitivity of
50kTo, 200kTo and 500 kTo.
Is it some easy way to go from one to another? RX bandwidth is 1MHz
(some old radars)

Jan-Martin
LA8AK http://home.online.no/~la8ak/k51.htm
--
remove ,xnd to reply (Spam precaution!)

1979. Calculating noise figure from kTo

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 20:43:41 UTC
From: la8ak.xnd@online.no
Message-ID: <3f6a18ed.180382725@news.online.no>
Source record: 32646

Hi

just curious, have some receiver data with stated sensitivity of
50kTo, 200kTo and 500 kTo.
Is it some easy way to go from one to another? RX bandwidth is 1MHz
(some old radars)

Jan-Martin
LA8AK http://home.online.no/~la8ak/k51.htm
--
remove ,xnd to reply (Spam precaution!)

1980. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 20:50:19 UTC
From: Leif Holmgren <nobody@nowhere.com>
Message-ID: <3F6A1A8B.4030302@nowhere.com>
Source record: 32397

All the analyzers I have considered have always been to inaccurate. They sure may work on the DC bands below 30MHz where people think an antenna is good if the SWR is below 3.

This IC seem promising. Together with a small MCU and AD and some flash memory you might be able to build a really good instrument that could beat everything on the market.

Does anyone know a source for these chipts whithin the EU? I have some directional couplers without detectors that could easily be combined with this chip.

Your Idea to use a PC to control the radio as a source seem interesting. The only drawback would be the size of all the stuff you need to bring into the garden when measuring.

Perhaps a modular design.
a) Optional RF-circuit (directional couplers) different for different bands to increase accuracy.
b) Detector device (AD-chip, small controller with calibration data)
c) Optional display for computerless operation
d) Optional signal source for rig-less operation.

/Leif

1981. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 21:32:17 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <Bvpab.4340$U6.1434@nwrdny03.gnilink.net>
Source record: 32398

Leif,

>>Does anyone know a source for these chipts whithin the EU?<<
I believe you can purchase them from the Analog Devices Web site. Don't know if that works outside the US though.

>>I have some directional couplers without detectors that could easily be combined with this chip.<<
Do you really need a directional coupler? How about just driving the load through a known resistor
and measuring the voltage & phase shift across the unknown?

>>Your idea to use a PC to control the radio as a source seem interesting. The only drawback would be the size
>>of all the stuff you need to bring into the garden when measuring.<<

I suggested the station rig as a source because it already has a programmable frequency generator for any frequency the ham is likely to need to measure...why reinvent it? On the other hand, it's easy these days to build a DDS frequency source that works into the VHF range. Used laptop PC's are plentiful and cheap, and have great computational and display facilities. I was thinking of a small module that works with the station PC or a laptop.

Joe
W3JDR

1982. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 21:39:05 UTC
From: xyz <w4ihk@mindspring.com>
Message-ID: <ZBpab.8600$BS5.3651@newsread4.news.pas.earthlink.net>
Source record: 32399
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Roy Lewallen wrote in message ...
>Maybe we can finally get an explanation of how the cross field antenna
>works, why fractal antennas are the best of all possible antennas, how
>"critical coupling" works to get impossible gain, what happens when a
>wave of average power bounces off our final amp, and some of the other
>mysteries that have been plaguing us over at r.r.a.antenna. I've
>suspected the answers lie with aliens, black helicopters, chemtrails, or
>maybe a chi vortex, so I'm sure Art can set us straight.
>
>Roy Lewallen, W7EL
>

If he remembers to bring both oars with him this time and if he puts them both in the water. Otherwise, it will be the same ol samo!

Dean -- W4IHK

1983. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 21:58:46 UTC
From: jgboyles@aol.com
Message-ID: <20030918175846.03483.00001039@mb-m11.aol.com>
Source record: 32400

>The chip's phase measurement transer function has a positive slope for phase
>angles less than 0deg and a negative slope for phase angles greater than
>0deg. So it seems to me that resolving the 180 deg ambiguity is just a matter
of knowing which slope you're on. This might be done by switching in
>a small known reactive component

You can do this with an MFJ or any other analyzer to resolve the sign ambiguity
of X. Switch in small known reactance, see which way X goes. Also, hooking a
computer interface to an MFJ would probably not be that much more difficult
than interfacing with the AD chip. So, no I don't think this would run rings
around an MFJ. However, if you do go this route, I would be very interested in
how it turns out.
73 Gary N4AST

1984. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 22:48:40 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19d3d627ccf1394f989687@news-central.giganews.com>
Source record: 32401

In article <7mmab.11862$hl4.5388@nwrdny01.gnilink.net>, joe@roccis.com
says...
> > Do it the way you want to.
>
> Harold,
> I'm puzzled by your reply. Does it mean that you agree, or that you
> disagree, or that you're just brushing me off? If it's the latter, I can
> accept that too...I'm just looking for a sincere dialog about an idea.
>

Who knows what he meant by that, but the idea of using a "line
stretching" hack to resolve the phase ambiguity sounds like a great one
to me. I'd definitely be up for building a VNA that has decent
frequency coverage and that's PC-driven. I'll take a gander at the
AD8302's specs first chance I get and see how it looks!

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

1985. LONG OT FCC BIG HIPPO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 22:56:07 UTC
From: tk <gamach1@ispwest.com>
Message-ID: <3F6A3807.F9C16F5D@ispwest.com>
Source record: 32402

Wednesday's Atlanta Constitution had a front page article on the vote in Congress to block the latest FCC decree on media ownership. The thing that caught my eye was King Powell's statement "I hope that Congress will take a more considered view of the PUBLIC interest." What a hypocrite...
(had to look it up !!) Does anyone on this newgroup ever remember the "public interest" being a factor in an FCC ruling ???? They don't know the meaning of nor do they acknowledge the existence of PICON in their mission statement.

I get a monthly reminder in my Telco bill of their public interest. 30% of my monthly bill has absolutely npthing to do with local phone service...

Cheers

Ted in Atlanta

1986. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 23:12:49 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <11akmvoraf41d8rbcevsgjbit3sj9e6qi7@4ax.com>
Source record: 32404

On 18 Sep 2003 08:21:43 -0700, haf47@juno.com (Howard) wrote:

>Hello to all,
>
>I have looked with interest at the new Ten-Tec Vee Beam Terminated
>antenna. Is there a guru on the list who has the knowlege to share on
>how to duplicate this antenna?
>
>It is a vee beam with each leg terminated to ground with a resistor,
>and there is a balun of sorts at the input.
>
>I remember an antenna similar to this years ago, and I think ten-tec
>will have a winner with this if folks can get away from the supposed
>"horror" of a terminated antenna.
>
>Details at www.tentec.com
>
>I wish I could afford it at this time!!
>
>Regards, Howard

Running a model with an apex angle of 90ï¿½ as per the illustration on
page one of their Installation and Operation manual. NEC reports the
following maximum forward gain:

Using 50 foot arms

Freq. MHz Gain dBi Elevation Angle

3.5 -13.8 80ï¿½
7.0 -5.3 55ï¿½
14 -1.8 33ï¿½
21 5.63 23ï¿½
28 6.51 47ï¿½

Using 100 foot arms

3.5 -9.4 64ï¿½
7.0 -1.06 47ï¿½
14 4.51 25ï¿½
21 4.35 17ï¿½
28 3.24 57ï¿½

Danny, K6MHE

1987. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 23:30:48 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <lerab.505021$YN5.337471@sccrnsc01>
Source record: 32403

> I'm puzzled by your reply. Does it mean that you agree, or that you
> disagree, or that you're just brushing me off? If it's the latter, I can
> accept that too...I'm just looking for a sincere dialog about an idea.
>
> Joe
> W3JDR

I'm just brushing you off. I wrote to let you know of another avenue to do the job you wish to do where someone else has invested a tremendous amount of professional work in both the hardware and software. It will be available on the Internet in a week or so. (Several of us have enjoyed the end product as a Beta test group for something over a year.) I don't have any time or interest in participating in a sincere dialog.

Regards

W4ZCB

1988. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-18 23:54:37 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <1Brab.8461$Cs1.6442@nwrdny02.gnilink.net>
Source record: 32406

Well, I guess that settles that.
The definitive work has been done and there's no room for improvement or any sense in discussing it further.

Thanks for your help

Joe

"Harold E. Johnson" <W4ZCB@mchsi.com> wrote in message news:Ierab.505021$YN5.337471@sccrnsc01...
>
>
> > I'm puzzled by your reply. Does it mean that you agree, or that you
> > disagree, or that you're just brushing me off? If it's the latter, I can
> > accept that too...I'm just looking for a sincere dialog about an idea.
> >
> > Joe
> > W3JDR
>
> I'm just brushing you off. I wrote to let you know of another avenue to do
> the job you wish to do where someone else has invested a tremendous amount
> of professional work in both the hardware and software. It will be available
> on the Internet in a week or so. (Several of us have enjoyed the end product
> as a Beta test group for something over a year.) I don't have any time or
> interest in participating in a sincere dialog.
>
> Regards
>
> W4ZCB
>
>

1989. Re: Calculating noise figure from kTo

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 00:00:28 UTC
From: DrGrok@mungednet.com
Message-ID: <bkdgbqbeh1@bob.news.rcn.net>
Source record: 32405

In article <3f6a18ed.180382725@news.online.no>, LA8AK,xnd@Online.NO wrote:
>Hi
>
>just curious, have some receiver data with stated sensitivity of
>50kTo, 200kTo and 500 kTo.
>Is it some easy way to go from one to another? RX bandwidth is 1MHz
>(some old radars)
>
>Jan-Martin
>LA8AK http://home.online.no/~la8ak/k51.htm

F (dB) = 10*log[1 + (T/290)] T in degrees K; log is base 10

1990. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 01:59:51 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F6A60BA.972AC82E@gte.net>
Source record: 32407

> I'm just brushing you off. I wrote to let you know of another avenue to do
> the job you wish to do where someone else has invested a tremendous amount
> of professional work in both the hardware and software. It will be available
> on the Internet in a week or so. (Several of us have enjoyed the end product
> as a Beta test group for something over a year.) I don't have any time or
> interest in participating in a sincere dialog.
>
> Regards
>
> W4ZCB

Hi Harold,
I well recall Paul's wattmeter- well (or even way) beyond what others had done- the engineering and documentation was superb. Looking forward to his work on the VNR.
I am not far from you- near Cashiers on Lake Glenville.

Dale W4OP

1991. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 03:35:41 UTC
From: "Vince Fiscus, KB7ADL" <vlfiscus@mcn.net>
Message-ID: <cQuab.103214$mp.50156@rwcrnsc51.ops.asp.att.net>
Source record: 32408
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

"kf4tun" <kf4tun@adelphia.net> wrote in
news:uqoab.461$qK1.574638@news2.news.adelphia.net:

> Who in the hell is Art Bell? I'm 60 and I never heard of him. And no,
> I don't live under a rock.
>

Art Bell is a KOOK!

1992. Re: help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 04:10:29 UTC
From: Zoran Brlecic <...WA7AA...@get.lost>
Message-ID: <3F6A80D0.9060209@get.lost>
Source record: 32410
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

W8CRZ wrote:
> I have a 3-500z tube and just want to make a conversation piece out of it. I
> am going to make a wood base for it and I would also like to feed some
> current into it just to make it glow.I was told it was possible but he
> wasn't sure how or which pins to do it with.

Pins 1 and 5.

> Also I know it is a 5 volt tube
> and 14.5 amp.do I really need that much to make it glow?

Yes, you do.

> Would 12 volt work?

For a very, very limited time, providing your 12V supply is capable of
dishing out 40A. If it's not, it would either clamp down to the maximum
current or trip the breaker.

If all you want to do is make it appear that it's glowing, build in a
few LEDs into the wood base. None will be the wiser.

73 .... WA7AA

--

Anti-spam measure: look me up on qrz.com if you need to reply directly

1993. help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 04:49:56 UTC
From: W8CRZ <crandall@ee.net>
Message-ID: <UVvab.66$eo2.3166@news>
Source record: 32409
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I have a 3-500z tube and just want to make a conversation piece out of it. I am going to make a wood base for it and I would also like to feed some current into it just to make it glow.I was told it was possible but he wasn't sure how or which pins to do it with. Also I know it is a 5 volt tube and 14.5 amp.do I really need that much to make it glow? Would 12 volt work?
Thanks
Rob W8CRZ

1994. Re: help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 06:25:49 UTC
From: Dick Carroll <dixie@townsqr.com>
Message-ID: <bke7hdrfr0@208.206.142.96>
Source record: 32411
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

W8CRZ wrote:

> I have a 3-500z tube and just want to make a conversation piece out of it. I
> am going to make a wood base for it and I would also like to feed some
> current into it just to make it glow.I was told it was possible but he
> wasn't sure how or which pins to do it with. Also I know it is a 5 volt tube
> and 14.5 amp.do I really need that much to make it glow? Would 12 volt work?
> Thanks
> Rob W8CRZ

You sure don't want to put 12 volts on it unless you want to burn out the filament. It needs 5 volts. The transformer will have to supply the 14.5 amps or it will not hold up, either. There are 5 volt transformers out there which have no center tap that can be bought pretty cheap since they won't work out easily for use in an amplfier..

Dick

1995. LM3198N/CA3198

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 06:42:34 UTC
From: Hotwheels <danderson@networksplus.net>
Message-ID: <h59lmvo08pfjd12u4eurumm4qq2omsn6f5@4ax.com>
Source record: 32412

I'm thinking of building a receiver that uses the LM3198N(National) or CA3198(Harris) FM IF system IC. Trouble is, they're discontinued. Does anyone have a few they'd be willing to let go? Let me know here, or by e-mail. Thanks!
Don
danderson@networksplus.net

1996. Re: help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 07:03:12 UTC
From: Scott Schrader <swschrad@visi.com>
Message-ID: <3F6AAA30.8667C2A3@visi.com>
Source record: 32413
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

isn't that going to get it hot enough in time to crack the seals? had
some guys working up a linear in 1971 at NDSU that just had the
filaments on a pair of 4-400s without the fan on, and killed 'em with an
ugly, loud cracking noise.

orange LEDs would be more authentic, I think, than red ones to make a
glow in the firebottle.

Dick Carroll wrote:
>
> W8CRZ wrote:
>
> > I have a 3-500z tube and just want to make a conversation piece out of it. I
> > am going to make a wood base for it and I would also like to feed some
> > current into it just to make it glow.I was told it was possible but he
> > wasn't sure how or which pins to do it with. Also I know it is a 5 volt tube
> > and 14.5 amp.do I really need that much to make it glow? Would 12 volt work?
> > Thanks
> > Rob W8CRZ
>
> You sure don't want to put 12 volts on it unless you want to burn out the
> filament. It needs 5 volts. The transformer will have to supply the 14.5 amps or
> it will not hold up, either. There are 5 volt transformers out there which have
> no center tap that can be bought pretty cheap since they won't work out easily
> for use in an amplfier..
>
> Dick

-- If it's a "new economy," why do they want my obsolete old money?

1997. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 08:26:13 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <F4zab.521037$uu5.86721@sccrnsc04>
Source record: 32414

> I well recall Paul's wattmeter- well (or even way) beyond what others had done-
> the engineering and documentation was superb. Looking forward to his work on the
> VNR.
> I am not far from you- near Cashiers on Lake Glenville.
>
> Dale W4OP

Hi Dale, I had no idea that you were that close. Been to Glenville many times. Why don't you come over on the first Wednesday of any month for our QCWA lunch. We have a very active group and actually have two meetings a month, but the first one always has an interesting program. If it poses a problem doing it in one day, We have a great guest apartment and I'd put you up for a Tuesday night sort of thing. You can even play with my STAR. A little DSP transceiver
that Peter Rhodes developed. 160-10 with superb characteristics. There are 9 of those finished now, with another half dozen in various stages of completion just in the Beta group. I have no idea how many more are being built
as the project continues to evolve in Radio Communications.

If you liked Paul's wattmeter, you'll be blown away with what he's done with the VNA. Documentation itself is in 3 parts and looks like a doctoral dissertation.

Both Paul and Bill Carver were here last month (Wish I had known you were this close! We met Alan Victor and Jim Scarlett and his son at Shelby for lunch) and brought their VNA's along
for a round robin test. Under 1 percent variations on the Q of a test crystal between the units. He's added software to make it perform a half dozen other tasks, Transmission, Reflection, Group delay and some real time stuff. I've junked my dual crystal oscillators in the quad
shield for Ip3 tests, the VNA does it on ANY frequency. A real "Lab in a Box". I think I've run the antenna characteristics on everybody's antennas within a
10 mile radius.

Regards

W4ZCB>

1998. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 11:28:16 UTC
From: "David J. Windisch" <davidw@copper.net>
Message-ID: <3f6996d3_3@newsfeed.slurp.net>
Source record: 32415

Hi, all concerned:

Everybody wants to do it in software ;o)

Telescoping brass tubes from hobby sources, or telescoping aluminum tubes from eg Texas Towers, can be used to build physical line-stretchers. Put the movable parts in a trough say of copper or aluminum gutter for unbalanced apps. Plan the device parts carefully, and near-50-ohm surge impedance can be had by purists and others.

73, Dave, N3HE

"John Miles" <jmiles@pop.removethistomailme.net> wrote in message news:MPG.19d3d627ccf1394f989687@news-central.giganews.com...
> In article <7mmab.11862$hl4.5388@nwrdny01.gnilink.net>, joe@roccis.com
> says...
> > > Do it the way you want to.
> > >
> > Harold,
> > I'm puzzled by your reply. Does it mean that you agree, or that you
> > disagree, or that you're just brushing me off? If it's the latter, I can
> > accept that too...I'm just looking for a sincere dialog about an idea.
> > >
> >
> Who knows what he meant by that, but the idea of using a "line
> stretching" hack to resolve the phase ambiguity sounds like a great one
SNIP

1999. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 12:05:01 UTC
From: Nitespark <nitespark@cox.net>
Message-ID: <yhCab.111991$uh6.70594@lakeread05>
Source record: 32416
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Vince Fiscus, KB7ADL wrote:

> "kf4tun" <kf4tun@adelphia.net> wrote in
> news:uqoab.461$qK1.574638@news2.news.adelphia.net:
>
>
>>Who in the hell is Art Bell? I'm 60 and I never heard of him. And no,
>>I don't live under a rock.
>>
>
>
>
> Art Bell is a KOOK!

Nope....he is an entertainer. He has found a niche in society and
caters to them and made a ton of money doing it.

Andy
WD4KDN

--
An armed man is a citizen, an unarmed man is a subject.
An armed society is a polite society.

2000. Action Circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 12:08:34 UTC
From: amdx <amdx@att.net>
Message-ID: <6lCab.144998$0v4.10706351@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32417

Is Action circuits of New Jersey still in business? They have a new phone number but no one answers it.
They make finished PCBs.

Mike

2001. Re: Antenna/Network Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 15:13:41 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19d4bcfcd6e7682a98968b@news-central.giganews.com>
Source record: 32418

In article <Ierab.505021$YN5.337471@sccrnsc01>, W4ZCB@mchsi.com says...
>
>
> > I'm puzzled by your reply. Does it mean that you agree, or that you
> > disagree, or that you're just brushing me off? If it's the latter, I can
> > accept that too...I'm just looking for a sincere dialog about an idea.
> >
> > Joe
> > W3JDR
>
> I'm just brushing you off. I wrote to let you know of another avenue to do
> the job you wish to do where someone else has invested a tremendous amount
> of professional work in both the hardware and software. It will be available
> on the Internet in a week or so. (Several of us have enjoyed the end product
> as a Beta test group for something over a year.) I don't have any time or
> interest in participating in a sincere dialog.
>

Followups set to rec.radio.amateur.equipment, since by your own
admission your post is off-topic for this group.

-- jm

---

http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

2002. Re: LM3198N/CA3198

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 16:05:05 UTC
From: Joe LeKostaj <joe@falseaddress2003.net>
Message-ID: <joe-BDF004.11050519092003@news.covad.net>
Source record: 32419

In article <h59lmvo08pfjd12u4eurumm4qq2omsn6f5@4ax.com>,
Hotwheels <danderson@networksplus.net> wrote:

> I'm thinking of building a receiver that uses the LM3198N(National) or
> CA3198(Harris) FM IF system IC. Trouble is, they're discontinued. Does
> anyone have a few they'd be willing to let go?

Don,
Ocean State Electronics has some other nice FM IF ICs you might consider
if you can't find the '3198. Look at
http://www.oselectronics.com/ose_p81.htm

-Joe

2003. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 16:12:36 UTC
From: Joe LeKostaj <joe@falseaddress2003.net>
Message-ID: <joe-AFD15C.11123619092003@news.covad.net>
Source record: 32420
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

HAW! Good one, Roy. All those topics are right up Art Bell's alley. I would also add those stick-on "antenna amplifiers" for cellphones that are advertised in junk-mail liquidation catalogs.

-Joe K9LY

In article <vmk3vum9t017ed@corp.supernews.com>,
Roy Lewallen <w7el@eznec.com> wrote:

> Maybe we can finally get an explanation of how the cross field antenna
> works, why fractal antennas are the best of all possible antennas, how
> "critical coupling" works to get impossible gain, what happens when a
> wave of average power bounces off our final amp, and some of the other
> mysteries that have been plaguing us over at r.r.a.antenna.

2004. Re: help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 16:19:28 UTC
From: Dick Carroll <dixie@townsqr.com>
Message-ID: <bkfaag$j2j$0@208.207.71.158>
Source record: 32421
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Scott Schrader wrote:

> isn't that going to get it hot enough in time to crack the seals? had
> some guys working up a linear in 1971 at NDSU that just had the
> filaments on a pair of 4-400s without the fan on, and killed 'em with an
> ugly, loud cracking noise.
>

That's certainly possible, although it will cool better convectionally out in the open than inside an amp enclosure. It surely would get pretty hot, about as hot as a 75 watt light bulb in use would. You wouldn't want to touch it at that temperature

> orange LEDs would be more authentic, I think, than red ones to make a
> glow in the firebottle.
>

That's probably the best way to go, eliminates all the current and thus the heat. But nothing will show up like the original filament glow.

2005. Re: Where do you buy air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 16:22:18 UTC
From: Dick Carroll <dixie@townsqr.com>
Message-ID: <bkfafq$j2j$1@208.207.71.158>
Source record: 32422

Reg Edwards wrote:

> > This hamfest has been canceled - wiped out by Hurricane Isabel.
> ==========
>
> Have the Middle-east terrorist scientists overtaken the West and discovered
> the formulae needed to control the weather ?

No, Reg. Mother Nature still rules.

2006. Vector Network Analyzers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 16:31:59 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <3cGab.518717$YN5.343719@sccrnsc01>
Source record: 32423

(Several of us have enjoyed the end product
> > as a Beta test group for something over a year.) I don't have any time
or
> > interest in participating in a sincere dialog.
> >
>
> Followups set to rec.radio.amateur.equipment, since by your own
> admission your post is off-topic for this group.
>
> -- jm

My turn to be confused. MY Vector Network Analyzer IS an amateur project and
was constructed by myself. You have some sort of problem with admissions or
interpretations? I REALLY resent your arbitrary action without recourse. You
haven't seen fit to redirect any of the crap about Art Bell, and if that's
anything to
do with amateur radio homebrew I for one fail to see it.

W4ZCB
>
> ----------
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> ----------

2007. Re: Vector Network Analyzers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 17:11:17 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19d4d893842dcf1b989688@news-central.giganews.com>
Source record: 32424

In article <3cGab.518717$YN5.343719@sccrnsc01>, W4ZCB@mchsi.com says...
> > Followups set to rec.radio.amateur.equipment, since by your own
> > admission your post is off-topic for this group.
> >
> > -- jm
>
> My turn to be confused. MY Vector Network Analyzer IS an amateur project and
> was constructed by myself. You have some sort of problem with admissions or
> interpretations? I REALLY resent your arbitrary action without recourse. You
> haven't seen fit to redirect any of the crap about Art Bell, and if that's
> anything to
> do with amateur radio homebrew I for one fail to see it.
>

Harold, I think you're "misunderestimating" both the degree of sarcasm
behind my post and my degree of control over the newsgroup's content. I
was merely suggesting that it makes no sense to deride an honest inquiry
about a chip and its applications on a homebrew newsgroup. After all,
you can buy any number of radios and kits, most of which will outperform
and out-feature anything any of us are likely to build, but that
doesn't mean you should tell someone who asks about designing a receiver
to STFU and go buy a 95S-1.

If you're seeing a lot of spam on the newsgroup, you may want to look
into a news provider that supports filtering on the server side. With
Giganews.com, I never see more than about 1% or so of the spam. I'm
afraid I'm unable to offer any further help with the Art Bell crap,
despite the power invested in me to redirect follow-ups to my own posts.
:)

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

2008. Re: help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 17:12:55 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <Q5OcnV9iL7agpPaiXTWJiQ@cnmnetwork.com>
Source record: 32425
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I suggest applying a lower potential, say 4 Volts. That would make the glow a more orange color, maybe more impressive, without risk to the filament and a lower bulb temperature.

On the other hand, are you sure this tube is defective? Good tubes are worth around $100 and I'm sure you can find a shorted one for very little.

Due to the high current drawn by the filament, it's common for a poor socket contact to cause excessive heat at the tube pin, melting the solder and causing the filament to go out. There are many tubes out there that have been scrapped with the thought that the filament is burned out, when in fact the tubes are repairable. (I just repaired one for a fellow amateur.)

Bob

2009. Re: help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 18:11:04 UTC
From: Dick Carroll <dixie@townsqr.com>
Message-ID: <bkfgro$eu9$1@208.206.142.76>
Source record: 32426
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Bob wrote:

> I suggest applying a lower potential, say 4 Volts. That would make the glow
> a more orange color, maybe more impressive, without risk to the filament and
> a lower bulb temperature.
>
> On the other hand, are you sure this tube is defective? Good tubes are
> worth around $100 and I'm sure you can find a shorted one for very little.
>
> Due to the high current drawn by the filament, it's common for a poor socket
> contact to cause excessive heat at the tube pin, melting the solder and
> causing the filament to go out. There are many tubes out there that have
> been scrapped with the thought that the filament is burned out, when in fact
> the tubes are repairable. (I just repaired one for a fellow amateur.)

Very good point. I've done the same. Poor filament contact is fairly common
especially when used in older amps.

Dick

2010. Re: Vector Network Analyzers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 18:28:16 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <4VHab.519218$YN5.344595@sccrnsc01>
Source record: 32427

> Harold, I think you're "misunderestimating" both the degree of sarcasm
> behind my post and my degree of control over the newsgroup's content. I
> was merely suggesting that it makes no sense to deride an honest inquiry
> about a chip and its applications on a homebrew newsgroup. After all,
> you can buy any number of radios and kits, most of which will outperform
> and out-feature anything any of us are likely to build, but that
> doesn't mean you should tell someone who asks about designing a receiver
> to STFU and go buy a 95S-1.

I believe you redirected my post without consideration as to what it
comprised.
My comments properly were directed to a poster who asked about an Analog
Devices chip that would not satisfactorily perform the task desired due to
an
inability to resolve an ambiguity at a single frequency. He then asked
about
using the phase slope of additional frequencies and I suggested doing it the
way he wished. I've already expended more "discussion" than I intended,
mainly
due to what I think is your "sarcasm". I didn't suggest buying anything .
Might
you be "misunderestimating" the results of your actions? If you have ANY
control over the newsgroups content, you might expend it more judiciously.

W4ZCB

>
> If you're seeing a lot of spam on the newsgroup, you may want to look
> into a news provider that supports filtering on the server side. With
> Giganews.com, I never see more than about 1% or so of the spam. I'm
> afraid I'm unable to offer any further help with the Art Bell crap,
> despite the power invested in me to redirect follow-ups to my own posts.
> :)
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --

2011. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 18:28:29 UTC
From: Glenn <kg5uc1NOSPAM@charter.net>
Message-ID: <vmmimer9qp860c@corp.supernews.com>
Source record: 32428
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I for one will be blad to hear Coast To Coast broadcast regularly "from
the High Desert," even though it is on a part time basis. George Noorey
is an excellent replacement, but Art Bell invented the format.

I just hope his back will hold up for the abbreviated work schedule.

==========

Bovine Hormones wrote:

> Art Bell Returns to Radio
> as Weekend Host of Coast to Coast AM
>
> Press Release www.coasttocoastam.com
>
> LOS ANGELES, Sept. 17, 2003- Art Bell, the radio personality
> known for his spontaneous and compelling conversations about
> all things unexplained, will replace Barbara Simpson as weekend
> host of Coast to Coast AM - the program he made famous.
> He will broadcast live from 1-5 a.m. ET Saturdays and Sundays
> with a refeed from 5-9 a.m. ET from his home studio in
> Pahrump, Nev., beginning Sept. 20.
>
> Bell stated, "For me, a return to radio is both mysterious and reassuring."
>
> "We welcome Art back to the weekend microphone," said Kraig Kitchin
> - president/COO Premiere Radio Networks. "His return reflects his
> long-standing bond with this audience and his undying passion for radio."
>

--
73 from Glenn - KG5UC

2012. Re: LONG OT FCC BIG HIPPO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 22:29:24 UTC
From: Larry <cqhfdx@yahoo.com>
Message-ID: <vmn0qarm5e3m25@corp.supernews.com>
Source record: 32429

AMEN BROTHER!!!!!

"tk" <gamach1@ispwest.com> wrote in message
news:3F6A3807.F9C16F5D@ispwest.com...
| Wednesday's Atlanta Constitution had a front page article on the vote in
| Congress to block the latest FCC decree on media ownership. The thing
| that caught my eye was King Powell's statement "I hope that Congress
| will take a more considered view of the PUBLIC interest." What a
| hypocrite...
| (had to look it up !!) Does anyone on this newgroup ever remember the
| "public interest" being a factor in an FCC ruling ???? They don't know
| the meaning of nor do they acknowledge the existence of PICON in their
| mission statement.
|
| I get a monthly reminder in my Telco bill of their public interest. 30%
| of my monthly bill has absolutely npthing to do with local phone
| service...
|
| Cheers
|
| Ted in Atlanta
|

2013. Re: LM3198N/CA3198

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-19 23:51:52 UTC
From: Hotwheels <danderson@networksplus.net>
Message-ID: <nj5nmvoiddi291fernblq0v0udlrv40se1@4ax.com>
Source record: 32430

Thanks, Joe...I'll check it out!
Don

On Fri, 19 Sep 2003 11:05:05 -0500, Joe LeKostaj
<joe@falseaddress2003.net> wrote:

>In article <h59lmvo08pfjd12u4eurumm4qq2omsn6f5@4ax.com>,
> Hotwheels <danderson@networksplus.net> wrote:
>
>> I'm thinking of building a receiver that uses the LM3198N(National) or
>> CA3198(Harris) FM IF system IC. Trouble is, they're discontinued. Does
>> anyone have a few they'd be willing to let go?
>
>
>Don,
>Ocean State Electronics has some other nice FM IF ICs you might consider
>if you can't find the '3198. Look at
>http://www.oselectronics.com/ose_p81.htm
>
>-Joe

2014. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 01:14:52 UTC
From: "Vince Fiscus, KB7ADL" <vlfiscus@mcn.net>
Message-ID: <gSNab.295363$2x.85455@rwcrnsc52.ops.asp.att.net>
Source record: 32431
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Nitespark <nitespark@cox.net> wrote in news:yhCab.111991$uh6.70594
@lakeread05:

>>
>> Art Bell is a KOOK!
>
> Nope....he is an entertainer. He has found a niche in society and
> caters to them and made a ton of money doing it.
>
> Andy
> WD4KDN

Art Bell & Coast to Coast AM are living proof of the failure of the
American Education system.

KB7ADL

2015. Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 01:59:47 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3F6BB493.2090503@bellsouth.net>
Source record: 32432

Does anybody know where I can get a Harris or Intersil
HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?

I used to work for Digital, and thought it would be an interresting project
to homebrew a PDP-8 system. I have a T11 microprocessor chip in the junbox
someplace, so a PDP-11 system is also a possibility.

2016. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 02:06:34 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3F6BB62A.8000805@bellsouth.net>
Source record: 32433

Mike Silva wrote:
> Caution: this may be the most unimportant post you read today (or this
> month, or this year, or...)
>
> Anyway, I haven't been in the market for QRP-level transistors for a
> long time, having laid in a lifetime's supply years ago, but today
> just for fun I searched for some of the usual suspects from the past
> (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> found almost nothing to be had. This greatly surprised me, as I was
> expecting to find all of my old friends readily available. So, are
> the "old standards" really hard to find now, or are they still readily
> available (outside of Ebay), or what???
>
> I have to mention the irony that I am able to find any vacuum tube I
> could possibly want on Ebay, including dozens of types that would make
> excellent QRP finals, from a seemingly unlimited number of sellers!
> :-)
>
> 73,
> Mike, KK6GM

I have seen 2n3866's on ebay a while ago. They do pop up from time to time.
Enter a search on your 'my ebay' page and have it set to email you when
something shows up. You might have to wait a month or two, but something
will turn up, if history is any example.

2017. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 02:33:28 UTC
From: Joe Blow <joe@joe.com>
Message-ID: <z_Oab.802$iO.134@bignews5.bellsouth.net>
Source record: 32434
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Good luck getting a qsl out of that cheap son of a bitch..

Bovine Hormones wrote:

> Art Bell Returns to Radio
> as Weekend Host of Coast to Coast AM
>
> Press Release www.coasttocoastam.com
>
> LOS ANGELES, Sept. 17, 2003- Art Bell, the radio personality
> known for his spontaneous and compelling conversations about
> all things unexplained, will replace Barbara Simpson as weekend
> host of Coast to Coast AM - the program he made famous.
> He will broadcast live from 1-5 a.m. ET Saturdays and Sundays
> with a refeed from 5-9 a.m. ET from his home studio in
> Pahrump, Nev., beginning Sept. 20.
>
> Bell stated, "For me, a return to radio is both mysterious and reassuring."
>
> "We welcome Art back to the weekend microphone," said Kraig Kitchin
> - president/COO Premiere Radio Networks. "His return reflects his
> long-standing bond with this audience and his undying passion for radio."
>

2018. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 03:32:16 UTC
From: No Spam <no@spam.com>
Message-ID: <3F6BCA40.48A@spam.com>
Source record: 32435
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Roy Lewallen wrote:

[...]

> As an antenna gets smaller, the impedance does rise, causing a
> requirement for more voltage for a given power. The rise, however, is
> due to increasing (series) reactance, not radiation resistance. If you
> make the antenna long enough to reach resonance, then continue making it
> longer, the impedance again rises until you hit "anti-resonance"
> (parallel resonance). In that region it's due to both an increasing
> reactance and an increasing radiation resistance.
>
> A real consequence of the low radiation resistance of a small antenna is
> that the conductor current is very high for a given applied power. This
> results in increased I^2 * R loss in the conductors. The loss can be
> very substantial in small antennas.
>
> Roy Lewallen, W7EL

Thanks for the excellent description. It's not clear if the device works like a regular antenna - apparently it is encased in ferrite the size of a grapefruit. Here is the url again:

http://www.aftenposten.no/english/local/article.jhtml?articleID=609108

Now we all know ferrite antennas work great in AM radios, especially where a strong interfering signal can be nulled out. But it's not clear how well they work as transmitting antennas.

Wouldn't they have the same inefficiency problems as a small loop antenna? In other words, very low radiation resistance? If so, it doesn't seem possible it would have long range.

Perhaps it is meant for local communication over short distances, which can be useful for secure links. There is an interesting article on magnetic induction, where the field strength falls off as 1/r^6 instead of 1/r^2. This group talks about using very small antennas for distances up to 2 meters:

http://www.auracomm.com/Downloads/webwireless.pdf

2019. Re: Where do you buy air variable capacitors?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 04:00:35 UTC
From: "Richard F. Gillette P.E., (W9PE)" <r.f.gillette@ieee.org>
Message-ID: <3F6BD0B6.9D9DEA33@ieee.org>
Source record: 32436

Jason Hsu wrote:

> I'm building the noise cancelling device described at
> http://www.qsl.net/g4lna/noisdes.html .
>
> For those of you who have used air variable capacitors, who are your
> favorite suppliers?
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

Next hamfest your neighborhood 26 Oct. 03 see:
http://www.qis.net/~k3pzn

2020. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 05:28:49 UTC
From: "Dave, AA6YQ" <aa6yq@ambersoft.com>
Message-ID: <IARab.522300$YN5.348403@sccrnsc01>
Source record: 32437

No cheating! If you're going to homebrew a PDP-8, you have to build it out
of discrete TTL.

73,

Dave, AA6YQ
Data General, 1972 - 1981
Designer of the Nova 2, Nova 3, MP200, and microEclipse CPUs, as
well as some parts of FHP and EGO

"kenneth scharf" <wa2mze-spamnot-@bellsouth.net> wrote in message
news:3F6BB493.2090503@bellsouth.net...
> Does anybody know where I can get a Harris or Intersil
> HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?
>
> I used to work for Digital, and thought it would be an interresting
project
> to homebrew a PDP-8 system. I have a T11 microprocessor chip in the
junbox
> someplace, so a PDP-11 system is also a possibility.
>
>

2021. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 05:46:26 UTC
From: Sandy DuBois <Sandy@nospam.com>
Message-ID: <bkgpjf$7hs$0@pita.alt.net>
Source record: 32438
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Joe Blow" <joe@joe.com> wrote in message
news:z_Oab.802$iO.134@bignews5.bellsouth.net...
Good luck getting a qsl out of that cheap son of a bitch..

What this means is Bell wouldn't respond to this CB'er. Sour Grapes....

2022. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 08:13:29 UTC
From: Ken Luther <sparkzz@aol.com>
Message-ID: <d4Uab.4023$jO.188@bignews3.bellsouth.net>
Source record: 32439

Boy -- Have you got little to do, or what!!!!

"Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
news:lARab.522300$YN5.348403@sccrnsc01...
> No cheating! If you're going to homebrew a PDP-8, you have to build it out
> of discrete TTL.
>
> 73,
>
> Dave, AA6YQ
> Data General, 1972 - 1981
> Designer of the Nova 2, Nova 3, MP200, and microEclipse CPUs, as
> well as some parts of FHP and EGO
>
>
> "kenneth scharf" <wa2mze-spamnot-@bellsouth.net> wrote in message
> news:3F6BB493.2090503@bellsouth.net...
> > Does anybody know where I can get a Harris or Intersil
> > HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?
> >
> > I used to work for Digital, and thought it would be an interresting
> project
> > to homebrew a PDP-8 system. I have a T11 microprocessor chip in the
> junbox
> > someplace, so a PDP-11 system is also a possibility.
> >
> >
>
>

2023. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 09:40:54 UTC
From: Wim Ton <wimton@blueyonder.co.uk>
Message-ID: <HgVab.45$%c.10@news-binary.blueyonder.co.uk>
Source record: 32440

> > just for fun I searched for some of the usual suspects from the past
> > (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> > found almost nothing to be had.

Ebay Germany
http://listings.ebay.de/pool2/plistings/list/all/category12077/index.html?fr
om=R4 has a large section with electronics components (much larger dan E-bay
UK for example) Payment may be awkward, as the common way is bank transfer.

Wim

Wim

2024. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 10:36:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmobdq54nrj5a5@corp.supernews.com>
Source record: 32441
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

It's really hard to tell anything from a press release, and even harder to believe most of what you can tell from it. One thing that stands out is that the antenna being described is apparently operating at a pretty low frequency, where all antennas are very small in terms of wavelength, and very inefficient. Without any technical information, I can only offer some generalities.

A small antenna (in terms of wavelength) is going to be inefficient, and a tiny antenna is going to be very inefficient. And efficiency is important in a transmitting antenna. (I noted an exception to this in another posting about a terminated vee or rhombic antenna, but the exception doesn't apply here.) Often, for a given size small antenna, you can get lower loss by putting it on a ferrite core. But unless the chunk of ferrite is truly awesome in size or the frequency is pretty high, the antenna you're starting with will be tiny in terms of wavelength. That is, you might improve a very, very, very inefficient antenna to a very, very inefficient antenna. And that's probably the reason you don't usually see ferrite cores in transmitting antennas -- it's better to make them a bit bigger, too big to practically use a ferrite core.

Somebody mentioned saturation as a consideration. I'd have to work through the numbers with an actual core size and material, frequency, number of turns, and power level to see if it would be a problem. But the very large air gap in the magnetic path (from one end of the rod to the other -- which is, in fact, where the radiating field escapes) greatly reduces the flux density, so you could probably run a surprising amount of power without saturation. In many ferrites routinely used at RF, losses cause objectionable heating at flux densities well below saturation, and can often shatter the ferrite before saturation is even approached. Among amateurs, core heating seems to be almost universally blamed on saturation, due to a lack of understanding of the mechanism really causing the heating.

There are certainly many applications for small, inefficient transmitting antennas. Even a small improvement in efficiency is beneficial, and that might be what the folks in the article have accomplished.

Roy Lewallen, W7EL

No Spam wrote:
>
> Thanks for the excellent description. It's not clear if the device works like a
> regular antenna - apparently it is encased in ferrite the size of a grapefruit.

> Here is the url again:
>
> http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
>
> Now we all know ferrite antennas work great in AM radios, especially where a
> strong interfering signal can be nulled out. But it's not clear how well they
> work as transmitting antennas.
>
> Wouldn't they have the same inefficiency problems as a small loop antenna? In
> other words, very low radiation resistance? If so, it doesn't seem possible it
> would have long range.
>
> Perhaps it is meant for local communication over short distances, which can be
> useful for secure links. There is an interesting article on magnetic induction,
> where the field strength falls off as 1/r^6 instead of 1/r^2. This group talks
> about using very small antennas for distances up to 2 meters:
>
> http://www.auracomm.com/Downloads/webwireless.pdf

2025. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 11:51:30 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vmofq57ph5d1d1@corp.supernews.com>
Source record: 32442

Talk about bad timing ....

Just a couple of days ago two friends of mine hauled a PDP/8 out to the dump. Of course, you might not have been able to afford the power to run a REAL PDP/8.

I never actually worked with an 8, although I did publish a paper on 11M crash dump analysis. Might be fun to be able to grok a little Macro-11 from time to time ... hmmm ... wonder if there's a Pro350, or even an old 11/44, languishing in someone's basement.

..

"kenneth scharf" <wa2mze-spamnot-@bellsouth.net> wrote in message news:3F6BB493.2090503@bellsouth.net...
> Does anybody know where I can get a Harris or Intersil
> HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?
>
> I used to work for Digital, and thought it would be an interresting project
> to homebrew a PDP-8 system. I have a T11 microprocessor chip in the junbox
> someplace, so a PDP-11 system is also a possibility.
>
>

2026. Re: want circuit/schematic for CB "jammer"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 13:21:29 UTC
From: Argus <x67@earthlink.net>
Message-ID: <tvYab.42455$NM1.32254@newsread2.news.atl.earthlink.net>
Source record: 32443

In the final analysis, they do a pretty good job of jamming each other.

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3f64e64a.121623066@news.online.no...
> On 14 Sep 2003 07:39:17 GMT, limitedselection@aol.com
> (Limitedselection) wrote:
>
> >>Subject: Re: want circuit/schematic for CB "jammer"
> >>From: wieland@copland.udel.edu (Robert F Wieland)
> >>Date: 9/13/2003 12:57 PM Pacific Daylight Time
> >>Message-id: <bjvsrs$m45$1@copland.udel.edu>
> >>
> >>In article <20030905135424.07383.00000642@mb-m27.aol.com>,
> >>Limitedselection <limitedselection@aol.com> wrote:
> >>>To "Caveat Lector":
> >>>
> >>>Thanks for your 'help'!
> >>>
> >>>Apparently you are a lawyer (or play one on usenet)?
> >>
> >>You don't need to be a lawyer to know the law, nor a weatherman to know
> >>which way the wind blows.
> >>
> >>You will be interfering with an authorized radio service. That's
illegal.
> >>
> >>You will be transmitting (outside Part 15 limits) without a license.
> >>That's illegal.
> >>
> >>You will be putting on the air transmitting equipment that is neither
> >>inspected-and-accepted nor type-accepted. That's illegal.
> >>
> >>You do not own nor control the airwaves on your property. I could try
to
> >>list the things that are illegal even though you own the property
they're
> >>done on, except that I have a 10-Meg limit on my temporary file size.
> >>
> >>I agree you probably won't get caught, but don't kid yourself about what
> >>you're doing...
> >>--
> >>
> >>R F Wieland Newark, DE 19711-5323 USA 39.68N 75.74W
> >>Icom R75 Heathkit GR-81 Inverted-L in the attic

> >>Reply to wieland at me dot udel dot edu
> >>
> >Wieland,
> >I am not kidding myself. I never stated, asserted, proposed or implied
that
> >jamming was legal.
> >
> >I am very sorry that you completely misinterpreted my post.
> >
> >I know that it jamming is illegal, okay Wieland?
> >
> >Thanks for your help!
> >
> a friend made a jammer for a difficult person who caused a lot of
> problems for the surrounding world. The jammer had photodiode, and
> would only operate when dark, it transmitted only after a CB
> transmission - for the next 20 minutes causing reception impossible
> for this guy, and it was hidden in a nearby trea
>
> So this bloke couldn't make 2-way communication and after some time
> resigned to find a new house somewhere far away from this place
>
> He had caused very much problems running high power and blocking
> TV-and broadcast-reception, so it was a good idea to keep him from
> activitating the CB or what ever band
>
> It happened many years ago, but still it is told to amuse the friends
>
> -jm
>
> --
> remove ,xnd to reply (Spam precaution!)

2027. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 13:28:09 UTC
From: la8ak.xnd@online.no
Message-ID: <3f6c0db4.62861339@news.online.no>
Source record: 32444

On 17 Sep 2003 20:22:03 GMT, k3bu@aol.comnoSaddam (Yuri Blanarovich) wrote:

>Halleluja,
>all our antenna and tower problems are solved.
>Where is it? I will take dozen.
>
>BUm

Didn't you already purchase the wonderful Joystick?

--
remove ,xnd to reply (Spam precaution!)

2028. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 14:46:54 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bkhp8umnb1@titan.btinternet.com>
Source record: 32445
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

The radiating and receiving efficiencies of ALL small ferrite- rod antennas is very, very small.

It's crudely about the same as a whip 10 times longer than the rod.

The rod has the advantage over the receiving whip because it can be fitted inside a medium-wave pocket transistor radio and contains its own tuner and matching transformer. In addition, the rod does not need a ground.

The MF receiving rod appears to behave very well only because MW broadcast stations are high power, relatively local, and pocket-transistor receivers have a higher gain than your shack transceiver which at MF is intended to be connected to a 260-feet length of wire at a height of 60 feet.

If efficiency of a small transmitting rod should be as high even as 1 percent, regardless of whether the loss is in the wire or in the ferrite, it is obvious 99 percent of the transmitter power will be dissipated in the antenna and only a 20-watt transmitter would wreck it.

PS: As with a magloop the ampere-turns are high but nearly all loss occurs in the ferrite. A serious problem is the high permeability temperature coefficient. As the core gets hot the antenna detunes itself.

If you MUST have a dinky 160m pocket transceiver then try a dust-iron antenna. Six rods round one rod or a number of stacked slabs will have fewer suicidal tendencies. By far the fastest way of finding the number of turns is to wind on some wire and if there are too many take some off again.

Reg, G4FGQ

"Roy Lewallen" wrote
> It's really hard to tell anything from a press release, and even harder
> to believe most of what you can tell from it. One thing that stands out
> is that the antenna being described is apparently operating at a pretty
> low frequency, where all antennas are very small in terms of wavelength,
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> reason you don't usually see ferrite cores in transmitting antennas --
> it's better to make them a bit bigger, too big to practically use a
> ferrite core.
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> Somebody mentioned saturation as a consideration. I'd have to work
> through the numbers with an actual core size and material, frequency,
> number of turns, and power level to see if it would be a problem. But
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> the other -- which is, in fact, where the radiating field escapes)
> greatly reduces the flux density, so you could probably run a surprising
> amount of power without saturation. In many ferrites routinely used at
> RF, losses cause objectionable heating at flux densities well below
> saturation, and can often shatter the ferrite before saturation is even
> approached. Among amateurs, core heating seems to be almost universally
> blamed on saturation, due to a lack of understanding of the mechanism
> really causing the heating.
>
> There are certainly many applications for small, inefficient
> transmitting antennas. Even a small improvement in efficiency is
> beneficial, and that might be what the folks in the article have
> accomplished.
>
> Roy Lewallen, W7EL
>
> No Spam wrote:
> >
> > Thanks for the excellent description. It's not clear if the device works
like a
> > regular antenna - apparently it is encased in ferrite the size of a
grapefruit.
> > Here is the url again:
> >
> > http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
> >
> > Now we all know ferrite antennas work great in AM radios, especially
where a
> > strong interfering signal can be nulled out. But it's not clear how well
they
> > work as transmitting antennas.
> >
> > Wouldn't they have the same inefficiency problems as a small loop
antenna? In
> > other words, very low radiation resistance? If so, it doesn't seem
possible it
> > would have long range.
> >

> > Perhaps it is meant for local communication over short distances, which
can be
> > useful for secure links. There is an interesting article on magnetic
induction,
> > where the field strength falls off as 1/r^6 instead of 1/r^2. This group
talks
> > about using very small antennas for distances up to 2 meters:
> >
> > http://www.auracomm.com/Downloads/webwireless.pdf
>

2029. T/R switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 15:25:56 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309200725.5f9b9e1f@posting.google.com>
Source record: 32446

I'm looking for a passive T/R switch for a noise canceller project.
The idea is to BYPASS the noise canceller circuit AUTOMATICALLY and
IMMEDIATELY upon transmitting, even when the noise canceller is turned
off. This is VERY important, because transmitting power into the
noise canceller could fry some of its components.

Are there places to buy T/R switches? Or must I build one myself?

Jason Hsu, AG4DG

2030. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 15:27:56 UTC
From: Joe Blow <joe@joe.com>
Message-ID: <vl_ab.6769$8j.1111@bignews4.bellsouth.net>
Source record: 32497
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Blow me , Sandy.

Sandy DuBois wrote:
> "Joe Blow" <joe@joe.com> wrote in message
> news:z_Oab.802$iO.134@bignews5.bellsouth.net...
> Good luck getting a qsl out of that cheap son of a bitch..
>
> What this means is Bell wouldn't respond to this CB'er. Sour Grapes....
>
>

2031. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 15:43:01 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bkhsu0$7tb@library2.airnews.net>
Source record: 32498

"Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
news:lARab.522300$YN5.348403@sccrnsc01...
> No cheating! If you're going to homebrew a PDP-8, you have to build it out
> of discrete TTL.
>
> 73,
>
> Dave, AA6YQ
> Data General, 1972 - 1981
> Designer of the Nova 2, Nova 3, MP200, and microEclipse CPUs, as
> well as some parts of FHP and EGO

I thought FHP and EGO were completely separate, competing projects?
(Admittedly, my only source is Kidder's book.)

2032. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 15:45:32 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bkhsu1$7tb@library2.airnews.net>
Source record: 32499

alt.sys.pdp8
alt.sys.pdp11
alt.sys.pdp10

"xpyttl" <xpyttl_nospam@earthling.net> wrote in message
news:vmofq57ph5d1d1@corp.supernews.com...
> Talk about bad timing ....
>
> Just a couple of days ago two friends of mine hauled a PDP/8 out to the
> dump. Of course, you might not have been able to afford the power to run
a
> REAL PDP/8.

You do realize that there are people who collect these machines, and have
been known to pay REAL MONEY for them, don't you???

2033. Re: T/R switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 16:40:49 UTC
From: Jack Smith <Jack.Smith@cox.net>
Message-ID: <a00pmvce5kdc9aukuv5ral6ok3ejlej7fo@4ax.com>
Source record: 32500

On 20 Sep 2003 08:25:56 -0700, jason_hsu@my-deja.com (Jason Hsu)
wrote:

>I'm looking for a passive T/R switch for a noise canceller project.
>The idea is to BYPASS the noise canceller circuit AUTOMATICALLY and
>IMMEDIATELY upon transmitting, even when the noise canceller is turned
>off. This is VERY important, because transmitting power into the
>noise canceller could fry some of its components.
>
>Are there places to buy T/R switches? Or must I build one myself?
>
>Jason Hsu, AG4DG

Jason:

How fast to you want it to operate? If you can tolerate a few mSec
(say 7 or 8 mSec after bounces cease) operate/release time, an
inexpensive Omron G2RL-24 relay will do quite nicely at the 100 watt
level.

I'm working with N8LP on an article characterizing those relays as RF
switching devices, and so far we are quite pleased with the measured
results.

And, of course, an advantage of a relay is that you can wire it so
that when the canceller is unpowered, the contacts switch the device
out of the circuit, so it meets your requirement.

If you can't tolerate the time to operate a relay, then a PIN diode
switch may be your answer. Not cheap and not necessarily easy, but
FAST. If you can accept a few mSec delay, but not 7 or 8 mSec, then
you can speed up a relay operate/release times, or try a faster relay,
such as some of the reed devices that operate in 1 mSec or
thereabouts.

If you are at QRP power levels, then ordinary signal diodes may work
in a diode switch. It may not meet your power-off requirement, though.
Of course, a combination relay for power-off protection and a diode
switch for normal activity could do it.

As far as buying a T/R switch, relays are certainly available
(Dow-Key, for example). Since almost everyone these days uses a
transceiver, the market for stand-alone T/R switches has greatly
diminished since the days of separate TX and RX.

Why don't you define your requirements a bit for us, such as:
(1) power to be switched

(2) speed for switch to operate/release
(3) power available to operate the switch
(4) cost target
(5) frequency range (assumed to be 3-30 MHz since you are working on a noise canceller)
(6) Isolation between TX and RX port
(7) Maximum acceptable loss

Jack K8ZOA

2034. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 18:54:24 UTC
From: Sandy Dubois <Sandy@Nospam.com>
Message-ID: <bki7p1icd0@pita.alt.net>
Source record: 32501
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Joe Blow" <joe@joe.com> wrote in message
news:vl_ab.6769$8j.1111@bignews4.bellsouth.net...
Blow me , Sandy.

Does this mean you prefer women? Who would have ever thought....

Sandy DuBois wrote:
> "Joe Blow" <joe@joe.com> wrote in message
> news:z_Oab.802$iO.134@bignews5.bellsouth.net...
> Good luck getting a qsl out of that cheap son of a bitch..
>
> What this means is Bell wouldn't respond to this CB'er. Sour Grapes....
>

2035. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 19:22:01 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bki9cp$47l$1@freenet9.carleton.ca>
Source record: 32502

"John R. Strohm" (strohm@airmail.net) writes:
> alt.sys.pdp8
> alt.sys.pdp11
> alt.sys.pdp10
>
> "xpyttl" <xpyttl_nospam@earthling.net> wrote in message
> news:vmofq57ph5d1d1@corp.supernews.com...
>> Talk about bad timing ....
>>
>> Just a couple of days ago two friends of mine hauled a PDP/8 out to the
>> dump. Of course, you might not have been able to afford the power to run
> a
>> REAL PDP/8.
>
> You do realize that there are people who collect these machines, and have
> been known to pay REAL MONEY for them, don't you???
>
>
A friend sold a PDP/8 on Ebay for around $3000 US (and since he's in Canada, it will be even better for him), just in July. It did have some odd suffix (and some oddity about the hardware to go with it), so I'm not sure it that drove the price up.

It was his first "home computer", and while he got a good deal on it (I forget the story, but I believe he bought it surplus in the seventies). He was moving, so it seemed like a good time to clear it out.

Oddly, a couple of years ago I pointed him to someone periodically posting in buy and sell newsgroups looking for such computers. When my friend contacted him, the buyer was only willing to pay a few hundred dollars.

Sort of to get it back to amateur radio, most people know that Wayne Green started BYTE, and then later Kilobaud. But in the November 1972 issue of 73 (the thickest up to that time), there was an article about building your own computer, from logic gates etc. It was not a construction article, but gave quite a bit of detail on what was needed for such a time and place. Nobody ever seems to mention that article after the fact. I'm still trying to decide if the article had any bearing on how things went later. Did Wayne print it because he saw things going in that way, or did he just print it as filler, yet when small computers came along a few years alter, it helped to direct him to small comptuers?

Michael VE2BVW

2036. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 20:09:35 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vmpd3tq239608d@corp.supernews.com>
Source record: 32503

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:bki9cp$47l$1@freenet9.carleton.ca...
> "John R. Strohm" (strohm@airmail.net) writes:
> >
> > You do realize that there are people who collect these machines, and
have
> > been known to pay REAL MONEY for them, don't you???

These guys had this thing to the dump before I even heard about it. To tell the truth, I'm not so sure I would have wanted to deal with posting it on eBay, packaging, shipping the beast, all that, even if I had a chance.

> Sort of to get it back to amateur radio, most people know that Wayne Green
> started BYTE, and then later Kilobaud. But in the November 1972 issue of
> 73 (the thickest up to that time), there was an article about building
your
> own computer, from logic gates etc.

Reminds me of something really great from a few years back. I was the advisor for an electronics specialty Explorer post (basically older Boy Scouts). Anyway, we were donated a PDP/4. This was an 18 bit machine, interfaced to the printer and tape with a 6 bit transcode instead of ASCII.

Anyway, as we were first looking over the thing, with it's racks of cards and beautiful, huge electrolytics in the supply, my assistant advisor taps me on the shoulder and says "come look at this. See that rack of cards there? I think it's the accumulator."

Sure enough, 18 cards for the accumulator, 18 cards for the program counter, 18 cards for the M register, one card per bit!

..

2037. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 20:17:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmpdfmldgc8294@corp.supernews.com>
Source record: 32504

Shortly after I began working at Tektronix, I recall seeing an official desk name plaque sitting on top of a PDP-11. The name was "Petey P. Eleven".

Roy Lewallen, W7EL

2038. 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 22:30:35 UTC
From: BIG AL <imafuckingwindbag@bigalk4oka.net>
Message-ID: <vmpl8a7gu2319d@corp.supernews.com>
Source record: 32505
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY. ESPECIALLY
W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO

2039. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 23:05:46 UTC
From: Kwaadwillende Gebruiker <m.vliet9@planet.nl>
Message-ID: <bkindblid1@reader08.wxs.nl>
Source record: 32507
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

feeling lonesome, and hoping the people just go their ??

Marco

"BIG AL" <imafuckingwindbag@bigalk4oka.net> schreef in bericht
news:vmpl8a7gu2319d@corp.supernews.com...
> ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
> FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY. ESPECIALLY
> W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
>
>

2040. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 23:12:08 UTC
From: Harry Quiff <quiff@merkin.net>
Message-ID: <bkims8qhf1@216.221.129.15>
Source record: 32506
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

On Sat, 20 Sep 2003 18:30:35 -0400, BIG AL wrote:

> ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
> FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY. ESPECIALLY
> W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO

Why don't you go fuck yourself?

No one cares about the assclowns on night time HF. Every one is a loser.

I hope Riley eventually finds and ass fucks every one of you.

2041. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-20 23:42:25 UTC
From: core_dump <corenodumpspam0@mernocuryspamlink.net>
Message-ID: <Xns93FCC87B397CFcoredumpmercurylinkn@216.168.3.44>
Source record: 32508
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in
news:vmpl8a7gu2319d@corp.supernews.com:

> ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG
> AL'S FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY.
> ESPECIALLY W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
>
>

Say no to drugs, kids.

--
-core_dump

-----BEGIN GEEK CODE BLOCK-----
Version: 3.12
GCS/M/CC d- s-:+ a--- C+++ UL+ P L++++ E--- W++ N+++ o? K? w(--)
O? M-- V? PS+(---) PE(++) Y+ PGP- t+ 5? X+ R tv b+ DI+ D+(---) G e h!
r--(---) z--
------END GEEK CODE BLOCK------
Segmentation fault (core dumped)

2042. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 00:29:59 UTC
From: Scott Schrader <swschrad@visi.com>
Message-ID: <3F6CF107.531F3ADD@visi.com>
Source record: 32509
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

dude needs to recheck his regs as to who owns what...

BIG AL wrote:
>
> ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
> FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY. ESPECIALLY
> W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO

-- If it's a "new economy," why do they want my obsolete old money?

2043. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 01:20:01 UTC
From: mcalhoun@ksu.edu
Message-ID: <bkiuc1$l0c@unix1.cc.ksu.edu>
Source record: 32510

et472@FreeNet.Carleton.CA (Michael Black) writes:
>.... most people know that Wayne Green started BYTE, and then later Kilobaud.
>But in the November 1972 issue of 73 ..., there was an article about building
>your own computer, from logic gates etc. It was not a construction article,
>but gave quite a bit of detail on what was needed for such a time and place.
>Nobody ever seems to mention that article after the fact....

Don't forget the ACS (Amateur Computer Society), which published a news-
letter from about the late 60's to the mid-70's or so (those dates are
from memory). I gave my copies to a computer museum years ago, but recall
it had construction articles, articles about members' computers, etc.

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

2044. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 01:43:37 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <1n7bb.332$La.205@fed1read02>
Source record: 32511
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Harry Quiff" <quiff@merkin.net> wrote in message
news:bkims8qhf1@216.221.129.15...
> On Sat, 20 Sep 2003 18:30:35 -0400, BIG AL wrote:
>
> > ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
> > FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY.
ESPECIALLY
> > W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
>
>
> Why don't you go fuck yourself?
>
> No one cares about the assclowns on night time HF. Every one is a loser.
>
> I hope Riley eventually finds and ass fucks every one of you.

Hmmm, 3.894.5 is a rather unique way to express it. Accuracy always commands
respect.

Ed
WB6WSN

2045. Re: T/R switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 02:15:23 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309201815.1419e438@posting.google.com>
Source record: 32512

Jack Smith <Jack.Smith@cox.net> wrote in message
news:<a00pmvce5kdc9aukuv5ral6ok3ejlej7fo@4ax.com>...
>
> Why don't you define your requirements a bit for us, such as:
> (1) power to be switched
> (2) speed for switch to operate/release
> (3) power available to operate the switch
> (4) cost target
> (5) frequency range (assumed to be 3-30 MHz since you are working on a
> noise canceller)
> (6) Isolation between TX and RX port
> (7) Maximum acceptable loss
>
What are these parameters for the T/R switches in the MFJ-1025/1026
noise canceller and the T/R switches in the receiver circuits of
transceivers? The advertising for the MFJ noise canceller explicitly
says that it uses an RF sense T/R switch. I'm sure that transceivers
need T/R switches to prevent the RF from entering the receiver. That
can't possibly be good, because receivers are designed to be very
sensitive, NOT handle large amounts of power.

Jason Hsu, AG4DG
usenet@@@@jasonhsu.com

2046. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 02:53:37 UTC
From: tater schuld <taters1@maps.charter.net>
Message-ID: <vmq574a06e11ee@corp.supernews.com>
Source record: 32514
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

i think a new target frequency for cw just announced itself!

--
Tater
President of MARS Club
www.treece.org/mars.htm
KC9ESF
NAR #79654 L1
AMA #747769
EAA #703312
remove spam spelled backwards to reply

"BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
news:vmpl8a7gu2319d@corp.supernews.com...
> ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
> FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY. ESPECIALLY
> W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
>
>

2047. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 02:57:12 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <ms8bb.12$LJ5.2141@iad-read.news.verio.net>
Source record: 32513
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Ed Price" <edprice@cox.net> wrote in message
news:1n7bb.332$La.205@fed1read02...
>
> "Harry Quiff" <quiff@merkin.net> wrote in message
> news:bkims8qhf1@216.221.129.15...
> > On Sat, 20 Sep 2003 18:30:35 -0400, BIG AL wrote:
> >
> > > ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG
AL'S
> > > FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY.
> ESPECIALLY
> > > W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
> >
> >
> > Why don't you go fuck yourself?
> >
> > No one cares about the assclowns on night time HF. Every one is a loser.
> >
> > I hope Riley eventually finds and ass fucks every one of you.
>
>
>
> Hmmm, 3.894.5 is a rather unique way to express it. Accuracy always
commands
> respect.
>
> Ed
> WB6WSN
>

Since when did it become a "private" frequency? The H.F. Frequencies used for Ham operation are open to any one with the proper class of license to use them. Of course common courtesy does count when the frequency may already be in use. No wonder people are turning away from Ham. It is getting horrible. Used to be, I boasted it to anyone interested. Now, I tell them not to waste their time. It is getting to be High Power CB. As for the FCC, they have lost the battle so far as I'm concerned. The horses are out of the barn. TOO LATE! I'm about ready to sell all my ham gear.. Get my cash out of it while there is still some value left to it. I would NEVER buy a new rig again, that is for sure. I'll buy "used" if I decide to stay in it. It just isn't worth the huge cash lay out.

Lou

2048. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 03:05:01 UTC
From: BIG AL <imafuckingwindbag@bigalk4oka.net>
Message-ID: <vmq5ars9c9i455@corp.supernews.com>
Source record: 32515
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS BIG ALS FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO

AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG. HO HO

"Lou" <Spamfree@Spamfree.com> wrote in message
news:ms8bb.12$LJ5.2141@iad-read.news.verio.net...
> "Ed Price" <edprice@cox.net> wrote in message
> news:1n7bb.332$La.205@fed1read02...
> >
> > "Harry Quiff" <quiff@merkin.net> wrote in message
> > news:bkims8qhf1@216.221.129.15...
> > > On Sat, 20 Sep 2003 18:30:35 -0400, BIG AL wrote:
> > >
> > > > ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG
> AL'S
> > > > FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY.
> > ESPECIALLY
> > > > W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
> > >
> > >
> > > Why don't you go fuck yourself?
> > >
> > > No one cares about the assclowns on night time HF. Every one is a
loser.
> > >
> > > I hope Riley eventually finds and ass fucks every one of you.
> >
> >
> >
> > Hmmm, 3.894.5 is a rather unique way to express it. Accuracy always
> commands
> > respect.
> >
> > Ed
> > WB6WSN
> >
>
> Since when did it become a "private" frequency? The H.F. Frequencies used
> for Ham operation are open to any one with the proper class of license to
> use them. Of course common courtesy does count when the frequency may
> already be in use. No wonder people are turning away from Ham. It is
getting

> horrible. Used to be, I boasted it to anyone interested. Now, I tell them
> not to waste their time. It is getting to be High Power CB. As for the
FCC,
> they have lost the battle so far as I'm concerned. The horses are out of
the
> barn. TOO LATE! I'm about ready to sell all my ham gear.. Get my cash out
of
> it while there is still some value left to it. I would NEVER buy a new rig
> again, that is for sure. I'll buy "used" if I decide to stay in it. It
just
> isn't worth the huge cash lay out.
>
> Lou
>
>

2049. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 03:08:09 UTC
From: BIG AL <imafuckingwindbag@porkbutt.net>
Message-ID: <vmq5gsd628nq14@corp.supernews.com>
Source record: 32516
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

CW IS FINE AS LONG AS YOU CAN KEEP UP. HO HO

"tater schuld" <taters1@maps.charter.net> wrote in message
news:vmq574a06e11ee@corp.supernews.com...
> i think a new target frequency for cw just announced itself!
>
> --
> Tater
> President of MARS Club
> www.treece.org/mars.htm
> KC9ESF
> NAR #79654 L1
> AMA #747769
> EAA #703312
> remove spam spelled backwards to reply
>
>
> "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> news:vmpl8a7gu2319d@corp.supernews.com...
> > ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
> > FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY.
ESPECIALLY
> > W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
> >
> >
>
>

2050. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 03:17:02 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <vmq625lg4b4kf2@corp.supernews.com>
Source record: 32517
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

In a word he "GOTYA".

Harry Quiff wrote:
> On Sat, 20 Sep 2003 18:30:35 -0400, BIG AL wrote:
>
>
>>ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG AL'S
>>FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY. ESPECIALLY
>>W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
>
>
>
> Why don't you go fuck yourself?
>
> No one cares about the assclowns on night time HF. Every one is a loser.
>
> I hope Riley eventually finds and ass fucks every one of you.

2051. Re: cap question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 03:18:18 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F6D187A.592F4D3@ob-wan.com>
Source record: 32521

Probably 22pF.

Rob

Swells8044 wrote:
>
> is a cap marked 22 with a line under it the same as a 221; 220pf??
> Steve

2052. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 03:20:35 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <iO8bb.13$LJ5.2273@iad-read.news.verio.net>
Source record: 32518
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
news:vmq5ars9c9i455@corp.supernews.com...
> HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS BIG ALS
> FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
>
> AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG. HO HO
>
>

If I choose to talk on that frequency, I will, so long as I'm abiding by the rules and regulations as they are spelled out. YOU or no one else, can tell me to stay off. ASS WIPE.

BIG AL.. the only thing big about you, is your mouth....

Lou

2053. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 04:16:00 UTC
From: john graesser <graesser@tca.net>
Message-ID: <vmq97asi40psea@corp.supernews.com>
Source record: 32519

"xpyttl" <xpyttl_nospam@earthling.net> wrote in message
news:vmofq57ph5d1d1@corp.supernews.com...
> Talk about bad timing ....
>
> Just a couple of days ago two friends of mine hauled a PDP/8 out to the
> dump. Of course, you might not have been able to afford the power to run
a
> REAL PDP/8.
>
> I never actually worked with an 8, although I did publish a paper on 11M
> crash dump analysis. Might be fun to be able to grok a little Macro-11
from
> time to time ... hmmm ... wonder if there's a Pro350, or even an old
11/44,
> languishing in someone's basement.
>
> ..
>
> "kenneth scharf" <wa2mze-spamnot-@bellsouth.net> wrote in message
> news:3F6BB493.2090503@bellsouth.net...
> > Does anybody know where I can get a Harris or Intersil
> > HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?
> >
> > I used to work for Digital, and thought it would be an interresting
> project
> > to homebrew a PDP-8 system. I have a T11 microprocessor chip in the
> junbox
> > someplace, so a PDP-11 system is also a possibility.

Somewhere I have packed away a Sym-1 an Elf II and a Intersil 6100
familiarization board that had something like 256 bytes of ram, a boot rom
and a uart (the uart is farkled either the data out or data in line is bad
which is why I packed it away). I only have 25 more years till retirement,
so I may find time then to pull them out then and see if they still work. As
it is now I can't even find time to work on my remaining cp/m machines
(Xerox 820IIHD, RS 4p, Balcones BNV205, Osborne 1, Osborne Exec, and
Kaypro4).
thanks, John.
KC5DWD

2054. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 04:21:40 UTC
From: john graesser <graesser@tca.net>
Message-ID: <vmq9hudaeg6g14@corp.supernews.com>
Source record: 32520

"xpyttl" <xpyttl_nospam@earthling.net> wrote in message
news:vmofq57ph5d1d1@corp.supernews.com...
> Talk about bad timing ....
> I never actually worked with an 8, although I did publish a paper on 11M
> crash dump analysis. Might be fun to be able to grok a little Macro-11
from
> time to time ... hmmm ... wonder if there's a Pro350, or even an old
11/44,
> languishing in someone's basement.
>
> ..
>
> "kenneth scharf" <wa2mze-spamnot-@bellsouth.net> wrote in message
> news:3F6BB493.2090503@bellsouth.net...
> > Does anybody know where I can get a Harris or Intersil
> > HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?
> >
> > I used to work for Digital, and thought it would be an interresting
> project
> > to homebrew a PDP-8 system. I have a T11 microprocessor chip in the
> junbox
> > someplace, so a PDP-11 system is also a possibility.

I don't know if you would be interested, but there have to still be a few
Heath LSI 11 systems out there. That was the only home version of the 11
that I know of.
thanks, John.

2055. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 05:51:15 UTC
From: "Geoffrey G. Rochat" <777geoff777@777pkworks777.777com777>
Message-ID: <bkjdkibsl1@news.utelfla.com>
Source record: 32522

kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote in message
news:3F6BB493.2090503@bellsouth.net...
> Does anybody know where I can get a Harris or Intersil
> HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?
>
> I used to work for Digital, and thought it would be an interresting
project
> to homebrew a PDP-8 system. I have a T11 microprocessor chip in the
junbox
> someplace, so a PDP-11 system is also a possibility.
>
>

In fact, there is a fellow who sells kits and parts for the SBC6120, which is a build-your-own PDP-8 based on the IM6120 chip:

http://www.sparetimegizmos.com/Hardware/SBC6120-2.htm

And this fellow has an add-on for the SBC6120:

http://www.jkearney.com/sbc6120/iob6120.htm

Also, IM6100 chips show up on eBay from time to time.

PDP-8 documentation may be found at Al Kossow's site:

http://www.spies.com/~aek/pdf/dec/pdp8/

And at Dave Gesswein's site:

http://www.pdp8.net

Also, Bob Supnik's SIMH retrocomputing simulator supports the PDP-8. SIMH is hosted at Tom Shoppa's Trailing Edge site, currently down due to the effects of Isabel:

http://simh.trailing-edge.com

To those of you who chuckle at the OP's questions, I've got a PDP-8/A sitting about 5ft to my right as I type this, and a another in the basement, right next to a PDP-8/E, a VT78 (based on the IM6100) and a DECmate II (based on the IM6120). Just today I was at one place with a third PDP-8/A which I refurbished a few months ago, a working PDP-8/E, a PDP-8/L in need of serious help, 3 PDP-12s (essentially PDP-8/Is with added A/D and D/A I/Os), several DECmates and a LINC-8. Today I also stopped by a place with a several more DECmates and a PDP-8/L that I and a cohort rescued from the defunct United Electronics tube factory in Newark, NJ this past spring. PDP-8 Disease is incurable. Once infected you're happily chronic for life.

You can do an awful lot on a computer with only 8 instructions that can directly address a mere 256 12-bit words at a time - if you're willing to think a little bit. PDP-8s are to computers what regens are to radios: Obsolete, but amazing for what they can do with so little, and a tremendous pile of fun to play with. In essence they're the spirit of QRP operation as applied to computers.

Geoffrey G. Rochat
Vice President, Rhode Island Computer Museum (www.osfn.org/ricm)
Member, RetroComputing Society of Rhode Island (www.osfn.org/rcs)

2056. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 06:41:41 UTC
From: Roger Wiseman <Dumbass@NoSlpam.comz>
Message-ID: <bkjh77$n6n$0@pita.alt.net>
Source record: 32523
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Lou" <Spamfree@Spamfree.com> wrote in message
news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...

"BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
news:vmq5ars9c9i455@corp.supernews.com...
> HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS BIG ALS
> FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
>
> AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG. HO HO
>
>

If I choose to talk on that frequency, I will, so long as I'm abiding by the
rules and regulations as they are spelled out. YOU or no one else, can tell
me to stay off. ASS WIPE.
.....
Good thing old Rich Whiten is gone...THAT was a radio Hog times two....
The old YI YI song reminds me of Rich's selfish stupidity as he keyed over
all but a few of his chosen "butt buddies".
Rich would, in his arrogance, ignore all Hams who weren' t running
megawatts....of course old Rich got caught running over the legal
limit...among other things.
Story is that Rich got pissed and sent his resignation of his license to
Riley Hollingsworth. Riley accepted the resignation and rescinded Rich's
license.
Enter another story...Rich is now claiming that his letter of resignation
was sent "by mistake" to Hollingsworth and Whiten wants his license back.
Sorry, Rich. Your weak story ain't holding water up this way.
Gosh...how does one send email "by mistake"?
Rich is full of it...he screwed up out of anger and now he wants to take it
all back. It doesn't work that way.
Porkbutt Song.....YI, YI, YI.....

2057. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 07:06:24 UTC
From: "Dave, AA6YQ" <aa6yq@ambersoft.com>
Message-ID: <Q5cbb.302291$2x.88972@rwcrnsc52.ops.asp.att.net>
Source record: 32524

EGO was started by FHP engineers that declined to relocate, one of which was me. The projects only became competitive after FHP moved to North Carolina and expanded its objectives. The book is accurate on this point, and pretty much everything else.

73,

Dave, AA6YQ

"John R. Strohm" <strohm@airmail.net> wrote in message news:bkhsu0$7tb@library2.airnews.net...
> "Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
> news:lARab.522300$YN5.348403@sccrnsc01...
> > No cheating! If you're going to homebrew a PDP-8, you have to build it out
> > of discrete TTL.
> >
> > 73,
> >
> > Dave, AA6YQ
> > Data General, 1972 - 1981
> > Designer of the Nova 2, Nova 3, MP200, and microEclipse CPUs, as
> > well as some parts of FHP and EGO
>
> I thought FHP and EGO were completely separate, competing projects?
> (Admittedly, my only source is Kidder's book.)
>
>

2058. Re: signal to noise ratio drops on connecting the antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 07:33:04 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <Qucbb.152137$3o3.10864998@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32525

It sounds like the stage might be oscillating at some very high frequency.
A specturm analyzer, lightly coupled to the output circuit would show that.
I know that it is not easy to get ahold of a spectrum analyzer most of the
time, but maybe you could do some research on neutralizing circuits. I
think that you have some sort of feedback path, maybe internal to the device
itself.

Pete

Ashhar Farhan <farhan@hotfoon.com> wrote in message
news:8331b126.0309180751.65c407e1@posting.google.com...
> i am in the process of homebrewing a 7/14 mhz transciever. i am in
> india, we dont get toroids easily.i tried an double diode mixer built
> using tv baluns double barrels, but they were lossy (about 15db loss)
> and the third harmonic of the vfo created so many birdies that i
> couldnt tune anything beyond 14200. (the if is 10mhz and the vfo goes
> 4 t 4.4mhz on 14mhz operations). so, i switched over to a single FET
> mixer.
>
> i measured Idss as 6ma, pinch-off at 2.4volts on the BFW11 that i have
> in the junkbox. i baised the BFW11 for 1.2 volts, 3 ma current. the
> input to the BFW11 is a double tuned band pass that i tune up for max
> signal. (a 14.318mhz computer crystal in a battery operated oscillator
> is my weak source). the antenna coupling is via a 2:15 link over the
> first coil of the bandpass. it has excellent signal handling and
> pretty low noise levels.
>
>
> i have wired up a 300 ohms folded dipole using tv twin flex. i connect
> the 300 ohms line directly to the receiver (the two turn link over the
> first coild of the DTC bandpass filter). the antenna is about 6 feet
> off the terrace in a gangly inverted V.
>
> i have noticed a strange behaviour. if i connect just one lead of the
> antenna to receiver input (leaving the grounding unconnected), i get
> pretty good signals. when i connect the ground input too (to the other
> end of the 300 ohm twin lead), then the noise and the signal goes up
> by 2-3 S points. however, the noise increase is nearly 10 db over and
> above the signal increase. esp., the shot noise. the weaker DX signals
> are nearly lost if both the leads are connected.
>
> to resolve this problem, i have tried the following:
> 1) i inserted a 470 ohms pot in the antenna input, and tried
> attenuating the signal, the signal and noise go up and down
> proportionately. the increase in noise is the same at all attenuation

> levels as long as the attentuation keeps the atmospheric noise above
> the receiver noise level. so, attenuation is does not make the noise
> go away.
> 2) i tried putting a variable broadcast capacitor of 365 pf in series
> between the hot end of the first coil of the DTC and the hot end of
> the antenna and tuned it across the range. NO change, the signals and
> the noise increase and decrease proportionately upto 50 pf and no
> further change after that.
> 3) i tried detuning the FET drain tank. NO change. it behaved the same
> as above two. the signal and noise levels change together.
>
> these days, we do have very high atmospheric noise on 14mhz in south
> india. but i guess that in anycase, connecting the antenna tigher
> should increase the signal to noise ratio, not decrease it.
>
> any ideas?

2059. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 09:38:50 UTC
From: BIG AL <imafuckingwindbag@porkbutt.net>
Message-ID: <vmqsd54hmlp907@corp.supernews.com>
Source record: 32526
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

BIG AL IS TELLING YOU TO STAY OFF OF 3.894.5 AY YI YI YI YES ITS THE
PROKBUTT SONG A YI YI YI YES ITS THE PORKBUTT SONG. HO HO BIG AL OWNS
3.894.5 AND SOON 3.898 HO HO STOP SCREAMING ELVIE. HO HO

"Roger Wiseman" <Dumbass@NoSlpam.comz> wrote in message
news:bkjh77$n6n$0@pita.alt.net...
>
> "Lou" <Spamfree@Spamfree.com> wrote in message
> news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
>
>
> "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> news:vmq5ars9c9i455@corp.supernews.com...
> > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS BIG
ALS
> > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> >
> > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG. HO HO
> >
> >
>
> If I choose to talk on that frequency, I will, so long as I'm abiding by
the
> rules and regulations as they are spelled out. YOU or no one else, can
tell
> me to stay off. ASS WIPE.
> ....
> Good thing old Rich Whiten is gone...THAT was a radio Hog times two....
> The old YI YI song reminds me of Rich's selfish stupidity as he keyed over
> all but a few of his chosen "butt buddies".
> Rich would, in his arrogance, ignore all Hams who weren' t running
> megawatts....of course old Rich got caught running over the legal
> limit...among other things.
> Story is that Rich got pissed and sent his resignation of his license to
> Riley Hollingsworth. Riley accepted the resignation and rescinded Rich's
> license.
> Enter another story...Rich is now claiming that his letter of resignation
> was sent "by mistake" to Hollingsworth and Whiten wants his license back.
> Sorry, Rich. Your weak story ain't holding water up this way.
> Gosh...how does one send email "by mistake"?
> Rich is full of it...he screwed up out of anger and now he wants to take
it
> all back. It doesn't work that way.

> Porkbutt Song.....YI, YI, YI.....
>
>

2060. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 09:41:05 UTC
From: BIG AL <imafuckingwindbag@porkbutt.net>
Message-ID: <vmqshdfh78hr4b@corp.supernews.com>
Source record: 32527
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO

"Lou" <Spamfree@Spamfree.com> wrote in message
news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
>
>
> "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> news:vmq5ars9c9i455@corp.supernews.com...
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ALS
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>
> If I choose to talk on that frequency, I will, so long as I'm abiding by
the
> rules and regulations as they are spelled out. YOU or no one else, can
tell
> me to stay off. ASS WIPE.
>
> BIG AL.. the only thing big about you, is your mouth....
>
> Lou
>
>

2061. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 09:42:10 UTC
From: BIG AL <imafuckingwindbag@porkbutt.net>
Message-ID: <vmqsjcp4qn3968@corp.supernews.com>
Source record: 32528
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

IT BECAME MY PRIVATE FREQUENCY YEARS AGO. HO HO . STAY AWAY UNLESS INVITED
PORKBUTT.

"Lou" <Spamfree@Spamfree.com> wrote in message
news:ms8bb.12$LJ5.2141@iad-read.news.verio.net...
> "Ed Price" <edprice@cox.net> wrote in message
> news:1n7bb.332$La.205@fed1read02...
> >
> > "Harry Quiff" <quiff@merkin.net> wrote in message
> > news:bkims8qhf1@216.221.129.15...
> > > On Sat, 20 Sep 2003 18:30:35 -0400, BIG AL wrote:
> > >
> > > > ALL OF YOU PEOPLE NEED TO STAY OFF OF MY FREQUENCY. 3.894.5 IS BIG
> AL'S
> > > > FREQUENCY. UNLESS YOU ARE INVITED DO NOT COME TO MY FREQUENCY.
> > ESPECIALLY
> > > > W8RBK ELVIE WITH HIS GIRLY VOICE. HO HO
> > >
> > >
> > > Why don't you go fuck yourself?
> > >
> > > No one cares about the assclowns on night time HF. Every one is a
loser.
> > >
> > > I hope Riley eventually finds and ass fucks every one of you.
> >
> >
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> > Hmmm, 3.894.5 is a rather unique way to express it. Accuracy always
> commands
> > respect.
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> > Ed
> > WB6WSN
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>
> Since when did it become a "private" frequency? The H.F. Frequencies used
> for Ham operation are open to any one with the proper class of license to
> use them. Of course common courtesy does count when the frequency may
> already be in use. No wonder people are turning away from Ham. It is
getting
> horrible. Used to be, I boasted it to anyone interested. Now, I tell them
> not to waste their time. It is getting to be High Power CB. As for the

FCC,
> they have lost the battle so far as I'm concerned. The horses are out of
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> barn. TOO LATE! I'm about ready to sell all my ham gear.. Get my cash out
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> it while there is still some value left to it. I would NEVER buy a new rig
> again, that is for sure. I'll buy "used" if I decide to stay in it. It
just
> isn't worth the huge cash lay out.
>
> Lou
>
>

2062. Re: T/R switches

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 11:25:00 UTC
From: Jack Smith <Jack.Smith@cox.net>
Message-ID: <462rmvoha9ftisu67tftf2sb6pp3v5m7v5@4ax.com>
Source record: 32529

On 20 Sep 2003 19:15:23 -0700, jason_hsu@my-deja.com (Jason Hsu)
wrote:

>Jack Smith <Jack.Smith@cox.net> wrote in message
news:<a00pmvce5kdc9aukuv5ral6ok3ejlej7fo@4ax.com>...
> >
>> Why don't you define your requirements a bit for us, such as:
>> (1) power to be switched
>> (2) speed for switch to operate/release
>> (3) power available to operate the switch
>> (4) cost target
>> (5) frequency range (assumed to be 3-30 MHz since you are working on a
>> noise canceller)
>> (6) Isolation between TX and RX port
>> (7) Maximum acceptable loss
>>
>What are these parameters for the T/R switches in the MFJ-1025/1026
>noise canceller and the T/R switches in the receiver circuits of
>transceivers? The advertising for the MFJ noise canceller explicitly
>says that it uses an RF sense T/R switch. I'm sure that transceivers
>need T/R switches to prevent the RF from entering the receiver. That
>can't possibly be good, because receivers are designed to be very
>sensitive, NOT handle large amounts of power.
>
>Jason Hsu, AG4DG
>usenet@@@@jasonhsu.com

Jason:

A T/R relay in a transceiver has an easier job of it, because the
designer can sequence the operation, along the following lines:

Key Down -- Start TR Relay in motion -- wait a few mSec -- turn TX on
and start putting out power.

By sequencing the operation, you have two advantages (a) the relay
doesn't have to hot switch RF and (b) the relay doesn't have to be
blindingly fast, a few mSec is fine.

Your case is different -- you will have to sense the RF and hot switch
it. Still, a relay should do what you want.

I have a JPS noise canceller and it uses a simple relay. I suspect
something similar would work for you. I can recommend an Omron
G2RL-24 relay. You will be able to obtain at least 40 dB isolation up
to 50 MHz, and closer to 75 dB below 10 MHz. That's more than enough

to protect the front end. And, we have put well over 1x10^6 operations on one hot switching switching 100 watts RF without failure. In fact, I've got close to 100,000 operations switching 400 watts without a failure so far.

Jack K8ZOA

2063. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 13:09:40 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <IN6cnd8K_OsqP_CiXTWJig@comcast.com>
Source record: 32530

In the early/mid 60's the Science Club in my high school built a computer of sorts out of salvaged telephone relays -- more of a binary adder than anything else (sorry, I was too interested in 20 meters at the time!).

The Computer Museum is out in Mountain View California.

Jack
"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:bki9cp$47l$1@freenet9.carleton.ca...
> "John R. Strohm" (strohm@airmail.net) writes:
> > alt.sys.pdp8
> > alt.sys.pdp11
> > alt.sys.pdp10
> >
> > "xpyttl" <xpyttl_nospam@earthling.net> wrote in message
> > news:vmofq57ph5d1d1@corp.supernews.com...
> >> Talk about bad timing ....
> >>
> >> Just a couple of days ago two friends of mine hauled a PDP/8 out to the
> >> dump. Of course, you might not have been able to afford the power to
run
> > a
> >> REAL PDP/8.
> >
> > You do realize that there are people who collect these machines, and
have
> > been known to pay REAL MONEY for them, don't you???
> >
> >
> A friend sold a PDP/8 on Ebay for around $3000 US (and since he's in
Canada,
> it will be even better for him), just in July. It did have some odd
suffix
> (and some oddity about the hardware to go with it), so I'm not sure it
that
> drove the price up.
>
> It was his first "home computer", and while he got a good deal on it (I
forget
> the story, but I believe he bought it surplus in the seventies). He
> was moving, so it seemed like a good time to clear it out.
>
> Oddly, a couple of years ago I pointed him to someone periodically posting
> in buy and sell newsgroups looking for such computers. When my friend
> contacted him, the buyer was only willing to pay a few hundred dollars.

>
> Sort of to get it back to amateur radio, most people know that Wayne Green
> started BYTE, and then later Kilobaud. But in the November 1972 issue of
> 73 (the thickest up to that time), there was an article about building
your
> own computer, from logic gates etc. It was not a construction article,
but
> gave quite a bit of detail on what was needed for such a time and place.
> Nobody ever seems to mention that article after the fact. I'm still
trying
> to decide if the article had any bearing on how things went later. Did
Wayne
> print it because he saw things going in that way, or did he just print
> it as filler, yet when small computers came along a few years alter, it
> helped to direct him to small comptuers?
>
> Michael VE2BVW
>
>

2064. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 16:07:49 UTC
From: mcalhoun@ksu.edu
Message-ID: <bkkicl$p01@unix2.cc.ksu.edu>
Source record: 32532

"Geoffrey G. Rochat" <777geoff777@777pkworks777.777com777> writes:
>....[snip]....
>You can do an awful lot on a computer with only 8 instructions that can
>directly address a mere 256 12-bit words at a time - if you're willing to
>think a little bit. PDP-8s are to computers what regens are to radios:
>....[snip]....

You can also do an awful lot on a computer with only 8 instructions that
can directly address only THIRTY-TWO NINE-bit words at a time:

In 1969, while at Fairchild R&D Lab in Palo Alto, CA, I designed and
built a 9-bit PDP-8 imitation (I called it "MINUS", since it was smaller
than a mini-computer; if I had called it "MICRO", I might now be rich!)
with 512 9-bit words of 200 nsec memory. Its instruction format used
a: 3 bit opcode,
1 bit current page/page zero indicator,
1 bit indirect indicator, and a
4 bit address

I also wrote a cross-assembler (in FORTRAN) for it, interfaced it to a
20Kbyte/second magnetic tape and a 3-foot x 5-foot flat bed plotter,
and wrote a program (in MINUSASM) which, in a tight loop, read mag-tape
printed-circuit wirelists produced on an IBM 360/44, buffered them in
the upper half of memory, and then passed them to the plotter to draw
large PC boards. Just before quiting time, we'd load a new mag tape,
and 5-6 hours later another board had been drawn in three colors
(horizontal, vertical, and vias).

Ah, those were the heady days of youth!

--Myron A. Calhoun.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

2065. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 16:08:48 UTC
From: mcalhoun@ksu.edu
Message-ID: <bkkieg$p14@unix2.cc.ksu.edu>
Source record: 32533

>....[snip]....
>The Computer Museum is out in Mountain View, California.

There's another Computer Museum in Bozeman, Montana.
It's not nearly as big, but it contains nice stuff.

--Myron.

--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

2066. antenna noise reduction ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 16:16:58 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <bjjrmvk0huueckf0ovqovjlqss6n20vbd5@4ax.com>
Source record: 32531

Hey group,

I build a PI network antenna tuner with 2 variable caps and an air
form coil. Is there a componant I can add to this device to reduce
noise from my random wire? I have heard a 1-1 transformer may help.

I have a few toroids with very high Al (79uH per hundred turns)
kicking around. Can I wind one of these to use a noise reducer?

any other suggestions to reduce noise?

can someone toss me a link to a howto?

thanks,

mike

2067. Re: No QRP transistors on Ebay?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 16:48:42 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <KDkbb.1465$Hd6.1150576@newssvr28.news.prodigy.com>
Source record: 32534

JDR has 2n3866's.

http://www.jdr.com/interact/item.asp?itemno=gr-transistors

- Bruce Raymond/ND8I

"Wim Ton" <wimton@blueyonder.co.uk> wrote in message
news:HgVab.45$%c.10@news-binary.blueyonder.co.uk...
> > > just for fun I searched for some of the usual suspects from the past
> > > (2N3553, 2N3866, 2N4427, MRF237, 2N5109, 2SC799, etc) on Ebay and
> > > found almost nothing to be had.
>
> Ebay Germany
>
http://listings.ebay.de/pool2/plistings/list/all/category12077/index.html?fr
> om=R4 has a large section with electronics components (much larger dan
E-bay
> UK for example) Payment may be awkward, as the common way is bank
transfer.
>
> Wim
>
> Wim
>
>

2068. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 16:55:06 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <VJkbb.17$LJ5.2836@iad-read.news.verio.net>
Source record: 32535
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"W7TI" <noway@nohow.com> wrote in message
news:j6ermvgs0q3mt67h82b4f4c0ia8httd2ef@4ax.com...
> On Sat, 20 Sep 2003 22:57:12 -0400, "Lou" <Spamfree@Spamfree.com> wrote:
>
> >Since when did it become a "private" frequency? The H.F. Frequencies used
> >for Ham operation are open to any one with the proper class of license to
> >use them. O
>
> --
>
> Does the word "troll" have any meaning to you?
>
> He trolled, you bit, he's happy.
>
> --
> Bill, W7TI
>

Well, yes, I did reply.. among others.. Troll? Ass Hole is a better term.
And back to his comment, he will not run me off, if I so desire to chat on
that frequency. Not a chance.... Lou

2069. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 17:27:33 UTC
From: BIG AL <imafuckingwindbag@porkbutt.net>
Message-ID: <vmro0vgbgi3kab@corp.supernews.com>
Source record: 32536
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YOU WILL NOT TALK ON MY FREQUENCY. DO NOT EVEN GET NEAR 3.894.5. STAY ON 2 METERS WHERE YOU BELONG.

I HEAR ALL.

aY yi YI yi

HO HO

"Lou" <Spamfree@Spamfree.com> wrote in message news:VJkbb.17$LJ5.2836@iad-read.news.verio.net...
> Well, yes, I did reply.. among others.. Troll? Ass Hole is a better term.
> And back to his comment, he will not run me off, if I so desire to chat on
> that frequency. Not a chance.... Lou
>
>

2070. WTB: Burned out xfmr.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 18:02:33 UTC
From: "Jim L." <jfladd@flash.net>
Message-ID: <3F6DE896.FE2670F4@flash.net>
Source record: 32537

Greetings- desire to buy a burned out transformer from a Heathkit SB-200 amp. Thanks, Jim in Mich. jfladd@flash.net

2071. EF Johnson S-Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 18:32:35 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vmrrlv7fmno42e@corp.supernews.com>
Source record: 32538

Hello-
I have a small qty. of NOS EF Johnson S-meters from an old CB shop. I can furnish a JPEG on request, should have a few extra to sell. Can someone help me in using these meters : The pointer resides at full scale, rather than at the low scale as most meters. I guess you would say the meter is "backwards". How would you compensate for this in normal S-meter circuit?
Thanks, Byron, WA5THJ.

2072. Re: signal to noise ratio drops on connecting the antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 18:45:11 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0309211045.7137d139@posting.google.com>
Source record: 32539

"Pete KE9OA" <n.gianakopoulos@worldnet.att.net> wrote in message

> It sounds like the stage might be oscillating at some very high frequency.
> A specturm analyzer, lightly coupled to the output circuit would show that.
> I know that it is not easy to get ahold of a spectrum analyzer most of the
> time, but maybe you could do some research on neutralizing circuits. I
> think that you have some sort of feedback path, maybe internal to the device
> itself.
>
> Pete

well, i found out that the antenna was the culprit. although i dont know why. i took the rig to a friend who had a two element yagi on his rooftop. he was using an FT-757. we pulled the antenna out of the Ft-757 and connected it to my rig. he put on the headphones and started to say "the rig is dead...." when he nearly spilled his coffee. as he tuned the rig, dx kept piling out of a virtually silent background. only when u pulled out the antenna, could u realise that the background noise WAS there. i guess using an uncluttered front-end, single stage IF and dropping AGC makes for fidelity in a communication receiver.

about the noise ... i think that the antenna was picking up noise due to line current. that is the best explanation i have. now i am going to install a windom at 40 feet tommrow. lets check how that fares

2073. Suggest a linear to boost 0.5 watts to 5 watt level.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 18:52:03 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0309211052.7ed1757d@posting.google.com>
Source record: 32540

continuing on my homebrew transciver, i have a linear chain (quite like that of 144 mhz DSB transmitter by Hayward in Solid State Design) delivering over 600 mW.

I was trying to push a pair of 2N3866 to delivering 1.5 watts each (for a total of 3 watts). But the beasts refuse to cough out more that 1 watt in total. And get unstable above 600 mW.

I am looking for a way to boost the 600mW signal to something like at least 6 watts, but not more than 10 watts.

I have considered the IRF series. I find that the transfer characteristics of the IRF are more suited to CW rather than quality linear operation. Has anyone any luck with the audio medium power transistors that have high Ft Like BD137 etc?

Linearity is a must. I dont want to ask being excused for my 'homebrew' signal.

- farhan

2074. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 18:55:08 UTC
From: Roger Wussman <BastardSon@NoSlpam.comp>
Message-ID: <bkks6f$7ok$0@pita.alt.net>
Source record: 32541
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Lou" <Spamfree@Spamfree.com> wrote in message
news:VJkbb.17$LJ5.2836@iad-read.news.verio.net...
"W7TI" <noway@nohow.com> wrote in message
news:j6ermvgs0q3mt67h82b4f4c0ia8httd2ef@4ax.com...
> On Sat, 20 Sep 2003 22:57:12 -0400, "Lou" <Spamfree@Spamfree.com> wrote:
>
> >Since when did it become a "private" frequency? The H.F. Frequencies used
> >for Ham operation are open to any one with the proper class of license to
> >use them. O
>
> ____
>
> Does the word "troll" have any meaning to you?
>
> He trolled, you bit, he's happy.
>
> --
> Bill, W7TI
>

Well, yes, I did reply.. among others.. Troll? Ass Hole is a better term.
And back to his comment, he will not run me off, if I so desire to chat on
that frequency. Not a chance.... Lou
.....

Oh, DUH!! You still don't get it, do you?
Sure your name isn't Barney? As in Fife?

2075. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 19:01:56 UTC
From: Bruce Lane <SpammersAreVermin@dev.null>
Message-ID: <MPG.19d7957d53bd1968989a0f@192.168.42.131>
Source record: 32542

In article <vmpl8a7gu2319d@corp.supernews.com>,
imafuckingwindbag@bigalk4oka.net says...

<nothing of consequence>

PLONK!

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

2076. S-Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 19:03:07 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vmrtf6pvbuaea7@corp.supernews.com>
Source record: 32543

My apology - these meters are by the National Company. I was looking at an EF Johnson one right ahead of this post. Thanks, Byron.

2077. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 19:42:49 UTC
From: virustest2@anker.ath.cx
Message-ID: <1mvrmvk418nsih3gjavga64ivrcumb4r3c@4ax.com>
Source record: 32544
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

On Sun, 21 Sep 2003 01:05:46 +0200, "Kwaadwillende Gebruiker"
<m.vliet9@planet.nl> wrote:

-

2078. Re: source for solar cells

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 19:43:56 UTC
From: "J. Yazel" <jyazel@nls.net>
Message-ID: <cqvrmvg66qo76152v50mtc146nalc50n37@4ax.com>
Source record: 32545

On Wed, 17 Sep 2003 17:11:43 -0700, "bobinphx" <rbelisle1@cox.net>
wrote:

>Does anyone have any leads as to purchasing large quantities of solar
>cells???? Or any suggestions as to companies to contact???
>
>Bob in phx.
> ==================

Try www.google.com

Search on "solar cells".

I got 185,000 hits.

Might be something there for you.

Jack

2079. Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 20:25:22 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <gm1smv0caf1491rebdvp25bevv5qio1b9v@4ax.com>
Source record: 32546

Hey group,

I have a portable radio with no external ground.

Recently I built a PI network antenna tuner in a metal box and included an output for earth ground. So the outer sheild of my coax inputs as well as outputs and the variable capacitor frames are on this ground to earth. The random wire input goes strait to the tuning capacitor thus needs some kind of static drain off.

I have heard using a neon bulb and a 2 watt 2.2k ohm resistor in between the inputs and ground would discharge static buildup and give me some warning of build up conditions.

I am also concerned about limiting the voltage to the receiver front end to prevent damage. I have heard installing back to back high speed diodes between the imputs and ground would acheive this.

I understand everything but the diodes. What does back to back mean. I recall diodes are one way, but which way goes where? Should I look for a certain type or rating of diode?

Thanks for your help,

Mike

2080. Schematic/PCB CAD pgms

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 20:40:43 UTC
From: Dutchman <h@ns.co.za>
Message-ID: <3f6e0cc1$0$64727@hades.is.co.za>
Source record: 32447

I have been a fan of ORCAD SDT Schematic Capture and still
run a DOS version.
Would anyone know of a freeware outdated Windows version?
Similarly I would like one the earlier Windows versions of
Tango PCB.
These DOS versions are not any more very compatible with
MSW XP though with some patience they are still usable.

I am so used to using these programs for odd jobs that
changing to a different one would be too much of a learning
curve.
I could run a seperate PC in DOS just for both of them of course,
but rather not.

Any advice will be appreciated,
Thanks
Hans
ZS6KR

2081. Re: FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 21:13:37 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns93FDE2FE2CE67kierenmail@195.129.110.201>
Source record: 32448

I'm slightly perplexed. Why has no one picked up on the obvious: in an age of ever rising gas prices, surely the only reason one would travel in a different car to his spouse is to _avoid_ hearing her!

However, I'd opt for the CB deal. It's legal, it works & if there's a breakdown it can be used to contact someone else - much better than private band radio, ham or radio mic for this.

I can't help thinking your kids would much rather you to use one car & leave the air just a little less polluted!!

Happy shopping.

K.

horana123@yahoo.com (Karl Hemilton) wrote in news:f3353f3c.0309160104.a55a1cd@posting.google.com:

> My wife and I have two cars. While traveling, most of the time we go
> in two cars. I am looking a device that we can talk to each other
> while driving. Some thing like a FM Transmitter.
>
> Can anybody help.
>
> Thanks,
> Karl

2082. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 21:30:28 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns93FDE5D96D29Ckierenmail@195.129.110.200>
Source record: 32449

Back to back: Take your two diodes and install them in parallel, but with one 'pointing' in the opposite direction. The idea is that, because each diode will conduct when the voltage rises above it's threashold, it doesn't matter if the spike is positive or negative. A radio signal is highly unlikely to be powerful enough to force either diode to conduct (and if it did, they'll protect the RX front end).

I don't think they'd help much however! You only have to think about the kind of potential in a static build-up to decide that you do not want to rely on a pair of diodes to keep everything calm. Far better to make sure your aerial has a DIRECT path to earth - a low impedence one at that. Best way to avoid static damage? Disconnect the hardware from the wire when you think there's static about. Oh - and avoid using headphones....

Good luck.
K

mike <intotheapex@yahoo.com> wrote in
news:gm1smv0caf1491rebdvp25bevv5qio1b9v@4ax.com:

> Hey group,
>
> I have a portable radio with no external ground.
>
> Recently I built a PI network antenna tuner in a metal box and
> included an output for earth ground. So the outer sheild of my coax
> inputs as well as outputs and the variable capacitor frames are on
> this ground to earth. The random wire input goes strait to the tuning
> capacitor thus needs some kind of static drain off.
>
> I have heard using a neon bulb and a 2 watt 2.2k ohm resistor in
> between the inputs and ground would discharge static buildup and give
> me some warning of build up conditions.
>
> I am also concerned about limiting the voltage to the receiver front
> end to prevent damage. I have heard installing back to back high speed
> diodes between the imputs and ground would acheive this.
>
> I understand everything but the diodes. What does back to back mean. I
> recall diodes are one way, but which way goes where? Should I look for
> a certain type or rating of diode?
>
>
> Thanks for your help,

>
> Mike
>
>
>

2083. Re: EF Johnson S-Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 22:38:42 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F6E2843.35042AD4@earthlink.net>
Source record: 32450

Byron Tatum wrote:
>
> Hello-
> I have a small qty. of NOS EF Johnson S-meters from an old CB shop. I
> can furnish a JPEG on request, should have a few extra to sell. Can someone
> help me in using these meters : The pointer resides at full scale, rather
> than at the low scale as most meters. I guess you would say the meter is
> "backwards". How would you compensate for this in normal S-meter circuit?
> Thanks, Byron, WA5THJ.

Post the pictures at news:alt.binaries.pictures.radio so people can
see them. If they recognize the radio that uses them, you should be able
to find a schematic.
--

Michael A. Terrell
Central Florida

2084. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 22:52:40 UTC
From: Henry <otc_friend@gmx.net>
Message-ID: <3f6e2fb1_2@news.arcor-ip.de>
Source record: 32452
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Why not in metal can? You can use for example alumina. But no
ferroelectrics! (If it's a magnetic antenna)
- Henry

Arie de Muynck schrieb in Nachricht
<3f689a39$0$58713$e4fe514c@news.xs4all.nl>...
>
>"John Miles" wrote
>> http://www.aftenposten.no/english/local/article.jhtml?articleID=609108
>>
>> I've always assumed that the performance of ferrite-rod antennas in
>> transmitting applications was limited by core saturation. Wonder if
>> there's anything to this "invention"?
>
>
>I especically like the statement:
>"Our tiny antenna can be placed in the car or cast in metal, and is at
least
>as good"
>
>Great, an antenna working even if cast in metal....
>
>Arie.
>
>

2085. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 23:01:50 UTC
From: Henry <otc_friend@gmx.net>
Message-ID: <3f6e2fb7_2@news.arcor-ip.de>
Source record: 32453
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

I think don't talk to much about it before reading the patent application WO 02/45210 A1 or PCT/NO01/00441. Inside there are links to other patents... Cannot say more, must read it first.
One nice think about patents: You don't need to pay something for it if you use it privately. Offering a device to others is not allowed. Just make your own if possible (materials, construction, opened infos can make it impossivble). Ideal for hams, electronics hobbyists.
My email address is real. Spam and Virus filtered.
Regards -
Henry

Stepan Novotill schrieb in Nachricht
<1aaimv8od6ff12u3m4etcj3sb1nufopgpi@4ax.com>...
>On Wed, 17 Sep 2003 19:30:19 +0200, "Arie de Muynck"
><Sorry_I_hate_spam@nomail.com> wrote:
>
>The old "Genie" garage door opener transmitters used a ferrite rod
>antenna. It was very thick and short. Like an AA battery.
>Then again, that was VHF/UHF to boot. I still have one in my scrap
>pile. ....Stepan

2086. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-21 23:05:49 UTC
From: yotango@yahoo.com
Message-ID: <2319ddc6.0309211505.4c4caf52@posting.google.com>
Source record: 32451
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

> He will broadcast live from 1-5 a.m. ET Saturdays and Sundays
> with a refeed from 5-9 a.m. ET from his home studio in
> Pahrump, Nev., beginning Sept. 20.

Art Bell was on live at 10pm PT in Los Angeles, KFI. They replay it from 1-5 am.

2087. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 00:16:04 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <bffsmvcpcuoa6oa2mn2ip17uh2ffib6rlp@4ax.com>
Source record: 32454

On 21 Sep 2003 21:30:28 GMT, Kieren <kierenmail@hotmail.com> wrote:

>Back to back: Take your two diodes and install them in parallel, but
>with one 'pointing' in the opposite direction. The idea is that, because
>each diode will conduct when the voltage rises above it's threashold, it
>doesn't matter if the spike is positive or negative. A radio signal is
>highly unlikely to be powerful enough to force either diode to conduct
>(and if it did, they'll protect the RX front end).
>
>I don't think they'd help much however! You only have to think about the
>kind of potential in a static build-up to decide that you do not want to
>rely on a pair of diodes to keep everything calm. Far better to make
>sure your aerial has a DIRECT path to earth - a low impedence one at
>that. Best way to avoid static damage? Disconnect the hardware from the
>wire when you think there's static about. Oh - and avoid using
>headphones....
>
>
>Good luck.
>K

OK I get it now.

As for an earth ground......I found a nice fat copper braided wire
coming off the metal roof lightning protectors (this is an old
farmhouse) down the side of the house going deep into the ground.

I suspect if I solder a nice fat 12 guage wire to my random wire where
it meets my coax it would suffice in this regard. Additionaly I will
run another wire to this ground from my tuner.

thanks,

mike

2088. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 01:32:08 UTC
From: averyfineman@aol.com
Message-ID: <20030921213208.00545.00000934@mb-m02.aol.com>
Source record: 32455

In article <gm1smv0caf1491rebdvp25bevv5qio1b9v@4ax.com>, mike
<intotheapex@yahoo.com> writes:

>Hey group,
>
>I have a portable radio with no external ground.
>
>Recently I built a PI network antenna tuner in a metal box and
>included an output for earth ground. So the outer sheild of my coax
>inputs as well as outputs and the variable capacitor frames are on
>this ground to earth. The random wire input goes strait to the tuning
>capacitor thus needs some kind of static drain off.
>
>I have heard using a neon bulb and a 2 watt 2.2k ohm resistor in
>between the inputs and ground would discharge static buildup and give
>me some warning of build up conditions.

A small neon bulb was used in thousands of ARC-5 Command Set
receivers in WW2 for static bleed-off. Similar to an old NE-2 bulb.
No need to use a resistor. The neon will conduct somewhere around
70 Volts and shunt any static pickup to ground...then goes into non-
conducting state until the next static potential build-up.

>I am also concerned about limiting the voltage to the receiver front
>end to prevent damage. I have heard installing back to back high speed
>diodes between the imputs and ground would acheive this.
>
>I understand everything but the diodes. What does back to back mean. I
>recall diodes are one way, but which way goes where? Should I look for
>a certain type or rating of diode?

You can use practically anything modern in the way of diodes there
but the high-speed types such as 1N914 and 1N4148 are very cheap
and available many places. Varistors could be used (GE "movisters")
or even 1N4000 series rectifier diodes. Diodes have a 0.6 to 0.7 VDC
forward conduction voltage if silicon.

Put them side by side with the anode of one to the cathode of the
other at each end. That will limit voltage input to about 1.4 V peak-to-
peak. You could put a small series resistor, say 22 Ohms or so,
between antenna input and the diodes to limit peak diode current on
conduction. Your option...since the series resistor will drop the RF
input level slightly.

You could also use a high-inductance RF "choke" in place of diodes
and neon bulb. 1 to 5 mHy would work at HF bands. That forms a

constant low-resistance DC path from antenna to ground and keeps
static accumulation bled off immediately.

Len Anderson
retired (from regular hours) electronic engineer person

2089. Re: Schematic/PCB CAD pgms

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 02:46:55 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bklr9ogch1@bob.news.rcn.net>
Source record: 32457

"Dutchman" <h@ns.co.za> wrote in message
news:3f6e0cc1$0$64727@hades.is.co.za...
> I have been a fan of ORCAD SDT Schematic Capture and still
> run a DOS version.

A CD of a freeware version of ORCAD was given to everyone who wanted one at Microwave Update (or was it Central States VHFS) a couple of years ago. It is fully functional and does not expire, but is limited to a modest number of components - enough for a small two-sheet drawing.

2090. Re: Art Bell W6OBB returns to AM Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 02:53:39 UTC
From: "\"\\frank\\\"" <"\"\\frank\\\""@nospam.franktodd.pgh.pa.us>
Message-ID: <Tutbb.545011$uu5.90173@sccrnsc04>
Source record: 32456
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

yo wrote:

>>He will broadcast live from 1-5 a.m. ET Saturdays and Sundays
>>with a refeed from 5-9 a.m. ET from his home studio in
>>Pahrump, Nev., beginning Sept. 20.
>
>
>
> Art Bell was on live at 10pm PT in Los Angeles, KFI. They replay it from 1-5 am.
at least that guy can put you to sleep if you can't fall asleep on your own!

--
73

Frank K3EKO

2091. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 02:58:43 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bklrvthld1@bob.news.rcn.net>
Source record: 32458

"Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
news:lARab.522300$YN5.348403@sccrnsc01...
> No cheating! If you're going to homebrew a PDP-8, you have to build it out
> of discrete TTL.

I had my PDP-8S work-alike operational about 30 years ago. I built it from
TTL.

2092. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 03:11:39 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bklso6iug1@bob.news.rcn.net>
Source record: 32459

"xpyttl" <xpyttl_nospam@earthling.net> wrote in message
news:vmpd3tq239608d@corp.supernews.com...

> Anyway, as we were first looking over the thing, with it's racks of cards
> and beautiful, huge electrolytics in the supply, my assistant advisor taps
> me on the shoulder and says "come look at this. See that rack of cards
> there? I think it's the accumulator."
>
> Sure enough, 18 cards for the accumulator, 18 cards for the program
counter,
> 18 cards for the M register, one card per bit!

I built my home-brew PDP-8 in a bit-slice way. Each of the main cards had
one bit of the accumulator, memory data register, memory address register
and the "other" register - 12 cards for the main data paths.

As an ancient aside, the "first minicomputer" Whirlwind at MIT was a 16-bit
bit slice machine. There was one whole 6-ft rack for each slice. Thus the
main part of the machine took 16 racks. I never saw the beast, but we (at
USAF Cambridge Research Labs) did do an experiment or two with it driving
our ground to air digital data link. That was in 1953, IIRC. But I was
VERY young back then.....

73 de bob w3otc

2093. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 05:41:01 UTC
From: "Dave, AA6YQ" <aa6yq@ambersoft.com>
Message-ID: <NXvbb.544013$o%2.240396@sccrnsc02>
Source record: 32460

My first CPU, designed and built as a lab project in 1971, used 16-bit registers and memory words, but the data paths were 1-bit serial. The memory was implemented with a ~9ms acoustic delay line, in which 8192 recirculating bits were stored. One of the neat aspects of this design is that one could continuously view all of memory with a single scope probe! It was unique in its use of a then-newfangled touchtone keypad for entering hexadecimal values into registers, replacing the individual toggle switches customarily used for that purpose. To prove its completion, we programmed it to perform BCD division; after literally seconds of flashing the lights attached to its registers, it halted with the correct result ablaze and the TA intoned "it lives". It was a defining moment...

73,

Dave, AA6YQ

<mcalhoun@ksu.edu> wrote in message news:bkkicl$p01@unix2.cc.ksu.edu...
> "Geoffrey G. Rochat" <777geoff777@777pkworks777.777com777> writes:
> >....[snip]....
> >You can do an awful lot on a computer with only 8 instructions that can
> >directly address a mere 256 12-bit words at a time - if you're willing to
> >think a little bit. PDP-8s are to computers what regens are to radios:
> >....[snip]....
>
> You can also do an awful lot on a computer with only 8 instructions that
> can directly address only THIRTY-TWO NINE-bit words at a time:
>
> In 1969, while at Fairchild R&D Lab in Palo Alto, CA, I designed and
> built a 9-bit PDP-8 imitation (I called it "MINUS", since it was smaller
> than a mini-computer; if I had called it "MICRO", I might now be rich!)
> with 512 9-bit words of 200 nsec memory. Its instruction format used
> a: 3 bit opcode,
> 1 bit current page/page zero indicator,
> 1 bit indirect indicator, and a
> 4 bit address
>
> I also wrote a cross-assembler (in FORTRAN) for it, interfaced it to a
> 20Kbyte/second magnetic tape and a 3-foot x 5-foot flat bed plotter,
> and wrote a program (in MINUSASM) which, in a tight loop, read mag-tape
> printed-circuit wirelists produced on an IBM 360/44, buffered them in
> the upper half of memory, and then passed them to the plotter to draw
> large PC boards. Just before quiting time, we'd load a new mag tape,
> and 5-6 hours later another board had been drawn in three colors
> (horizontal, vertical, and vias).
>

> Ah, those were the heady days of youth!
>
> --Myron A. Calhoun.
> --
> Five boxes preserve our freedoms: soap, ballot, witness, jury, and
cartridge
> PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785)
539-4448
> NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle,
Pistol)

2094. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 05:43:31 UTC
From: "Dave, AA6YQ" <aa6yq@ambersoft.com>
Message-ID: <7_vbb.546518$uu5.90927@sccrnsc04>
Source record: 32461

Very cool. What did you use for memory?

73,

Dave, AA6YQ

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:bklrvthld1@bob.news.rcn.net...
>
> "Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
> news:lARab.522300$YN5.348403@sccrnsc01...
> > No cheating! If you're going to homebrew a PDP-8, you have to build it
out
> > of discrete TTL.
>
> I had my PDP-8S work-alike operational about 30 years ago. I built it
from
> TTL.
>
>

2095. Re: antenna noise reduction ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 07:08:02 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0309212308.1baa886e@posting.google.com>
Source record: 32462

mike <intotheapex@yahoo.com> wrote in message

> form coil. Is there a componant I can add to this device to reduce
> noise from my random wire? I have heard a 1-1 transformer may help.
>
> I have a few toroids with very high Al (79uH per hundred turns)
> kicking around. Can I wind one of these to use a noise reducer?
>

it depends upon what kind of noise you are fighting.
1) the single wire antenna might be picking up noise that is the your receiver room. the most probable source is your PC. try switching off the PC (and the one in the neighbouring rooms) to see if that effects the noise. If PC is the source of noise, you will have to use a shielded cable to get the antenna off your house. start the long wire outside.
2) it might be electric discharge from flourescent lights. again, try switching them out. the electric discharge can go a long way. there might be little you can do about it except move the antenna away. look for noisy water pumps and fan regulators (they use SCRs that create noise).
3) receiver front-end. A poorly matched receiver might overload itself. Turn off the RF amp (if you can) or try using a 200 ohms potentiometer as an attenuator between the rx and the antenna. cut the signal level with the attentuator and boost the audio gain.

single wires are a problem with electrical noise, what i would suggest is use a coax from your receiver to your roof or some place where the you can mount your antenna tuner. DONT use an antenna tuner between the receiver and the coax. that way, it will convert the coax into a part of the antenna and the sheild of the coax will pick up the noise. ground the coax and both ends to ensure proper sheilding. get onto the roof and move the wire around until you can null noise the most.
the other effective scheme might be to use two antennas. (a vertical and a long wire). and connect them both together through a phasing network that will cancel out the common signals. you will need to adjust the phase and amplitude together to achieve a noise null. it is tricky but it can be done. check the passing comment on wes hayward's home page about his experience. (it is on the page where he describes his current home setup).

- farhan

2096. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 13:52:43 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <25vtmv47nbh40g0j2fdoqac4iu5bi6c8va@4ax.com>
Source record: 32463

On 22 Sep 2003 01:32:08 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> A small neon bulb was used in thousands of ARC-5 Command Set
> receivers in WW2 for static bleed-off. Similar to an old NE-2 bulb.
> No need to use a resistor. The neon will conduct somewhere around
> 70 Volts and shunt any static pickup to ground...then goes into non-
> conducting state until the next static potential build-up.

Wow.....70 volts seems a tad high to be protective in my solid state
portable. I suspect the older vacuum tube sets were far more static
resistant. I've read the limit for my sony portable should be kept
below 0.7volts to keep the sensitive front end electronics safe.

>
> You can use practically anything modern in the way of diodes there
> but the high-speed types such as 1N914 and 1N4148 are very cheap
> and available many places. Varistors could be used (GE "movisters")
> or even 1N4000 series rectifier diodes. Diodes have a 0.6 to 0.7 VDC
> forward conduction voltage if silicon.
>
> Put them side by side with the anode of one to the cathode of the
> other at each end. That will limit voltage input to about 1.4 V peak-to-
> peak. You could put a small series resistor, say 22 Ohms or so,
> between antenna input and the diodes to limit peak diode current on
> conduction. Your option...since the series resistor will drop the RF
> input level slightly.
>
> You could also use a high-inductance RF "choke" in place of diodes
> and neon bulb. 1 to 5 mHy would work at HF bands. That forms a
> constant low-resistance DC path from antenna to ground and keeps
> static accumulation bled off immediately.
>
> Len Anderson
> retired (from regular hours) electronic engineer person

I've read suggestions for resistors ranging from 2.2 k ohms to 56 k
ohms all the way up to 100 k ohms. The most recent information being
the lowest value resistors. From the schematics I have seen, the
resistors were placed in parralel between the antenna input and ground
input. Or in the case of a two wire unbalanced input, between each
wire and the case of the tuner which is grounded.

Guess I might have to just play resistor values and see what doesnt
hurt signal strenth (another suggestion I read).

good information though, thanks. - mike

2097. Re: Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 14:00:56 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <k10umvgltp0ngh8evacrevm8bqi8ju2hhf@4ax.com>
Source record: 32464

On 4 Sep 2003 08:50:24 -0700, qas@operamail.com (Qas) wrote:

>Hi,
>I am new to ham radio. Well I found lots of QRP receiver circuit on
>web, I tried to build some. Everything going to be OK, except making
>coil inductors. I don't know how to calculate them, with type I need
>(air core or slug tuned), what a difference between coil and RF choke.
>Let's assume I need a 100uH coil. How to star making it. I looked for
>factory made coil at my radio shack store, but I only found bobbin for
>coil.
>
>If you know any interesting link on this topic, please let me know.
>I'll appreciate any comment or help.
>
>Thanks in advice,
>Edgar
>73

Check out this website, its quite useful and has many different java calculators for finding the inductance values of both toroid and air form coils. I used the calculator to create a 3uh coil and it came out pretty darn close to what I intended. (never bridge measured it though)

http://eweb.chemeng.ed.ac.uk/jack/radio/projsoft.html

mike

2098. PROJECT: next generation SWR/wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 15:00:16 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309220700.f99aebc@posting.google.com>
Source record: 32465
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Last semester, I designed and built the QROP Meter for my graduate school independent study project. Thanks to those of you who helped me with certain thorny issues, such as transformers and DC amplification. Go to my web page at http://www.jasonhsu.com/ee.html to learn how to build the instrument.

What makes my SWR/wattmeter different from the numerous versions available from MFJ and the numerous homebrew designs out there?

1. Works from 200mW to 100W! You get the best of both worlds! MFJ SWR/wattmeters don't work at QRP, and QRP SWR/wattmeters can't handle 100W. Tuning up at 1W instead of 100W reduces the QRM you cause by 20dB, or over 3 S units! You can also safely change the tuner's inductance taps WHILE transmitting at 1W.
2. GOOD resolution at SWR values above 3 and even above 5! This can be very handy at 160m and 80/75m.
3. 10-LED display for the SWR meter and another 10-LED display for the wattmeter: No more squinting at cross-needle meters!
4. More accuracy at low power levels: Most SWR meters understate SWR at low power levels due to the infamous diode drop loss. My design compensates for this and allows accurate SWR measurements at QRP power levels.

Let me know what you think, and feel free to contact me if you have any questions or suggestions. If you decide to build the QROP Meter, let me know how it goes.

Jason Hsu, AG4DG
usenet@@@@@jasonhsu.com

2099. Re: 3894500 Hz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 15:01:15 UTC
From: Radioman <radio@ptt.edu>
Message-ID: <3F6F0EBB.7ABBE182@ptt.edu>
Source record: 32466
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

BIG AL whined:
>
> IT BECAME MY PRIVATE FREQUENCY YEARS AGO. HO HO . STAY AWAY UNLESS INVITED
> PORKBUTT.

Explicitly stated in Part 95 & Part 97:

"No frequency shall be reserved for the exclusive use of any station."

Reread your rule book.

2100. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 15:03:24 UTC
From: Radioman <radio@ptt.edu>
Message-ID: <3F6F0F3C.5D8223C6@ptt.edu>
Source record: 32467
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

>
> Say no to drugs, kids.

His problem is a lack of drugs.

> -core_dump
>
> -----BEGIN GEEK CODE BLOCK-----
WHO CARES?
> ------END GEEK CODE BLOCK------

You must be a geek?

2101. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 15:04:12 UTC
From: Radioman <radio@ptt.edu>
Message-ID: <3F6F0F6C.283939B7@ptt.edu>
Source record: 32468
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

> i think a new target frequency for cw just announced itself!

-.-. --.-

2102. W7EL Optimized Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 15:31:22 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vmu5e9orl3ou5b@corp.supernews.com>
Source record: 32469

Hello-
I have an unpopulated PC board from the Small Parts Center purchased in 1988 for the W7EL Optimized 40 Meter Transcvr.
I have some questions please :
1. As I understand it the OHR Sprint was a copy of this W7EL design, can anyone verify that the PC boards were, in fact, the same?
2. Can anyone furnish me the complete building instructions for the OHR Sprint?
Any other info on this would be greatly appreciated, thanks,
Byron WA5THJ.

2103. Re: 3894500 Hz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 15:51:35 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <r_Ebb.28$LJ5.3733@iad-read.news.verio.net>
Source record: 32470
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Radioman" <radio@ptt.edu> wrote in message
news:3F6F0EBB.7ABBE182@ptt.edu...
>
>
> BIG AL whined:
> >
> > IT BECAME MY PRIVATE FREQUENCY YEARS AGO. HO HO . STAY AWAY UNLESS
INVITED
> > PORKBUTT.
>
>
> Explicitly stated in Part 95 & Part 97:
>
> "No frequency shall be reserved for the exclusive use of any station."
>
> Reread your rule book.

He would, but ass holes can't read! So, it won't happen! As I said, the only thing big on him is his mouth.. well maybe his ass too! The question begs again to be asked... a troll??? Nah... ASS HOLE.

2104. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 16:29:22 UTC
From: Arie de Muynck <Sorry_I_hate_spam@nomail.com>
Message-ID: <3f6f23a4$0$58713$e4fe514c@news.xs4all.nl>
Source record: 32471
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Henry" wrote ...
> Why not in metal can? You can use for example alumina. But no
> ferroelectrics! (If it's a magnetic antenna)
>
> Arie de Muynck schrieb in Nachricht
> >Great, an antenna working even if cast in metal....

Lookup eddy currents, skin effect depth, etc.

Placing an antenna in a _closed_ conductive box is not the best way to make an efficient antenna. Only if the box has a slot the energy may seep though that - but that's not in "Our tiny antenna can be placed in the car or cast in metal, and is at least as good". I see casting in metal as a closed box. The antenna will be shielded unless they use VERY slow changing signals. Not good for efficiency either.

Take a working old MW transistor radio with ferrite antenna and wrap it in Alum foil. Make sure the edges make contact. You may puncture small holes to hear the sound - or rather, notice the lack of it.

Arie de Muynck

2105. Re: antenna noise reduction ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 17:35:35 UTC
From: donut <none@none.com>
Message-ID: <Xns93FE6AFA9DA91donut@216.102.43.227>
Source record: 32472

mike <intotheapex@yahoo.com> wrote in
news:bjjrmvk0huueckf0ovqovjlqss6n20vbd5@4ax.com:

> any other suggestions to reduce noise?

loop

2106. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 18:01:57 UTC
From: MD <ve3tmt@yahoo.ca>
Message-ID: <sOGbb.2342$qu4.204411@news20.bellglobal.com>
Source record: 32473
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"W7TI" <noway@nohow.com> wrote in message
news:j6ermvgs0q3mt67h82b4f4c0ia8httd2ef@4ax.com...
> On Sat, 20 Sep 2003 22:57:12 -0400, "Lou" <Spamfree@Spamfree.com> wrote:
>
> >Since when did it become a "private" frequency? The H.F. Frequencies used
> >for Ham operation are open to any one with the proper class of license to
> >use them. O
>
> ____
>
> Does the word "troll" have any meaning to you?
>
> He trolled, you bit, he's happy.
>
> --
> Bill, W7TI
>

Yup, It's so much easier to add him to the kill file.

2107. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 18:04:04 UTC
From: MD <ve3tmt@yahoo.ca>
Message-ID: <rQGbb.2343$qu4.204942@news20.bellglobal.com>
Source record: 32474
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"W7TI" <noway@nohow.com> wrote in message
news:j6ermvgs0q3mt67h82b4f4c0ia8httd2ef@4ax.com...
> On Sat, 20 Sep 2003 22:57:12 -0400, "Lou" <Spamfree@Spamfree.com> wrote:
>
> >Since when did it become a "private" frequency? The H.F. Frequencies used
> >for Ham operation are open to any one with the proper class of license to
> >use them. O
>
> ____
>
> Does the word "troll" have any meaning to you?
>
> He trolled, you bit, he's happy.
>
> --
> Bill, W7TI
>
Got to admit though Bill, it would be fun to back over him in a humvee!

2108. Re: PROJECT: next generation SWR/wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 18:42:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmugm16iurti21@corp.supernews.com>
Source record: 32475
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Nice project. People interested in learning more about the diode compensation circuit can find additional information in John Grebenkemper's article "The Tandem Match -- An Accurate Directional Wattmeter", QST, Jan, 1987, and a good deal more in my article "A Simple and Accurate QRP Directional Wattmeter" in February 1990 QST.. It turns out that you can reduce the diode drop to an arbitrarily low value by terminating it with an arbitrarily high resistance. But that's not the problem in detecting small signals. The problem is that the diode reverse leakage current becomes a bigger and bigger fraction of the forward current as the current gets smaller. That is, the diode becomes more and more like a resistor as the signal gets smaller and smaller. The problem, then, isn't a lack of forward conduction, but that the charge conducted into the load during the positive half cycle is sucked back out during the negative half cycle. The compensation circuit used in these two articles and in Jason's circuit only approximately match the RF conductivity characteristics of the diode, and the operating points of the diodes have to be carefully chosen to insure tracking with temperature changes as well as signal level.

Roy Lewallen, W7EL

Jason Hsu wrote:
> Last semester, I designed and built the QROP Meter for my
> graduate school independent study project. Thanks to those of you who
> helped me with certain thorny issues, such as transformers and DC
> amplification. Go to my web page at http://www.jasonhsu.com/ee.html
> to learn how to build the instrument.
>
> What makes my SWR/wattmeter different from the numerous versions
> available from MFJ and the numerous homebrew designs out there?
>
> 1. Works from 200mW to 100W! You get the best of both worlds! MFJ
> SWR/wattmeters don't work at QRP, and QRP SWR/wattmeters can't handle
> 100W. Tuning up at 1W instead of 100W reduces the QRM you cause by
> 20dB, or over 3 S units! You can also safely change the tuner's
> inductance taps WHILE transmitting at 1W.
> 2. GOOD resolution at SWR values above 3 and even above 5! This can
> be very handy at 160m and 80/75m.
> 3. 10-LED display for the SWR meter and another 10-LED display for
> the wattmeter: No more squinting at cross-needle meters!
> 4. More accuracy at low power levels: Most SWR meters understate SWR
> at low power levels due to the infamous diode drop loss. My design
> compensates for this and allows accurate SWR measurements at QRP power
> levels.

>
> Let me know what you think, and feel free to contact me if you have
> any questions or suggestions. If you decide to build the QROP Meter,
> let me know how it goes.
>
> Jason Hsu, AG4DG
> usenet@@@@@jasonhsu.com

2109. Re: W7EL Optimized Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 18:48:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmuh1etcfqqmee@corp.supernews.com>
Source record: 32476

I can answer the first question.

There were no boards included in the Optimized article, nor did I ever design one. Since there was no original board, there is no board which can be the same as the original. Any boards or commercial versions of this rig were done by third parties without my participation, and often with design modifications or component substitutions for the convenience of the vendor.

Roy Lewallen, W7EL

Byron Tatum wrote:
> Hello-
> I have an unpopulated PC board from the Small Parts Center purchased in
> 1988 for the W7EL Optimized 40 Meter Transcvr.
> I have some questions please :
> 1. As I understand it the OHR Sprint was a copy of this W7EL design,
> can anyone verify that the PC boards were, in fact, the same?
> 2. Can anyone furnish me the complete building instructions for the
> OHR Sprint?
> Any other info on this would be greatly appreciated, thanks,
> Byron WA5THJ.
>
>

2110. Iron powder vs. ferrite cores for low-power inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 19:30:18 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309221130.485c38d3@posting.google.com>
Source record: 32477

Yes, this is related to the noise cancelling device described at
http://www.geocities.com/g4lna/noisdes.html

I'm trying to figure out if I can substitute type 61 or type 43
ferrites for the transformers, because I have these ferrite ring cores
but I do not have the iron powder toroids. Also, using type 43
ferrites would allow me to use fewer turns. (That 160m/180m
transformer requires about 50 turns!) From my experience with
high-power RF transformers, I know that iron powder toroids are less
vulnerable to core saturation and excess heating.

The phase shifter and the amplifier in the noise cancelling device do
NOT work with high power levels like a transmitter, tuner, or
SWR/wattmeter would. So if core saturation and excess heating are not
an issue, is there any particular reason I MUST use iron powder
instead of ferrites?

Jason Hsu, AG4DG
usenet@@@@@jasonhsu.com

2111. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 20:03:06 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bkno08$t4g$1@bob.news.rcn.net>
Source record: 32481

"Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
news:7_vbb.546518$uu5.90927@sccrnsc04...
> Very cool. What did you use for memory?
>
> 73,
>
> Dave, AA6YQ
>
> "R J Carpenter" <rcarpen@erols.com> wrote in message
> news:bklrvthld1@bob.news.rcn.net...
> >
> > "Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
> > news:lARab.522300$YN5.348403@sccrnsc01...
> > > No cheating! If you're going to homebrew a PDP-8, you have to build it
out
> > > of discrete TTL.
> >
> > I had my PDP-8S work-alike operational about 30 years ago. I built it
from
> > TTL.

I bought a surplus IBM 1620 core memory stack from Burstein-Applebee. I found a couple of the connecting wires were never properly soldered - which must have been the reason for junking it. The 1620 had 10,000 12-bit words of core. Actually every location had two 6-bit memory words. The 1620 was a variable word length machine, with one bit of each 6-bit memory word being the "word mark". I only used 4096 12-bit words of the memory, the normal PDP-8 memory size. DEC's interactive FOCAL language allow easy programming of simple problems. I also had their assembler.

The thing is buried in my garage, minus some big electrolytics.

73 de Bob w3otc

2112. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 20:10:11 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <bknkv3$2se5$1@news1.tribune.com>
Source record: 32479

For Static control, I have a 1 megaohm 1/2 watt resistor to ground from each side of my antenna. I do this because my balanced antenna tuner does not have a DC path to ground.

Notice I said STATIC control, not Lightening arresting.

You can use a much lower value. The resistor should be large compared to the impeadence of your anteanna. So if the antenna is 4,000 ohms, even a 400,000 ohm resistor would be 100 times the antenna value.

KA9CAR

"mike" <intotheapex@yahoo.com> wrote in message news:gm1smv0caf1491rebdvp25bevv5qio1b9v@4ax.com...
> Hey group,
>
> I have a portable radio with no external ground.
>
> Recently I built a PI network antenna tuner in a metal box and
> included an output for earth ground. So the outer sheild of my coax
> inputs as well as outputs and the variable capacitor frames are on
> this ground to earth. The random wire input goes strait to the tuning
> capacitor thus needs some kind of static drain off.
>
> I have heard using a neon bulb and a 2 watt 2.2k ohm resistor in
> between the inputs and ground would discharge static buildup and give
> me some warning of build up conditions.
>
> I am also concerned about limiting the voltage to the receiver front
> end to prevent damage. I have heard installing back to back high speed
> diodes between the imputs and ground would acheive this.
>
> I understand everything but the diodes. What does back to back mean. I
> recall diodes are one way, but which way goes where? Should I look for
> a certain type or rating of diode?
>
>
> Thanks for your help,
>
> Mike
>
>

2113. Re: Iron powder vs. ferrite cores for low-power inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 20:19:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmumaq2vflod7b@corp.supernews.com>
Source record: 32478

The transformers in that circuit are tuned; that is, they're basically tank circuits with a secondary winding for impedance transformation. So type 43 ferrite would be a very poor choice, since it has a Q of 1 at a few MHz. You need a core material that maintains a decent Q at the frequency of interest. Type 61 isn't too awfully bad from a Q standpoint at lower HF, but you'll have a very strong temperature dependence. There are a couple of other 60 series ferrites that might be better -- check out the Fair-Rite web site. I'd use a bigger powdered iron core, myself. Going to type 2 material will reduce the required number of turns, and will probably reduce the Q only slightly.

Roy Lewallen, W7EL

Jason Hsu wrote:
> Yes, this is related to the noise cancelling device described at
> http://www.geocities.com/g4lna/noisdes.html
>
> I'm trying to figure out if I can substitute type 61 or type 43
> ferrites for the transformers, because I have these ferrite ring cores
> but I do not have the iron powder toroids. Also, using type 43
> ferrites would allow me to use fewer turns. (That 160m/180m
> transformer requires about 50 turns!) From my experience with
> high-power RF transformers, I know that iron powder toroids are less
> vulnerable to core saturation and excess heating.
>
> The phase shifter and the amplifier in the noise cancelling device do
> NOT work with high power levels like a transmitter, tuner, or
> SWR/wattmeter would. So if core saturation and excess heating are not
> an issue, is there any particular reason I MUST use iron powder
> instead of ferrites?
>
> Jason Hsu, AG4DG
> usenet@@@@@jasonhsu.com

2114. Re: Iron powder vs. ferrite cores for low-power inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 20:37:05 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vmunflmhhvrqf8@corp.supernews.com>
Source record: 32480

I might even consider a type 1 core for that 160 meter coil. The type 6 specified in the web page seems like an unlikely choice for that frequency.

Reading the article, he indicated it didn't work that well when he used chokes in the tank, which is pretty close to what you will have with the ferrite cores.

Presumably you're in the U.S., you can get toriods pretty cheaply (and quickly) from http://kitsandparts.com, although he does sell them in big bunches. You can order oneseys from http://www.palomar-engineers.com but in my experience they are pretty slow, and by the time you pay their shipping, you may as well have spent the same money at kitsandparts and gotten ten times as many toroids.

..

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vmumaq2vflod7b@corp.supernews.com...
> The transformers in that circuit are tuned; that is, they're basically
> tank circuits with a secondary winding for impedance transformation. So
> type 43 ferrite would be a very poor choice, since it has a Q of 1 at a
> few MHz. You need a core material that maintains a decent Q at the
> frequency of interest. Type 61 isn't too awfully bad from a Q standpoint
> at lower HF, but you'll have a very strong temperature dependence. There
> are a couple of other 60 series ferrites that might be better -- check
> out the Fair-Rite web site. I'd use a bigger powdered iron core, myself.
> Going to type 2 material will reduce the required number of turns, and
> will probably reduce the Q only slightly.
>
> Roy Lewallen, W7EL
>
> Jason Hsu wrote:
> > Yes, this is related to the noise cancelling device described at
> > http://www.geocities.com/g4lna/noisdes.html
> >
> > I'm trying to figure out if I can substitute type 61 or type 43
> > ferrites for the transformers, because I have these ferrite ring cores
> > but I do not have the iron powder toroids. Also, using type 43
> > ferrites would allow me to use fewer turns. (That 160m/180m
> > transformer requires about 50 turns!) From my experience with
> > high-power RF transformers, I know that iron powder toroids are less
> > vulnerable to core saturation and excess heating.
> >
> > The phase shifter and the amplifier in the noise cancelling device do
> > NOT work with high power levels like a transmitter, tuner, or

> > SWR/wattmeter would. So if core saturation and excess heating are not
> > an issue, is there any particular reason I MUST use iron powder
> > instead of ferrites?
> >
> > Jason Hsu, AG4DG
> > usenet@@@@@jasonhsu.com
>

2115. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 21:07:06 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <cwJbb.39$LJ5.4087@iad-read.news.verio.net>
Source record: 32482
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"MD" <ve3tmt@yahoo.ca> wrote in message
news:sOGbb.2342$qu4.204411@news20.bellglobal.com...
>
> "W7TI" <noway@nohow.com> wrote in message
> news:j6ermvgs0q3mt67h82b4f4c0ia8httd2ef@4ax.com...
> > On Sat, 20 Sep 2003 22:57:12 -0400, "Lou" <Spamfree@Spamfree.com> wrote:
> >
> > >Since when did it become a "private" frequency? The H.F. Frequencies
used
> > >for Ham operation are open to any one with the proper class of license
to
> > >use them. O
> >
> > ____
> >
> > Does the word "troll" have any meaning to you?
> >
> > He trolled, you bit, he's happy.
> >
> > --
> > Bill, W7TI
> >
>
> Yup, It's so much easier to add him to the kill file.
>

Yeah, I've got to also consider placing this joker in the kill file.
Certainly not worth the blood pressure rise.

2116. EBay SPOOF going around

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 21:13:27 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <_8idnT9CgfcF-PKiU-KYgA@comcast.com>
Source record: 32483

someone is spoofing EBay by sending out an email requesting your USERID and PASSWORD. Obviously they are looking to steal information.

Jack

2117. Re: signal to noise ratio drops on connecting the antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-22 21:54:01 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <ZbKbb.149412$0v4.11084984@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32484

That makes sense.................a single stage I.F. will give you about 20
to 30dB of gain. This would give a quieter sounding receive, especially
with no AGC.
Keep on plugging..........it sounds like a fun project!

Pete

Ashhar Farhan <farhan@hotfoon.com> wrote in message
news:8331b126.0309211045.7137d139@posting.google.com...
> "Pete KE9OA" <n.gianakopoulos@worldnet.att.net> wrote in message
>
> > It sounds like the stage might be oscillating at some very high
frequency.
> > A specturm analyzer, lightly coupled to the output circuit would show
that.
> > I know that it is not easy to get ahold of a spectrum analyzer most of
the
> > time, but maybe you could do some research on neutralizing circuits. I
> > think that you have some sort of feedback path, maybe internal to the
device
> > itself.
> >
> > Pete
>
> well, i found out that the antenna was the culprit. although i dont
> know why. i took the rig to a friend who had a two element yagi on his
> rooftop. he was using an FT-757. we pulled the antenna out of the
> Ft-757 and connected it to my rig. he put on the headphones and
> started to say "the rig is dead...." when he nearly spilled his
> coffee. as he tuned the rig, dx kept piling out of a virtually silent
> background. only when u pulled out the antenna, could u realise that
> the background noise WAS there. i guess using an uncluttered
> front-end, single stage IF and dropping AGC makes for fidelity in a
> communication receiver.
>
> about the noise ... i think that the antenna was picking up noise due
> to line current. that is the best explanation i have. now i am going
> to install a windom at 40 feet tommrow. lets check how that fares

2118. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 00:57:08 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vmv6j3kfrkpv64@corp.supernews.com>
Source record: 32485
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

HICKORY, NC [UPDATE]: The FCC wrote General licensee John A. Abernethy, K4OKA, July 27, 1999, modifying his license to prohibit operation below 30 MHz for 180 days, effective immediately. Unless he appeals the action, Abernethy may not get back on HF until January 22, 2000. The FCC letter included a copy of a tape recording--supplied by complainants--of transmissions said to be of Abernethy's station on July 16. Hollingsworth's letter described the tape as "consisting of deliberate interference on 3.965 MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH, noted that Abernethy had been warned about deliberate interference at the time his station was inspected last January. Abernethy has 30 days to protest the sanction. FCC personnel inspected Abernethy's station January 21 and 22 in the wake of what Hollingsworth called "longstanding complaints from other amateurs and from our field offices." In particular, he said, the FCC had received "numerous complaints" about profanity, obscenity, deliberate interference, and failure to properly identify. Other complaints to the FCC alleged that Abernethy had aired something called the "Porkbutt Song," the letter said, "for the purpose of harassment or deliberate interference." Hollingsworth said the FCC's High Frequency Direction Finding Center in Maryland tracked the transmissions of the "Porkbutt Song" to K4OKA. The FCC letter also said the Commission had received complaints that Abernethy had used AM and upper sideband on 75 "for the purpose of interference" on or near 3894.5 kHz. Abernethy also was warned in the letter about over-power operation. Hollingsworth said that the FCC has no plans to start revocation proceedings against Abernethy "unless we have evidence of continued violations" of the type the FCC described in its July 27 letter. (For additional details, see "FCC Takes North Carolina Ham off HF for Six Months" elsewhere on the AWE news page.)

"BIG AL" <imafuckingwindbag@porkbutt.net> wrote in message
news:vmqshdfh78hr4b@corp.supernews.com...
> SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO
>
>
> "Lou" <Spamfree@Spamfree.com> wrote in message
> news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> >
> >
> > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > news:vmq5ars9c9i455@corp.supernews.com...
> > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS BIG
> ALS
> > > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> > >

> > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG. HO
HO
> > >
> > >
> >
> > If I choose to talk on that frequency, I will, so long as I'm abiding by
> the
> > rules and regulations as they are spelled out. YOU or no one else, can
> tell
> > me to stay off. ASS WIPE.
> >
> > BIG AL.. the only thing big about you, is your mouth....
> >
> > Lou
> >
> >
>
>

2119. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 01:14:09 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <Q7Nbb.51$LJ5.4366@iad-read.news.verio.net>
Source record: 32486
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
news:vmv6j3kfrkpv64@corp.supernews.com...
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> MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH, noted that
> Abernethy had been warned about deliberate interference at the time his
> station was inspected last January. Abernethy has 30 days to protest the
> sanction. FCC personnel inspected Abernethy's station January 21 and 22 in
> the wake of what Hollingsworth called "longstanding complaints from other
> amateurs and from our field offices." In particular, he said, the FCC had
> received "numerous complaints" about profanity, obscenity, deliberate
> interference, and failure to properly identify. Other complaints to the
FCC
> alleged that Abernethy had aired something called the "Porkbutt Song," the
> letter said, "for the purpose of harassment or deliberate interference."
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Months"
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>
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> >
> >

> > "Lou" <Spamfree@Spamfree.com> wrote in message
> > news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> > >
> > >
> > > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > > news:vmq5ars9c9i455@corp.supernews.com...
> > > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS
BIG
> > ALS
> > > > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> > > >
> > > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG. HO
> HO
> > > >
> > > >
> > > If I choose to talk on that frequency, I will, so long as I'm abiding
by
> > the
> > > > rules and regulations as they are spelled out. YOU or no one else, can
> > tell
> > > > me to stay off. ASS WIPE.
> > > >
> > > > BIG AL.. the only thing big about you, is your mouth....
> > > >
> > > > Lou
> > > >

Well Ass hole AL, looks like you've had your ass reamed out once, trying for
seconds???? Something tells me, you're due for it.
Lou

2120. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 01:22:31 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vmv82dpbs0s270@corp.supernews.com>
Source record: 32487
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

I wonder if FCC knows he's up to it again?
Maybe we should refer them to this NG...
I don't know if it's such a smart idea for him to brag about his illegal activities on a public newsgroup which is archived by servers everywhere for permanent storage. Especially when everybody knows exactly who he is.

73 de KG6SGY

"Lou" <Spamfree@Spamfree.com> wrote in message
news:Q7Nbb.51$LJ5.4366@iad-read.news.verio.net...
> "Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
> news:vmv6j3kfrkpv64@corp.supernews.com...
> > HICKORY, NC [UPDATE]: The FCC wrote General licensee John A. Abernethy,
> > K4OKA, July 27, 1999, modifying his license to prohibit operation below
30
> > MHz for 180 days, effective immediately. Unless he appeals the action,
> > Abernethy may not get back on HF until January 22, 2000. The FCC letter
> > included a copy of a tape recording--supplied by complainants--of
> > transmissions said to be of Abernethy's station on July 16.
> Hollingsworth's
> > letter described the tape as "consisting of deliberate interference on
> 3.965
> > MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH, noted that
> > Abernethy had been warned about deliberate interference at the time his
> > station was inspected last January. Abernethy has 30 days to protest the
> > sanction. FCC personnel inspected Abernethy's station January 21 and 22
in
> > the wake of what Hollingsworth called "longstanding complaints from
other
> > amateurs and from our field offices." In particular, he said, the FCC
had
> > received "numerous complaints" about profanity, obscenity, deliberate
> > interference, and failure to properly identify. Other complaints to the
> FCC
> > alleged that Abernethy had aired something called the "Porkbutt Song,"
the
> > letter said, "for the purpose of harassment or deliberate interference."
> > Hollingsworth said the FCC's High Frequency Direction Finding Center in
> > Maryland tracked the transmissions of the "Porkbutt Song" to K4OKA. The
> FCC
> > letter also said the Commission had received complaints that Abernethy
had
> > used AM and upper sideband on 75 "for the purpose of interference" on or

> > near 3894.5 kHz. Abernethy also was warned in the letter about
over-power
> > operation. Hollingsworth said that the FCC has no plans to start
> revocation
> > proceedings against Abernethy "unless we have evidence of continued
> > violations" of the type the FCC described in its July 27 letter. (For
> > additional details, see "FCC Takes North Carolina Ham off HF for Six
> Months"
> > elsewhere on the AWE news page.)
> >
> >
> > "BIG AL" <imafuckingwindbag@porkbutt.net> wrote in message
> > news:vmqshdfh78hr4b@corp.supernews.com...
> > > SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO
> > >
> > >
> > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> > > >
> > > >
> > > > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > > > news:vmq5ars9c9i455@corp.supernews.com...
> > > > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS
> BIG
> > > ALS
> > > > > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> > > > >
> > > > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG.
HO
> > HO
> > > > >
> > > > >
> > > >
> > > > If I choose to talk on that frequency, I will, so long as I'm
abiding
> by
> > > the
> > > > > rules and regulations as they are spelled out. YOU or no one else,
can
> > > tell
> > > > > me to stay off. ASS WIPE.
> > > > >
> > > > > BIG AL.. the only thing big about you, is your mouth....
> > > > >
> > > > > Lou
> > > > >
>
> Well Ass hole AL, looks like you've had your ass reamed out once, trying
for
> seconds???? Something tells me, you're due for it.

> Lou
>
>

2121. Re: Iron powder vs. ferrite cores for low-power inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 01:24:54 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3F6FA257.91AFEE5C@rica.net>
Source record: 32488

Jason Hsu wrote:
>
> Yes, this is related to the noise cancelling device described at
> http://www.geocities.com/g4lna/noisdes.html
>
> I'm trying to figure out if I can substitute type 61 or type 43
> ferrites for the transformers, because I have these ferrite ring cores
> but I do not have the iron powder toroids. Also, using type 43
> ferrites would allow me to use fewer turns. (That 160m/180m
> transformer requires about 50 turns!) From my experience with
> high-power RF transformers, I know that iron powder toroids are less
> vulnerable to core saturation and excess heating.
>
> The phase shifter and the amplifier in the noise cancelling device do
> NOT work with high power levels like a transmitter, tuner, or
> SWR/wattmeter would. So if core saturation and excess heating are not
> an issue, is there any particular reason I MUST use iron powder
> instead of ferrites?
>
> Jason Hsu, AG4DG
> usenet@@@@@jasonhsu.com

The main positive quality of powdered iron cores is their high saturation flux. The dispersion of iron in a nonconductive matrix also gives them low eddy current losses. But if you don't need the saturation flux (which is usually the case for inductors that are not carrying a large DC current) then you can substitute a ferrite core with an air gap.

The ferrite core will have some eddy current losses (dependent on the bulk conductivity) and hysterisis losses (depending on the BH loop area), but you can keep both of these arbitrarily low by increasing the air gap and the turns count. Type 61 has a very high bulk resistivity, but both type 43 and type 61 have pretty big BH loop areas. Have you got any of those type 43 split cores that are clamped around wires to suppress EMI? With a small air gap, they make pretty good RF inductor cores.

--
John Popelish

2122. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 01:28:04 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <UkNbb.52$LJ5.4418@iad-read.news.verio.net>
Source record: 32489
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
news:vmv82dpbs0s270@corp.supernews.com...
> I wonder if FCC knows he's up to it again?
> Maybe we should refer them to this NG...
> I don't know if it's such a smart idea for him to brag about his illegal
> activities on a public newsgroup which is archived by servers everywhere
for
> permanent storage. Especially when everybody knows exactly who he is.
>
> 73 de KG6SGY
>

Well, he didn't claim to be "smart". So, I'm sure, in due time he'll be busted again. Those who brag usually are begging to be caught or need severe help! Matter of psychology.

Lou

2123. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 03:36:26 UTC
From: "Dave, AA6YQ" <aa6yq@ambersoft.com>
Message-ID: <_cPbb.129787$mp.66168@rwcrnsc51.ops.asp.att.net>
Source record: 32490

Getting core memories to work was black magic with the original designers at your side; that's something that you got a 1620 stack working on your own. For the price of a few electrolytics -- or a new switching PS -- and a few more hours, it definitely sounds worth resuscitating.

73,

Dave, AA6YQ

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:bkno08$t4g$1@bob.news.rcn.net...
>
> "Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
> news:7_vbb.546518$uu5.90927@sccrnsc04...
> > Very cool. What did you use for memory?
> >
> > 73,
> >
> > Dave, AA6YQ
> >
> > "R J Carpenter" <rcarpen@erols.com> wrote in message
> > news:bklrvthld1@bob.news.rcn.net...
> > >
> > > "Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
> > > news:lARab.522300$YN5.348403@sccrnsc01...
> > > > No cheating! If you're going to homebrew a PDP-8, you have to build
it
> out
> > > > of discrete TTL.
> > >
> > > I had my PDP-8S work-alike operational about 30 years ago. I built it
> from
> > > TTL.
>
> I bought a surplus IBM 1620 core memory stack from Burstein-Applebee. I
> found a couple of the connecting wires were never properly soldered -
which
> must have been the reason for junking it. The 1620 had 10,000 12-bit words
> of core. Actually every location had two 6-bit memory words. The 1620 was
a
> variable word length machine, with one bit of each 6-bit memory word being
> the "word mark". I only used 4096 12-bit words of the memory, the normal
> PDP-8 memory size. DEC's interactive FOCAL language allow easy
programming
> of simple problems. I also had their assembler.

>
> The thing is buried in my garage, minus some big electrolytics.
>
> 73 de Bob w3otc
>
>
>
>
>

2124. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 03:59:09 UTC
From: averyfineman@aol.com
Message-ID: <20030922235909.22081.00000815@mb-m17.aol.com>
Source record: 32491

In article <25vtmv47nbh40g0j2fdoqac4iu5bi6c8va@4ax.com>, mike
<intotheapex@yahoo.com> writes:

>On 22 Sep 2003 01:32:08 GMT, averyfineman@aol.com (Avery Fineman)
>wrote:
>
>
>> A small neon bulb was used in thousands of ARC-5 Command Set
>> receivers in WW2 for static bleed-off. Similar to an old NE-2 bulb.
>> No need to use a resistor. The neon will conduct somewhere around
>> 70 Volts and shunt any static pickup to ground...then goes into non-
>> conducting state until the next static potential build-up.
>
>Wow.....70 volts seems a tad high to be protective in my solid state
>portable. I suspect the older vacuum tube sets were far more static
>resistant. I've read the limit for my sony portable should be kept
>below 0.7volts to keep the sensitive front end electronics safe.
>
>
>
>>
>> You can use practically anything modern in the way of diodes there
>> but the high-speed types such as 1N914 and 1N4148 are very cheap
>> and available many places. Varistors could be used (GE "movisters")
>> or even 1N4000 series rectifier diodes. Diodes have a 0.6 to 0.7 VDC
>> forward conduction voltage if silicon.
>>
>> Put them side by side with the anode of one to the cathode of the
>> other at each end. That will limit voltage input to about 1.4 V peak-to-
>> peak. You could put a small series resistor, say 22 Ohms or so,
>> between antenna input and the diodes to limit peak diode current on
>> conduction. Your option...since the series resistor will drop the RF
>> input level slightly.
>>
>> You could also use a high-inductance RF "choke" in place of diodes
>> and neon bulb. 1 to 5 mHy would work at HF bands. That forms a
>> constant low-resistance DC path from antenna to ground and keeps
>> static accumulation bled off immediately.
>>
>> Len Anderson
>> retired (from regular hours) electronic engineer person
>
>
>I've read suggestions for resistors ranging from 2.2 k ohms to 56 k

>ohms all the way up to 100 k ohms. The most recent information being
>the lowest value resistors. From the schematics I have seen, the
>resistors were placed in parralel between the antenna input and ground
>input. Or in the case of a two wire unbalanced input, between each
>wire and the case of the tuner which is grounded.
>
>Guess I might have to just play resistor values and see what doesnt
>hurt signal strenth (another suggestion I read).
>
>good information though, thanks. - mike

2125. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 05:09:01 UTC
From: averyfineman@aol.com
Message-ID: <20030923010901.11022.00000947@mb-m14.aol.com>
Source record: 32492

In article <25vtmv47nbh40g0j2fdoqac4iu5bi6c8va@4ax.com>, mike
<intotheapex@yahoo.com> writes:

>> A small neon bulb was used in thousands of ARC-5 Command Set
>> receivers in WW2 for static bleed-off. Similar to an old NE-2 bulb.
>> No need to use a resistor. The neon will conduct somewhere around
>> 70 Volts and shunt any static pickup to ground...then goes into non-
>> conducting state until the next static potential build-up.
>
>Wow.....70 volts seems a tad high to be protective in my solid state
>portable. I suspect the older vacuum tube sets were far more static
>resistant. I've read the limit for my sony portable should be kept
>below 0.7volts to keep the sensitive front end electronics safe.

Allow me to correct a number. The strike voltage of a typical small
neon bulb is high but once struck, and a resistor is in series with it,
the bulb potential is around 50 VDC.

Yes, that IS a high voltage, but I encountered it on a (roughly) 200
foot long-wire that the previous apartment owner had put up to a
utility pole prior to 1947. The little bulb in the ARC-5 receiver DID
light. On learning some more about neon bulbs (I was 14 at the time),
I decided it was not a good thing to have the antenna connected during
electrical storm episodes. :-)

>> You can use practically anything modern in the way of diodes there
>> but the high-speed types such as 1N914 and 1N4148 are very cheap
>> and available many places. Varistors could be used (GE "movisters")
>> or even 1N4000 series rectifier diodes. Diodes have a 0.6 to 0.7 VDC
>> forward conduction voltage if silicon.
>>
>> Put them side by side with the anode of one to the cathode of the
>> other at each end. That will limit voltage input to about 1.4 V peak-to-
>> peak. You could put a small series resistor, say 22 Ohms or so,
>> between antenna input and the diodes to limit peak diode current on
>> conduction. Your option...since the series resistor will drop the RF
>> input level slightly.
>>
>> You could also use a high-inductance RF "choke" in place of diodes
>> and neon bulb. 1 to 5 mHy would work at HF bands. That forms a
>> constant low-resistance DC path from antenna to ground and keeps
>> static accumulation bled off immediately.
>>
>> Len Anderson
>> retired (from regular hours) electronic engineer person

>
>I've read suggestions for resistors ranging from 2.2 k ohms to 56 k
>ohms all the way up to 100 k ohms. The most recent information being
>the lowest value resistors. From the schematics I have seen, the
>resistors were placed in parralel between the antenna input and ground
>input. Or in the case of a two wire unbalanced input, between each
>wire and the case of the tuner which is grounded.
>
>Guess I might have to just play resistor values and see what doesnt
>hurt signal strenth (another suggestion I read).
>
>good information though, thanks. - mike

A resistor alone will only serve to bleed off any accumulated voltage charge. Relatively slowly. It is NOT any sort of protection from a spike of voltage created by a nearby lightning episode. Those can be anywhere from a few Volts to 300 Volts peak amplitude, polarity either positive or negative depending on what Mother Nature decides at that moment...

The "back-to-back" diodes serve as clamps to effect a sudden low-impedance shunt across the input once they conduct past around 0.7 Volts forward (it's not sudden, but gradual, the Z curve has a lot of slope steepness until it really begins to conduct). The reason I mentioned a _series_ resistor between back-to-back diodes and antenna is for three reasons: It limits the peak current in the diodes; it provides a slight voltage-divider effect to reduce peaks (even on conduction) at receiver input; it reduces the rise time of the static peak through a tiny R-C filter effect using the diodes' junction capacitance.

In truth, NONE of the above is an guarantee of _protection_ of any receiver input. A slow, gradual charge build-up on an antenna isn't going anywhere as long as _all_ the components involved have insulation breakdown voltages that are high. A resistor by itself will bleed off such slow charge build-up attempts. At around 2.7 KOhms or so, that resistance isn't going to affect high-impedance values much at frequencies well away from resonance of the wire antenna.

Since I live in Southern California with a low incidence of electrical storms, I've not concerned myself with electrostatic charges in wire antennas. Being raised in northern Illinois, such were quite common and I've been "bit" by one charge which was probably up around 50 Volts or so on that mentioned long-wire. Lightning storm areas NEED additional protection for outside antennas.

Len Anderson
retired (from regular hours) electronic engineer person

My apologies for the previous posting without content...stupid cat walked across the keyboard...:-(

2126. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 05:46:56 UTC
From: Henry <otc_friend@gmx.net>
Message-ID: <3f70348a_1@news.arcor-ip.de>
Source record: 32352
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

You made great interesting experiments!
The electrical field will suffer with a alumni foil, surely. Magnetics will
go thru.
- Henry

Arie de Muynck schrieb in Nachricht
<3f6f23a4$0$58713$e4fe514c@news.xs4all.nl>...
>"Henry" wrote ...
>> Why not in metal can? You can use for example alumina. But no
>> ferroelectrics! (If it's a magnetic antenna)
>>
>> Arie de Muynck schrieb in Nachricht
>> >Great, an antenna working even if cast in metal....
>
>
>Lookup eddy currents, skin effect depth, etc.
>
>Placing an antenna in a _closed_ conductive box is not the best way to make
>an efficient antenna. Only if the box has a slot the energy may seep though
>that - but that's not in "Our tiny antenna can be placed in the car or cast
>in metal, and is at least as good". I see casting in metal as a closed box.
>The antenna will be shielded unless they use VERY slow changing signals.
Not
>good for efficiency either.
>
>Take a working old MW transistor radio with ferrite antenna and wrap it in
>Alum foil. Make sure the edges make contact. You may puncture small holes
to
>hear the sound - or rather, notice the lack of it.
>
>Arie de Muynck
>
>

2127. Re: PROJECT: next generation SWR/wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 07:13:53 UTC
From: Rick Frazier <rick@rickfrazier.com>
Message-ID: <3F6FF2B1.FC14ABE4@rickfrazier.com>
Source record: 32494
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jason:

Ok for the QRP to barefoot operator, but what about someone that at least occasionally uses an amplifier?

I've got a couple of swr/wattmeters (two meters) that provide everything I need, though they are a bit difficult to read at QRP levels. Autek WM-1 is one of them and currently available, and the other is a SignalCrafter 30 (may not be full name and model, but also not available any more). Both have ranges for 20w, 200w and 2000w full scale, and show average or peak readings. They tend to match one another pretty well, especially considering the WM-1 is less than a year old and the other is probably 20 years old....

Will your meter be able to perform as well? I've found that most LED based metering circuits are horribly inaccurate compared to a needle based meter....

On the other hand, I'd love to see a new meter available, particularly one that would work from qrp levels all the way up to legal limits.... while providing both SWR and Power metering. I really really dislike dual needle interpreted displays.

Thanks
--Rick AH7H

Jason Hsu wrote:

> Last semester, I designed and built the QROP Meter for my
> graduate school independent study project. Thanks to those of you who
> helped me with certain thorny issues, such as transformers and DC
> amplification. Go to my web page at http://www.jasonhsu.com/ee.html
> to learn how to build the instrument.
>
> What makes my SWR/wattmeter different from the numerous versions
> available from MFJ and the numerous homebrew designs out there?
>
> 1. Works from 200mW to 100W! You get the best of both worlds! MFJ
> SWR/wattmeters don't work at QRP, and QRP SWR/wattmeters can't handle
> 100W. Tuning up at 1W instead of 100W reduces the QRM you cause by
> 20dB, or over 3 S units! You can also safely change the tuner's
> inductance taps WHILE transmitting at 1W.
> 2. GOOD resolution at SWR values above 3 and even above 5! This can
> be very handy at 160m and 80/75m.
> 3. 10-LED display for the SWR meter and another 10-LED display for

> the wattmeter: No more squinting at cross-needle meters!
> 4. More accuracy at low power levels: Most SWR meters understate SWR
> at low power levels due to the infamous diode drop loss. My design
> compensates for this and allows accurate SWR measurements at QRP power
> levels.
>
> Let me know what you think, and feel free to contact me if you have
> any questions or suggestions. If you decide to build the QROP Meter,
> let me know how it goes.
>
> Jason Hsu, AG4DG
> usenet@@@@@jasonhsu.com

2128. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 07:22:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vmvt6egqqnp8a9@corp.supernews.com>
Source record: 32493

Neon bulbs are curious critters. As you say, they have hysteresis -- a higher strike voltage than sustaining voltage. The company I worked for once used them as low current regulators here and there, as well as for static protection, so they bought or selected them to various specifications for strike and sustaining voltages. Strike voltages varied from 55 minimum to 135 maximum, and sustaining specs went from a minimum of 46 to a maximum of 78. They also exhibited a "dark effect", which I believe was that the strike voltage was dependent on the ambient light level. I recall that a trace radioactive material was added to some -- to reduce the "dark effect", I think, by keeping the gas close to ionization. I imagine the sustaining voltage was controlled by the mixture and pressure of gas.

The bulbs were commonly used as pilot lamps, but not when the supply was DC. (This lesson was learned the hard way, judging by company documents and app notes.) Depending on the supply impedance, the pilot bulb could become a relaxation oscillator, interfering with sensitive circuitry.

I came in just as their day was ending.

Roy Lewallen, W7EL

Avery Fineman wrote:
>
> Allow me to correct a number. The strike voltage of a typical small
> neon bulb is high but once struck, and a resistor is in series with it,
> the bulb potential is around 50 VDC.
> . . .

2129. 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 10:17:23 UTC
From: BIG AL <bigal3.894.5@bigal3.894.5.com>
Message-ID: <vn07dg6h8lftdc@corp.supernews.com>
Source record: 32495
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YOUVE GOT TO HAVE ONE AS BIG AS MINE TO BE ON MY FREQUENCY.

HO HO

AY YI YI YI YES ITS THE PORKBUTT SONG AY YI YI YI YES ITS THE PORKBUTT SONG

AY YI YI YI YES ITS THE PORKBUTT SONG AY YI YI YI YES ITS THE PORKBUTT SONG

2130. JIMO K4VVV

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 10:19:59 UTC
From: BIG AL <bigal3.894.5@bigal3.894.5.com>
Message-ID: <vn07id2cakqm4e@corp.supernews.com>
Source record: 32496
Cross-posted to:
alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

BE ON 3894.5 TONITE. THE ARKANSAS BOYS NEED TO BE SHOWN THE DOOR. HO HO

THE REST OF YOU LIMPS ONE NEED TO STAY AWAY. HO HO

AY YI YI YI YES ITS THE PORKBUTT SONG

AY YI YI YI YES ITS THE PORKBUTT SONG

AY YI YI YI YES ITS THE PORKBUTT SONG

2131. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 10:23:23 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <MaVbb.57$LJ5.4631@iad-read.news.verio.net>
Source record: 32348
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

" BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
news:vn07dg6h8lftdc@corp.supernews.com...
> YOUVE GOT TO HAVE ONE AS BIG AS MINE TO BE ON MY FREQUENCY.
>
> HO HO
>
> AY YI YI YI YES ITS THE PORKBUTT SONG AY YI YI YI YES ITS THE PORKBUTT
SONG
>
> AY YI YI YI YES ITS THE PORKBUTT SONG AY YI YI YI YES ITS THE PORKBUTT
SONG
>
>

Suck MY BIG ONE... ASS HOLE! To the kill file with your dickhead crap!

2132. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 10:32:54 UTC
From: BIG AL <bigal3.894.5@bigal3.894.5.com>
Message-ID: <vn08alph93k18d@corp.supernews.com>
Source record: 32351
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

PULL IT OUT. LETS SEE IT. HO HO

AY YI YI YI YES ITS THE PORKBUTT SONG.

AY YI YI YI YES ITS THE PORKBUTT SONG.

"Lou" <Spamfree@Spamfree.com> wrote in message
news:MaVbb.57$LJ5.4631@iad-read.news.verio.net...
> " BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
> news:vn07dg6h8lftdc@corp.supernews.com...
> > YOUVE GOT TO HAVE ONE AS BIG AS MINE TO BE ON MY FREQUENCY.
> >

> Suck MY BIG ONE... ASS HOLE! To the kill file with your dickhead crap!
>
>

2133. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 11:22:26 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bkpds0$4iu$1@bob.news.rcn.net>
Source record: 32353

"Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
news:_cPbb.129787$mp.66168@rwcrnsc51.ops.asp.att.net...
> Getting core memories to work was black magic with the original designers
at
> your side; that's something that you got a 1620 stack working on your own.
> For the price of a few electrolytics -- or a new switching PS -- and a few
> more hours, it definitely sounds worth resuscitating.

It has enough sentimental value to keep, for now, but I guess I don't see any real reason to resuscitate it. Emulation on a modern PC would run many times as fast. I have kept all the paper tape software and the "high-speed" paper tape reader.

As to the core memory, I lucked out.

The 1620 stack had a two-level scheme to drive the 100 x 100 grid of selection wires. There were two sets of 100 switch cores that actually drove the wires in the core stack, one set for each axis. Each of those 200 switch cores was threaded with two wires itself - a total of 20 wires for each set of 100 switch cores. You put a pulse through the two wires threaded through a particular switch core to make it flip - thus sending a pulse on a desired selection wire in the main core stack. You could think of the switch cores as a decimal decoder. There were ten "10s" wires, and ten "units" wires threaded through the set of 100 switch cores. Simultaneously pulse the "70" and the "3" wires to the switch cores and the "73" selection wire to one axis of the main core stack was pulsed. The other axis of the main core stack had a similar scheme.

Since I was only implementing 4096 locations, I didn't have to drive all the "10s" and "units" wires to the switch cores. I had to drive 64 of the 100 switch cores on each axis - and I could use any 64 I wanted. I split the 12-bit address into two 6-bit halves and drove the switch cores with decoded versions from the 6-bit half associated with that axis of the main memory stack. The 64 switch cores for each axis only required use of 8 of the "10s" lines and 8 of the "units" wires through the switch cores for that axis - a total of 16 drivers per axis or 32 total switch core drivers - far better than the 128 I would have needed to directly drive the main core stack selection wires.

The 1620 core stack was thus a little unconventional, but was a big win for me.

73 de bob w3otc

2134. Re: PROJECT: next generation SWR/wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 12:25:09 UTC
From: arm@helix.nih.gov
Message-ID: <FYWbb.232$Er.28440@mencken.net.nih.gov>
Source record: 32354
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jason,
The circuit looks very useful. The layout of the LEDs is not
very typical, which makes it a bit unnatural to use. That is
easy to change. Can you provide some inside photographs
to show how you did the circuit layout?

I am not sure why people even use SWR as a measurement for
reflected power. Perhaps it provides a nice mathematic
simplification, but it is a very quirky and unnatural scale
for human operators: 1) it does not go to zero, 2) it is
hard to read/write/and even say, 3) without a forward
reading, a SWR of 1:1 could simply indicate no forward
power, and the useful range ends at 3. What is needed
is a scale that based on a 2-dimentional vector. For
example, magnitude and angle of a vector that is formed
from an X-axis of forward power and a y-axis of reflected
power. The difficulty is mostly converting this to
a graphical representation. An array of 100 LEDs is
not very practical (10 x 10), but perhaps a tiny LCD
is. A small LCD and microprocessor could be cheaper
and easier to read than cross needles.

Andy
WA3LTJ

Jason Hsu (jason_hsu@my-deja.com) wrote:
: Last semester, I designed and built the QROP Meter for my
: graduate school independent study project. Thanks to those of you who
: helped me with certain thorny issues, such as transformers and DC
: amplification. Go to my web page at http://www.jasonhsu.com/ee.html
: to learn how to build the instrument.
:
: What makes my SWR/wattmeter different from the numerous versions
: available from MFJ and the numerous homebrew designs out there?
:
: 1. Works from 200mW to 100W! You get the best of both worlds! MFJ
: SWR/wattmeters don't work at QRP, and QRP SWR/wattmeters can't handle
: 100W. Tuning up at 1W instead of 100W reduces the QRM you cause by
: 20dB, or over 3 S units! You can also safely change the tuner's
: inductance taps WHILE transmitting at 1W.
: 2. GOOD resolution at SWR values above 3 and even above 5! This can
: be very handy at 160m and 80/75m.
: 3. 10-LED display for the SWR meter and another 10-LED display for
: the wattmeter: No more squinting at cross-needle meters!

: 4. More accuracy at low power levels: Most SWR meters understate SWR
: at low power levels due to the infamous diode drop loss. My design
: compensates for this and allows accurate SWR measurements at QRP power
: levels.
:
: Let me know what you think, and feel free to contact me if you have
: any questions or suggestions. If you decide to build the QROP Meter,
: let me know how it goes.
:
: Jason Hsu, AG4DG
: usenet@@@@@jasonhsu.com

2135. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 12:40:22 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <jve0nvkj0gvig3qdpurl48s9lah8bj19dt@4ax.com>
Source record: 32355

On 23 Sep 2003 05:09:01 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> A resistor alone will only serve to bleed off any accumulated voltage
> charge. Relatively slowly. It is NOT any sort of protection from a spike
> of voltage created by a nearby lightning episode. Those can be anywhere
> from a few Volts to 300 Volts peak amplitude, polarity either positive or
> negative depending on what Mother Nature decides at that moment...
>
> The "back-to-back" diodes serve as clamps to effect a sudden low-
> impedance shunt across the input once they conduct past around 0.7
> Volts forward (it's not sudden, but gradual, the Z curve has a lot of
> slope steepness until it really begins to conduct). The reason I mentioned
> a _series_ resistor between back-to-back diodes and antenna is for three
> reasons: It limits the peak current in the diodes; it provides a slight
> voltage-divider effect to reduce peaks (even on conduction) at receiver
> input; it reduces the rise time of the static peak through a tiny R-C
> filter effect using the diodes' junction capacitance.
>

Silly me, I put them all in parallel.<grin>. I am a mechanic with some
electrical knowledge, but not much electronics. So the resistor should
be in series with the diodes to limit current.

A side effect I noticed after installing the 1N914 diodes was images
scattered across the bands. For example, wwcr on 3200 was also on
2300. Another gentleman posted me link in the antenna group where he
found the same thing happening.

Might the resistor in series with the diodes reduce this side effect?

> In truth, NONE of the above is an guarantee of _protection_ of any
> receiver input. A slow, gradual charge build-up on an antenna isn't
> going anywhere as long as _all_ the components involved have
> insulation breakdown voltages that are high. A resistor by itself will
> bleed off such slow charge build-up attempts. At around 2.7 KOhms
> or so, that resistance isn't going to affect high-impedance values much
> at frequencies well away from resonance of the wire antenna.

I chose 2.2k ohm 1/4 watt resistors. Couldnt find any higher wattages
at Radio Shack. This was the latest resistance value recommended by
Arnie Coro at Radio Habana.

> Since I live in Southern California with a low incidence of electrical
> storms, I've not concerned myself with electrostatic charges in wire
> antennas. Being raised in northern Illinois, such were quite common

> and I've been "bit" by one charge which was probably up around 50
> Volts or so on that mentioned long-wire. Lightning storm areas NEED
> additional protection for outside antennas.

I live in Vermont. We get some lightning but not that much. My main concern is static buildup due to wind and the elements.

mike

2136. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 12:52:12 UTC
From: Arie de Muynck <Sorry_I_hate_spam@nomail.com>
Message-ID: <3f70420c$0$58697$e4fe514c@news.xs4all.nl>
Source record: 32356
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Henry" wrote
> You made great interesting experiments!
> The electrical field will suffer with a alumni foil, surely. Magnetics
> will go thru.

You didn't do the experiment.

Regards,
Arie de Muynck

2137. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 14:48:31 UTC
From: Concerned of the Usenet <deletethisbit.itsreallyhere@yahoo.com>
Message-ID: <3F705D5E.2EA7@yahoo.com>
Source record: 32357
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

BIG AL wrote:
>
> YOUVE GOT TO HAVE ONE AS BIG AS MINE TO BE ON MY FREQUENCY.
>
> HO HO
>
> AY YI YI YI YES ITS THE PORKBUTT SONG AY YI YI YI YES ITS THE PORKBUTT SONG
>
> AY YI YI YI YES ITS THE PORKBUTT SONG AY YI YI YI YES ITS THE PORKBUTT SONG

--
"Free flow of information has a price and responsible Internauts"
The Internet under Surveillance a report by Vinton Cerf

2138. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:10:28 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <7jo0nvgbu2qmc55uq2iulme8mm1sdbi7rn@4ax.com>
Source record: 32358

On Tue, 23 Sep 2003 12:40:22 GMT, mike <intotheapex@yahoo.com> wrote:

>
>A side effect I noticed after installing the 1N914 diodes was images
>scattered across the bands. For example, wwcr on 3200 was also on
>2300. Another gentleman posted me link in the antenna group where he
>found the same thing happening.
>
>Might the resistor in series with the diodes reduce this side effect?
>

hmmm... might be my impedance mismatch causing reflections of imcoming
signals back and forth along the antenna, thus causing images.

probable?

mike

2139. Re: Making inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:12:33 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bkpnt1ifl1@hercules.btinternet.com>
Source record: 32359

The inductance, length, diameter, wire size, number of turns, and much more information on single-layer coils of any proportions, long and thin, short and fat, can be accurately calculated using program SOLNOID3.

Q, self capacitance, self resonant frequency, tuning capacitance for a particular frequency, temperature-rise for given applied RF volts, etc. can all be calculated. Covers mini-coils in UHF receivers to high-power transmitter tank coils, antenna tuners and traps.

You will never need another solenoid calculator. Beats them all!

Download in a few seconds directly to an icon on your desktop, small self-contained, user friendly program SOLNOID3 from website below. No unzipping inconvenience. Run immediately. No training course needed.

Go to the "Download from here" page and browse through a list of other programs written to professional standards available.

==========
Regards from Reg, G4FGQ
For Free Radio Design Software
go to http://www.g4fgq.com
==========

2140. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:16:29 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F7063CD.8D4C7404@ob-wan.com>
Source record: 32369

Roy,

I recall as a kid making a "Decision Maker" project that used two neons
to indicate Yes and No. My father thought it was pretty cool, especially
when I mentioned that I had noticed it came up on Yes more often. I told
him I'd fix it but he seemed insistent that I leave it the way it was.

I didn't see it much after that, but suspect it played a part in some
gambling game in which he held a decided advantage while being able to
claim a totally impartial device. ;-)

Rob

Roy Lewallen wrote:
>
> Neon bulbs are curious critters. As you say, they have hysteresis -- a
> higher strike voltage than sustaining voltage. The company I worked for
> once used them as low current regulators here and there, as well as for
> static protection, so they bought or selected them to various
> specifications for strike and sustaining voltages. Strike voltages
> varied from 55 minimum to 135 maximum, and sustaining specs went from a
> minimum of 46 to a maximum of 78. They also exhibited a "dark effect",
> which I believe was that the strike voltage was dependent on the ambient
> light level. I recall that a trace radioactive material was added to
> some -- to reduce the "dark effect", I think, by keeping the gas close
> to ionization. I imagine the sustaining voltage was controlled by the
> mixture and pressure of gas.
>
> The bulbs were commonly used as pilot lamps, but not when the supply was
> DC. (This lesson was learned the hard way, judging by company documents
> and app notes.) Depending on the supply impedance, the pilot bulb could
> become a relaxation oscillator, interfering with sensitive circuitry.
>
> I came in just as their day was ending.
>
> Roy Lewallen, W7EL
>
> Avery Fineman wrote:
> >
> > Allow me to correct a number. The strike voltage of a typical small
> > neon bulb is high but once struck, and a resistor is in series with it,
> > the bulb potential is around 50 VDC.
> > . . .

2141. Re: W7EL Optimized Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:19:13 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bkpo9h$46c$1@sparta.btinternet.com>
Source record: 32361

Roy a thought just crossed my mind. Is it possible to sue sombody for damage
to a reputation in such a situation?

Reg

2142. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:19:44 UTC
From: Bruce Lane <SpammersAreVermin@dev.null>
Message-ID: <MPG.19da046ab64a1ebf989a14@192.168.42.131>
Source record: 32360
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

In article <MaVbb.57$LJ5.4631@iad-read.news.verio.net>,
Spamfree@Spamfree.com says...

> " BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
> news:vn07dg6h8lftdc@corp.supernews.com...

<drivelectomy>

Gang, it's just a troll, fercryinoutloud! They've been around
since the early days of Usenet, and their entire existence seems to be
centered around making outrageous posts just to see what kind of replies
they get.

Just killfile him and be at peace. Don't even waste your energy on
a reply.

73 de KC7GR

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

2143. Re: PROJECT: next generation SWR/wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:31:17 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309230731.366bc91b@posting.google.com>
Source record: 32362
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Rick Frazier <rick@rickfrazier.com> wrote in message
news:<3F6FF2B1.FC14ABE4@rickfrazier.com>...
>
> Ok for the QRP to barefoot operator, but what about someone that at least
> occasionally uses an amplifier?
>
The only thing I can think of is using more turns in the transformers
and thus lowering the coupling ratio. This would increase the QRO
capability but at the expense of QRP capability. I designed the QROP
Meter to just barely handle 200W so it could easily handle 100W. It's
not designed to be used with an amplifier. I don't have an amplifier,
so 1500W capability was not a priority for me.

The closest thing to what you are looking for is the Tandem Match
Directional Wattmeter project that Roy alluded to. It's available in
the _ARRL Antenna Book_. In fact, I got the idea of separating the RF
and DC grounds from the Tandem Match Directional Wattmeter. You'll
also notice my QROP Meter and a few of the homebrew SWR/wattmeter
designs out there have similarities to the Tandem project, such as the
directional coupler design and the noninverting logarithmic op amp.

Believe it or not, I wanted even more QRP capability (like 1mW instead
of 200mW) than my project actually delivers. However, I found several
constraints:
1. Op amps have offset voltages, and these constrain the accuracy of
low-power measurements. Chopper amps have extremely low offset
voltages, but giving them a 10V input while the power supply is turned
off destroys them.
2. The active rectifier has limited accuracy. It's fine in dealing
with 100mV, but it would be useless in rectifying 10mV.
3. The LM3914 chip has limited accuracy. The internal comparator
amplifiers have a few mV of offset voltages.

> I've got a couple of swr/wattmeters (two meters) that provide everything I
> need, though they are a bit difficult to read at QRP levels. Autek WM-1
> is one of them and currently available, and the other is a SignalCrafter
> 30 (may not be full name and model, but also not available any more).
> Both have ranges for 20w, 200w and 2000w full scale, and show average or
> peak readings. They tend to match one another pretty well, especially
> considering the WM-1 is less than a year old and the other is probably 20
> years old....
>
> Will your meter be able to perform as well? I've found that most LED
> based metering circuits are horribly inaccurate compared to a needle based

> meter....
>
My QROP Meter needs to have diode pairs that are properly matched, and
the proper resistance value for the noninverting logarithmic op amp
will vary from one unit to another. If you don't bother to properly
match the diodes or if you don't select the right resistance value,
the instrument will be just as crude as the conventional products
manufactured by MFJ and other companies. Of course, the need to
customize every single unit would kill the manufacturability, and this
would explain why the products on the market are so crude.

> On the other hand, I'd love to see a new meter available, particularly one
> that would work from qrp levels all the way up to legal limits.... while
> providing both SWR and Power metering. I really really dislike dual
> needle interpreted displays.
>
That's even MORE ambitious than my QROP Meter. I'm sure this
QRP-to-1500W instrument could be designed and built, but it would be
MUCH more complicated and expensive than my device. I'm not sure the
market would bear the cost of such a device, which may cost $1000 for
all I know. I highly doubt that even my QROP Meter has a viable
market. Also remember that the QRP-to-1500W device would have to
compete with antenna analyzers, which are only around $300 and show
FAR more detail than an SWR meter. True, you can't transmit 100W
(much less 1500W) into an antenna analyzer, but antenna analyzers
allow you to tune up without emitting a single mW from your
transmitter.

Jason Hsu, AG4DG
usenet@@@@@jasonhsu.com

2144. Fuel Tanks and Cereal Silos as Cavity Resonators for HF

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:32:41 UTC
From: n1jpr@hotmail.com
Message-ID: <95a201e0.0309230732.71b4ea40@posting.google.com>
Source record: 32363

Just out of curiosity - Did anyone ever try a cabinet-sized or room-sized cavity resonator as roof filter in a HF receiving system?

I've trawled a bit for construction details, and found that a squat cylindrical resonator may have a radius of a quarter wave, so say...

IF, MHz Diameter, feet what on earth?
---
100 .49 a big can?
45 11 a fuel tank?
9 55 ????

It would be cool to use a whole room as a resonator, adding furniture or guests as a way of trimming frequency or Q factor.

For mobile use, one might consider using a whole truck trailer as a resonator.

I would not mind dumping a truck trailer behind the sheds at my parents' farm and running some coax there and back, for a bit of HF work during my weekend visits. Besides, they also have a couple of unused silos, with cavities 15 ft in diameter and about 40 ft height. I wonder if such cavities in series would be tight enough to provide enough selectivity for CW work. They also have a huge pistoning lid hanging inside from a crane, which could be used for tuning. So perhaps they could provide ALL the filtering right at the fundamental frequency, like: rhombic antenna -> coupler -> silo 1 -> coupler -> silo 2 -> coupler -> product detector -> audio chain. Too bad they're reinforced concrete and would need lining. A neighbour & friend has new, shiny, airtight aluminum ones. His son is an electrical engineer. Hmmmm.

Please do laugh, but comment constructively! I am an ignorant coil-winder. Where do I read up on resonators and coupling? I would not mind experimenting with a stack of barrel-sized filters if the numbers warrant it.

73

Filippo
N1JPR/I2

2145. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 15:48:43 UTC
From: Ken Bessler <kg0wx@IHATESPAMyahoo.com>
Message-ID: <pdCdnXYC3uH99u2iXTWJkg@comcast.com>
Source record: 32364
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Bruce Lane" <SpammersAreVermin@dev.null> wrote in message
news:MPG.19da046ab64a1ebf989a14@192.168.42.131...
> In article <MaVbb.57$LJ5.4631@iad-read.news.verio.net>,
> Spamfree@Spamfree.com says...
>
> > " BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
> > news:vn07dg6h8lftdc@corp.supernews.com...
>
> <drivelectomy>
>
> Gang, it's just a troll, fercryinoutloud! They've been around
> since the early days of Usenet, and their entire existence seems to be
> centered around making outrageous posts just to see what kind of replies
> they get.
>
> Just killfile him and be at peace. Don't even waste your energy on
> a reply.
>
> 73 de KC7GR
>

Better yet, killfile him and create a message rule like this:

Apply this rule after the message arrives
Where the Subject line contains '3.894' or '3894' or 'bigal'
Delete it

That way you not only kill the messanger but all the
inane followups to the thread - end of problem.

Ken

2146. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 16:00:12 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <z6_bb.62$LJ5.6012@iad-read.news.verio.net>
Source record: 32365
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

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> In article <MaVbb.57$LJ5.4631@iad-read.news.verio.net>,
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>
> > " BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
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>
> <drivelectomy>
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> centered around making outrageous posts just to see what kind of replies
> they get.
>
> Just killfile him and be at peace. Don't even waste your energy on
> a reply.
>
> 73 de KC7GR

Already kill filed him. He got enough of my time. Lou

2147. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 16:02:11 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <p8_bb.63$LJ5.6096@iad-read.news.verio.net>
Source record: 32366
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Ken Bessler" <kg0wx@IHATESPAMyahoo.com> wrote in message
news:pdCdnXYC3uH99u2iXTWJkg@comcast.com...
>
> "Bruce Lane" <SpammersAreVermin@dev.null> wrote in message
> news:MPG.19da046ab64a1ebf989a14@192.168.42.131...
> > In article <MaVbb.57$LJ5.4631@iad-read.news.verio.net>,
> > Spamfree@Spamfree.com says...
> >
> > > " BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
> > > news:vn07dg6h8lftdc@corp.supernews.com...
> >
> > <drivelectomy>
> >
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> > 73 de KC7GR
> >
>
> Better yet, killfile him and create a message rule like this:
>
> Apply this rule after the message arrives
> Where the Subject line contains '3.894' or '3894' or 'bigal'
> Delete it
>
>
> That way you not only kill the messanger but all the
> inane followups to the thread - end of problem.
>
> Ken
>
Not a bad idea.. I hate blocking innocent replies out, but you're right, it
should stop it. Lou

2148. Re: PROJECT: next generation SWR/wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 16:59:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b9t0nv8mg7mrdemjd8a6q4c9fhusfs5jo8@4ax.com>
Source record: 32367
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

On 23 Sep 2003 08:31:17 -0700, jason_hsu@my-deja.com (Jason Hsu)
wrote:

>Believe it or not, I wanted even more QRP capability (like 1mW instead
>of 200mW) than my project actually delivers. However, I found several
>constraints:
>1. Op amps have offset voltages, and these constrain the accuracy of
>low-power measurements. Chopper amps have extremely low offset
>voltages, but giving them a 10V input while the power supply is turned
>off destroys them.
>2. The active rectifier has limited accuracy. It's fine in dealing
>with 100mV, but it would be useless in rectifying 10mV.
>3. The LM3914 chip has limited accuracy. The internal comparator
>amplifiers have a few mV of offset voltages.
>

Hi Jason,

1. Op Amps have offset voltage compensation circuits (either
internal, or you can access 50 years of literature on how to do it
externally). Your choice for a self-destructing chopper amp is your
own problem, not an inherent failure of the class of device. Again,
there are 50 years of literature on how to build your own if the
devices your limit yourself to are either a. too expensive, or b. too
fragile.

2. Active rectifiers having limited accuracy is strictly a problem of
GBWP. Choose a crappy one, and you fulfill your nightmare. For HF,
you should be using one with at least 1GHz. Your problem then becomes
one of selecting an amp that is stable at unity gain (or at least
stable at the gain you choose/need). Complaints about not being able
to handle 10mV signals only suggest you need an amplifying buffer
before the detector. With a little leg work (researching that same 50
years worth of application design), a second diode, and feed back, you
could linearize the power/SWR meter too.

3. LM3914 should be designed with the usual offset compensation if
that is a problem. However, even with a few mV out of 10V, the
dynamic range is considerably greater than your instrument's range.
Your problem is one of scaling your signal (it shows in the other
complaints). Dynamic range, 20 log (10V/10mV), borders on 60dB where
accuracy would tend to go to hell at the low end. You show only 30dB
of dynamic range, 10 log (200W/200mW). You are not using the full
potential of the device.

Compensation circuits can run from simple to complex. If you have zero compensation, you are abandoning your fate. Reading National Semiconductor product literature would be a simple approach to a great deal of variety of design:
http://cache.national.com/ds/LM/LM3914.pdf

73's
Richard Clark, KB7QHC

2149. Re: Fuel Tanks and Cereal Silos as Cavity Resonators for HF

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 17:25:29 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-E2D96D.13253023092003@news.verizon.net>
Source record: 32368

In article <95a201e0.0309230732.71b4ea40@posting.google.com>,
n1jpr@hotmail.com (SpamLover) wrote:

> Just out of curiosity - Did anyone ever try a cabinet-sized or
> room-sized cavity resonator as roof filter in a HF receiving system?
>
> I've trawled a bit for construction details, and found that a squat
> cylindrical resonator may have a radius of a quarter wave, so say...
>
> IF, MHz Diameter, feet what on earth?
> ----------
> 100 .49 a big can?
> 45 11 a fuel tank?
> 9 55 ????
>
> It would be cool to use a whole room as a resonator, adding furniture
> or guests as a way of trimming frequency or Q factor.
>
> For mobile use, one might consider using a whole truck trailer as a
> resonator.
>
> I would not mind dumping a truck trailer behind the sheds at my
> parents' farm and running some coax there and back, for a bit of HF
> work during my weekend visits. Besides, they also have a couple of
> unused silos, with cavities 15 ft in diameter and about 40 ft height.
> I wonder if such cavities in series would be tight enough to provide
> enough selectivity for CW work. They also have a huge pistoning lid
> hanging inside from a crane, which could be used for tuning. So
> perhaps they could provide ALL the filtering right at the fundamental
> frequency, like: rhombic antenna -> coupler -> silo 1 -> coupler ->
> silo 2 -> coupler -> product detector -> audio chain. Too bad they're
> reinforced concrete and would need lining. A neighbour & friend has
> new, shiny, airtight aluminum ones. His son is an electrical
> engineer. Hmmmm.
>
>
> Please do laugh, but comment constructively! I am an ignorant
> coil-winder. Where do I read up on resonators and coupling? I would
> not mind experimenting with a stack of barrel-sized filters if the
> numbers warrant it.
>

I'm not laughing! In the 60's, we had a problem with a shielded room.
The electrical noise within it was horrendous. It turned out that the
room size happened to be just right to resonate with the radiation from

the gigantic 5 MW SAGE radar which was just hundreds of feet away. the solution was to move the sensitive gear out of that room and to another. There was no way we could modify the radar nor the room; esp. the radar which had a football field sized rotating antenna.

Al

--
There's never enough time to do it right the first time.....

2150. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 20:31:00 UTC
From: Dan/W4NTI <w4nti@get>
Message-ID: <842cb.2349$ai7.1102@newsread1.news.atl.earthlink.net>
Source record: 32370
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Lou" <Spamfree@Spamfree.com> wrote in message
news:Q7Nbb.51$LJ5.4366@iad-read.news.verio.net...
> "Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
> news:vmv6j3kfrkpv64@corp.supernews.com...
> > HICKORY, NC [UPDATE]: The FCC wrote General licensee John A. Abernethy,
> > K4OKA, July 27, 1999, modifying his license to prohibit operation below
30
> > MHz for 180 days, effective immediately. Unless he appeals the action,
> > Abernethy may not get back on HF until January 22, 2000. The FCC letter
> > included a copy of a tape recording--supplied by complainants--of
> > transmissions said to be of Abernethy's station on July 16.
> Hollingsworth's
> > letter described the tape as "consisting of deliberate interference on
> 3.965
> > MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH, noted that
> > Abernethy had been warned about deliberate interference at the time his
> > station was inspected last January. Abernethy has 30 days to protest the
> > sanction. FCC personnel inspected Abernethy's station January 21 and 22
in
> > the wake of what Hollingsworth called "longstanding complaints from
other
> > amateurs and from our field offices." In particular, he said, the FCC
had
> > received "numerous complaints" about profanity, obscenity, deliberate
> > interference, and failure to properly identify. Other complaints to the
> FCC
> > alleged that Abernethy had aired something called the "Porkbutt Song,"
the
> > letter said, "for the purpose of harassment or deliberate interference."
> > Hollingsworth said the FCC's High Frequency Direction Finding Center in
> > Maryland tracked the transmissions of the "Porkbutt Song" to K4OKA. The
> FCC
> > letter also said the Commission had received complaints that Abernethy
had
> > used AM and upper sideband on 75 "for the purpose of interference" on or
> > near 3894.5 kHz. Abernethy also was warned in the letter about
over-power
> > operation. Hollingsworth said that the FCC has no plans to start
> revocation
> > proceedings against Abernethy "unless we have evidence of continued
> > violations" of the type the FCC described in its July 27 letter. (For
> > additional details, see "FCC Takes North Carolina Ham off HF for Six

> Months"
> > elsewhere on the AWE news page.)
> >
> >
> > "BIG AL" <imafuckingwindbag@porkbutt.net> wrote in message
> > news:vmqshdfh78hr4b@corp.supernews.com...
> > > SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO
> > >
> > >
> > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> > > >
> > > >
> > > > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > > > news:vmq5ars9c9i455@corp.supernews.com...
> > > > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5. THATS
> BIG
> > > ALS
> > > > > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> > > > >
> > > > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT SONG.
HO
> > HO
> > > > >
> > > > >
> > > >
> > > > If I choose to talk on that frequency, I will, so long as I'm
abiding
> by
> > > the
> > > > > rules and regulations as they are spelled out. YOU or no one else,
can
> > > tell
> > > > > me to stay off. ASS WIPE.
> > > >
> > > > BIG AL.. the only thing big about you, is your mouth....
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> > > > Lou
> > > >
>
> Well Ass hole AL, looks like you've had your ass reamed out once, trying
for
> seconds???? Something tells me, you're due for it.
> Lou
>
>

Once? Boy are you out of touch.

Dan/W4NTI

2151. Re: Schematic/PCB CAD pgms

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 20:55:18 UTC
From: Dutchman <h@ns.co.za>
Message-ID: <3f70b383$0$64726@hades.is.co.za>
Source record: 32371

Thanks for your response,
I wonder if any readers here would have a CD to spare or copy the CD
for me. Even email the software if not too large?
ZS6KR

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:bklr9ogch1@bob.news.rcn.net...
|
| "Dutchman" <h@ns.co.za> wrote in message
| news:3f6e0cc1$0$64727@hades.is.co.za...
| > I have been a fan of ORCAD SDT Schematic Capture and still
| > run a DOS version.
|
| A CD of a freeware version of ORCAD was given to everyone who wanted
one at
| Microwave Update (or was it Central States VHFS) a couple of years
ago. It
| is fully functional and does not expire, but is limited to a modest
number
| of components - enough for a small two-sheet drawing.
|
|

2152. Re: Schematic/PCB CAD pgms

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 21:38:55 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3F70BD61.6040407@attbi.com>
Source record: 32372

Dutchman wrote:
> I have been a fan of ORCAD SDT Schematic Capture and still
> run a DOS version.
> Would anyone know of a freeware outdated Windows version?
> Similarly I would like one the earlier Windows versions of
> Tango PCB.
> These DOS versions are not any more very compatible with
> MSW XP though with some patience they are still usable.
>
> I am so used to using these programs for odd jobs that
> changing to a different one would be too much of a learning
> curve.
> I could run a seperate PC in DOS just for both of them of course,
> but rather not.
>
> Any advice will be appreciated,
> Thanks
> Hans
> ZS6KR
>
>

Here is a link to order a copy from ORCAD directly.
http://www.orcad.com/downloads/form/CDRequest.asp
Bill Higdon

2153. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 21:46:49 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <xb3cb.87$LJ5.6464@iad-read.news.verio.net>
Source record: 32373
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
news:842cb.2349$ai7.1102@newsread1.news.atl.earthlink.net...
>
> "Lou" <Spamfree@Spamfree.com> wrote in message
> news:Q7Nbb.51$LJ5.4366@iad-read.news.verio.net...
> > "Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
> > news:vmv6j3kfrkpv64@corp.supernews.com...
> > > HICKORY, NC [UPDATE]: The FCC wrote General licensee John A.
Abernethy,
> > > K4OKA, July 27, 1999, modifying his license to prohibit operation
below
> 30
> > > MHz for 180 days, effective immediately. Unless he appeals the action,
> > > Abernethy may not get back on HF until January 22, 2000. The FCC
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> > > included a copy of a tape recording--supplied by complainants--of
> > > transmissions said to be of Abernethy's station on July 16.
> > Hollingsworth's
> > > letter described the tape as "consisting of deliberate interference on
> > 3.965
> > > MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH, noted
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> > > Abernethy had been warned about deliberate interference at the time
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> > > station was inspected last January. Abernethy has 30 days to protest
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> > > sanction. FCC personnel inspected Abernethy's station January 21 and
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> > > the wake of what Hollingsworth called "longstanding complaints from
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> > > interference, and failure to properly identify. Other complaints to
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in
> > > Maryland tracked the transmissions of the "Porkbutt Song" to K4OKA.
The
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> > > additional details, see "FCC Takes North Carolina Ham off HF for Six
> > Months"
> > > elsewhere on the AWE news page.)
> > >
> > >
> > > "BIG AL" <imafuckingwindbag@porkbutt.net> wrote in message
> > > news:vmqshdfh78hr4b@corp.supernews.com...
> > > > SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO
> > > >
> > > >
> > > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > > news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> > > > >
> > > > >
> > > > > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > > > > news:vmq5ars9c9i455@corp.supernews.com...
> > > > > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5.
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> > > > > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT
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> HO
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> > > > > >
> > > > > >
> > > > > >
> > > > > If I choose to talk on that frequency, I will, so long as I'm
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> > > > > Lou
> > > > >
> >
> > Well Ass hole AL, looks like you've had your ass reamed out once, trying
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> > seconds???? Something tells me, you're due for it.
> > Lou
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> >
>
> Once? Boy are you out of touch.
>
> Dan/W4NTI
>
Not sure how the thread made it past my kill file, but to respond to your comment, I only went with what I was told and seen for myself as witnessed above.. IF there was more than one incident mentioned, then I didn't notice in my speed read of the article.
But, if it's been more than once, then maybe it's time they show him they're done playing games.
Lou

2154. LOU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 21:55:06 UTC
From: Thirty-eight ninety-four point five <"Thirty-eight ninety-four point five"@Thirty-eight>
Message-ID: <vn1g9pltrcjba2@corp.supernews.com>
Source record: 32374
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

LOU YOU WILL NOT OPERATE ON THIRTY-EIGHT NINETY-FOUR POINT FIVE EVER BOY

I OWN THAT ONE CAUSE I HAVE A BIG ONE OH OH

"Lou" <Spamfree@Spamfree.com> wrote in message
news:xb3cb.87$LJ5.6464@iad-read.news.verio.net...
> "Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
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> > "Lou" <Spamfree@Spamfree.com> wrote in message
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> > > "Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
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> > > > HICKORY, NC [UPDATE]: The FCC wrote General licensee John A.
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> > > > >
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> Not sure how the thread made it past my kill file, but to respond to your
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> But, if it's been more than once, then maybe it's time they show him
they're
> done playing games.
> Lou
>
>

2155. Re: LOU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 22:02:53 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <Aq3cb.88$LJ5.6549@iad-read.news.verio.net>
Source record: 32375
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Thirty-eight ninety-four point five" <Thirty-eight ninety-four point five@Thirty-eight ninety-four point five> wrote in message news:vn1g9pltrcjba2@corp.supernews.com...
> LOU YOU WILL NOT OPERATE ON THIRTY-EIGHT NINETY-FOUR POINT FIVE EVER BOY
>
> I OWN THAT ONE CAUSE I HAVE A BIG ONE OH OH
>

KISS MY ASS!

I will do as I please so long as I'm within the law... YOU have not got enough ASS OR BALLS to stop me, because I WILL see to it, that you are tracked and prosecuted AGAIN - DICK HEAD. END OF DISCUSSION.

Lou

2156. Re: LOU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 22:04:51 UTC
From: Thirty-eight ninety-four point five <"Thirty-eight ninety-four point five"@Thirty-eight>
Message-ID: <vn1gs2p0fbj27d@corp.supernews.com>
Source record: 32376
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

hO Ho

"Lou" <Spamfree@Spamfree.com> wrote in message
news:Aq3cb.88$LJ5.6549@iad-read.news.verio.net...
> "Thirty-eight ninety-four point five" <Thirty-eight ninety-four point
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> > I OWN THAT ONE CAUSE I HAVE A BIG ONE OH OH
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>
> KISS MY ASS!
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> enough ASS OR BALLS to stop me, because I WILL see to it, that you are
> tracked and prosecuted AGAIN - DICK HEAD. END OF DISCUSSION.
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>
>

2157. Re: LOU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 22:08:50 UTC
From: Thirty-eight ninety-four point five <"Thirty-eight ninety-four point five"@Thirty-eight>
Message-ID: <vn1h3hqp1sqjbc@corp.supernews.com>
Source record: 32377
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

SEVEN TONITE. I'LL RUN YOU OFF BOY.

"Thirty-eight ninety-four point five" <Thirty-eight ninety-four point
five@Thirty-eight ninety-four point five> wrote in message
news:vn1gs2p0fbj27d@corp.supernews.com...
> hO Ho
>
>
> "Lou" <Spamfree@Spamfree.com> wrote in message
> news:Aq3cb.88$LJ5.6549@iad-read.news.verio.net...
> > "Thirty-eight ninety-four point five" <Thirty-eight ninety-four point
> > five@Thirty-eight ninety-four point five> wrote in message
> > news:vn1g9pltrcjba2@corp.supernews.com...
> > > LOU YOU WILL NOT OPERATE ON THIRTY-EIGHT NINETY-FOUR POINT FIVE EVER
BOY
> > >
> > > I OWN THAT ONE CAUSE I HAVE A BIG ONE OH OH
> > >
> >
> > KISS MY ASS!
> >
> > I will do as I please so long as I'm within the law... YOU have not got
> > enough ASS OR BALLS to stop me, because I WILL see to it, that you are
> > tracked and prosecuted AGAIN - DICK HEAD. END OF DISCUSSION.
> >
> > Lou
> >
> >
> >
>
>

2158. TUNE IT UP LOU LETS GO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 22:20:34 UTC
From: Thirty-eight ninety-four point five <"Thirty-eight ninety-four point five"@Thirty-eight>
Message-ID: <vn1hpiruu9604@corp.supernews.com>
Source record: 32378
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

3 8 9 4 . 5

B I G A L W A I T I N G F O R Y O U W I T H A B I G O N E

2159. AY YI YI YI YES ITS THE PORKBUTT SONG

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 22:22:42 UTC
From: BIG AL <bigal3.894.5@bigal3.894.5.com>
Message-ID: <vn07nhkt1kngc6@corp.supernews.com>
Source record: 32347
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

BE ON 3894.5 TONITE. THE ARKANSAS BOYS NEED TO BE SHOWN THE DOOR. HO HO

THE REST OF YOU LIMPS ONE NEED TO STAY AWAY. HO HO

AY YI YI YI YES ITS THE PORKBUTT SONG

AY YI YI YI YES ITS THE PORKBUTT SONG

AY YI YI YI YES ITS THE PORKBUTT SONG

2160. DOES LOU EVEN HAVE A LICENSE????

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 22:38:53 UTC
From: Thirty-eight ninety-four point five <"Thirty-eight ninety-four point five"@Thirty-eight>
Message-ID: <vn1irt7jrkb036@corp.supernews.com>
Source record: 32380
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

b i g a l w o u l d l i k e k n o w
w h o h e r u n s o f f o f
3 8 9 4 . 5 b i g b o y

2161. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 22:50:07 UTC
From: philh@cabalamat.org
Message-ID: <slrnbn1jgt.dtf.philh@cabalamat.cabalamat.com>
Source record: 32379
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

(I'm not an electronic engineer, so I've cross-posted this to some
newsgroups which might be able to give informed comment on a number
of points.)

On 23 Sep 2003 05:51:41 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
>philh@cabalamat.org (phil hunt) wrote in message
news:<slrnbmvau9.agb.philh@cabalamat.cabalamat.com>...
>> [regarding battlefield internet]
>> The signal must be such that the extended receiver can hear it. So
>> others can too, in principle. (Though detecting the signal and
>> knowing where it's from aren't the same thing). I'm not a radio
>> engineer but I can imagine a few ways how direction-finding might
>> work; for example place two (or 3) detectors a few meters apart
>> and calculate the time delay between each one receiving the signal.
>
>No. Paul is correct, DF'ing a "frequency agile" (or "hopping")
>transmitter is no easy task. For example, the standard US SINCGARS
>radio changes frequencies about one hundred times per *second*,

Bear in mind that I'm talking about automated electronic gear here,
not manual intervention. Electronics works in time spans a lot
quicker than 10 ms.

> over a
>pretty wide band of freq's (this is why synchronization of the radios
>on a time basis is critical to succesful operation of the net).

So the frequency changes are pre-determined on a time basis?

If there is a radio receiver, is it better able to detect/deceive a
signal whgen it knows the frequency in advance? Or can it "sniff"
for lots of frequencies at a time and pick out what looks
interesting?

If two receivers, placed say 10 m aparet, both pick up a signal, how
accurately can the time difference between the repetion of both
signals be calculated? Light moves 30 cm in 1 ns, so if time
differences can be calculated to an accuracy of 0.1 ns, then
direction could be resolved to an accuracy of 3 cm/10 m ~= 3 mrad.

Alternately, would something like a pinhole camera work? What I mean
here is: imagine a cubic metal box, 1 m on its side, with a vertical
slit, about 1 cm wide down one of its vertical faces. On the
opposite face, there are detectors for detecting radio waves. If the
elevctromatnetic ratiation coming into the box can only go in

through the slit, and goes in a straight line, then knowing which detectors are lit up would allow someone to tell where the radiation was coming from. It may be that, depending on the wavelength, the incoming radiation would be diffracted by the slit and would get spread all over the detectors. If this is the case, perehaps multiple slits could be used, and the diffraction pattern would differ dependent on the angle with which the radiation strikes the slitted face? (because the radation at each slit would be out-of-phase with the radiation at other slits). Has anything like this been tried?

> It is
>hard enough for the average "rest of the world" intel unit to DF an
>old fashioned non-hopping transmitter if the radio operator uses good
>RTO procedures--trying to pluck enough of these random
>fractional-second bursts out of the ether to determine a direction is
>more difficult by a few orders of magnitude.

What methods are used to do DF?

--
"It's easier to find people online who openly support the KKK than people who openly support the RIAA" -- comment on Wikipedia

2162. Re: LOU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 23:31:51 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vn1lv8ail1dl4c@corp.supernews.com>
Source record: 32381
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

You know, it IS possible that this is a different person just trying to
cause trouble.
I'm gonna traceroute his IP and see whereabouts he is...

-KG6SGY

"Lou" <Spamfree@Spamfree.com> wrote in message
news:Aq3cb.88$LJ5.6549@iad-read.news.verio.net...
> "Thirty-eight ninety-four point five" <Thirty-eight ninety-four point
> five@Thirty-eight ninety-four point five> wrote in message
> news:vn1g9pltrcjba2@corp.supernews.com...
> > LOU YOU WILL NOT OPERATE ON THIRTY-EIGHT NINETY-FOUR POINT FIVE EVER BOY
> >
> > I OWN THAT ONE CAUSE I HAVE A BIG ONE OH OH
> >
>
> KISS MY ASS!
>
> I will do as I please so long as I'm within the law... YOU have not got
> enough ASS OR BALLS to stop me, because I WILL see to it, that you are
> tracked and prosecuted AGAIN - DICK HEAD. END OF DISCUSSION.
>
> Lou
>
>
>

2163. Re: PROJECT: next generation SWR/wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 23:33:49 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309231533.655b6775@posting.google.com>
Source record: 32382
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Richard Clark <kb7qhc@comcast.net> wrote in message
news:<b9t0nv8mg7mrdemjd8a6q4c9fhusfs5jo8@4ax.com>...
>
> 1. Op Amps have offset voltage compensation circuits (either
> internal, or you can access 50 years of literature on how to do it
> externally). Your choice for a self-destructing chopper amp is your
> own problem, not an inherent failure of the class of device. Again,
> there are 50 years of literature on how to build your own if the
> devices your limit yourself to are either a. too expensive, or b. too
> fragile.
>
I am aware that some op amps have offset voltage compensation
circuits, but they require adjusting a potentiometer. I don't like
potentiometers and prefer to design a circuit to avoid the need for
one. There probably are better solutions than the active rectifier
design I went with, but they would have been more complicated.

> 2. Active rectifiers having limited accuracy is strictly a problem of
> GBWP. Choose a crappy one, and you fulfill your nightmare. For HF,
> you should be using one with at least 1GHz. Your problem then becomes
> one of selecting an amp that is stable at unity gain (or at least
> stable at the gain you choose/need). Complaints about not being able
> to handle 10mV signals only suggest you need an amplifying buffer
> before the detector. With a little leg work (researching that same 50
> years worth of application design), a second diode, and feed back, you
> could linearize the power/SWR meter too.
>
I had originally thought of using RF amplifiers in my design, but RF
amplifiers are not available in DIP format. So I switched to
rectifying the RF with Ge diodes and then using a noninverting
logarithmic op amp to compensate for the diode drop loss. The
experience also taught me to be less reliant on PSPICE in the future.
Just try to model an LM324 with the negative power supply grounded.
An LM324 doesn't need that negative power supply in real life, but it
does in PSPICE.

> 3. LM3914 should be designed with the usual offset compensation if
> that is a problem. However, even with a few mV out of 10V, the
> dynamic range is considerably greater than your instrument's range.
> Your problem is one of scaling your signal (it shows in the other
> complaints). Dynamic range, 20 log (10V/10mV), borders on 60dB where
> accuracy would tend to go to hell at the low end. You show only 30dB
> of dynamic range, 10 log (200W/200mW). You are not using the full
> potential of the device.

>
In the original version, I had 2 LM3914 amplifiers cascaded for 20 LEDs for the SWR display. When I wasn't transmitting, several of the LEDs would often come on, presumably because of the near-zero voltages on the low, signal, and high voltage ports. The instrument also didn't have the accuracy needed to justify 20 LEDs, and a 7-inch by 3-inch face does not have enough room for 40 LEDs.

You can always try to improve on my QROP Meter, just as my QROP Meter idea was inspired by my dissatisfaction with conventional SWR/wattmeters and the numerous homebrew designs I had looked at. And yes, I obtained many of my ideas from other people's designs. I found an LED-based SWR meter for VHF in the ARRL's archived articles. The noninverting logarithmic op amp to compensate for the diode drop loss and the directional coupler for sampling forward and reflected voltages came from several homebrew projects on the net plus the ARRL Antenna Book's Tandem Wattmeter project.

Jason Hsu, AG4DG
usenet@@@jasonhsu.com

2164. Re: LOU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 23:33:50 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn1m2uofkmf2b8@corp.supernews.com>
Source record: 32383
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

CALL THE FCC CALL THE FCC

"Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
news:vn1lv8ail1dl4c@corp.supernews.com...
> You know, it IS possible that this is a different person just trying to
> cause trouble.
> I'm gonna traceroute his IP and see whereabouts he is...
>
> -KG6SGY
>
>
> "Lou" <Spamfree@Spamfree.com> wrote in message
> news:Aq3cb.88$LJ5.6549@iad-read.news.verio.net...
> > "Thirty-eight ninety-four point five" <Thirty-eight ninety-four point
> > five@Thirty-eight ninety-four point five> wrote in message
> > news:vn1g9pltrcjba2@corp.supernews.com...
> > > LOU YOU WILL NOT OPERATE ON THIRTY-EIGHT NINETY-FOUR POINT FIVE EVER
BOY
> > >
> > > I OWN THAT ONE CAUSE I HAVE A BIG ONE OH OH
> > >
> >
> > KISS MY ASS!
> >
> > I will do as I please so long as I'm within the law... YOU have not got
> > enough ASS OR BALLS to stop me, because I WILL see to it, that you are
> > tracked and prosecuted AGAIN - DICK HEAD. END OF DISCUSSION.
> >
> > Lou
> >
> >
> >
>
>

2165. Anybody actually heard "BIG AL" on the air?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 23:41:28 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vn1mh7gl0j7b9d@corp.supernews.com>
Source record: 32384
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

As most of you know, there is a troll on these boards claiming to be K40KA. I'm still trying to figure out whether this guy is just trying to be annoying. If he is actually doing what he said he is, we can go to the FCC, so I'd like to find out if he's actually on the air. Not owning any HF equipment, I can't do much my self. If somebody could listen in when he says he'll be transmitting...

73 de KG6SGY

2166. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 23:43:13 UTC
From: Dan/W4NTI <w4nti@get>
Message-ID: <IU4cb.2991$ai7.362@newsread1.news.atl.earthlink.net>
Source record: 32385
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

```
"Lou" <Spamfree@Spamfree.com> wrote in message
news:xb3cb.87$LJ5.6464@iad-read.news.verio.net...
> "Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
> news:842cb.2349$ai7.1102@newsread1.news.atl.earthlink.net...
> >
> > "Lou" <Spamfree@Spamfree.com> wrote in message
> > news:Q7Nbb.51$LJ5.4366@iad-read.news.verio.net...
> > > "Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
> > > news:vmv6j3kfrkpv64@corp.supernews.com...
> > > > HICKORY, NC [UPDATE]: The FCC wrote General licensee John A.
> Abernethy,
> > > > K4OKA, July 27, 1999, modifying his license to prohibit operation
> below
> > 30
> > > > MHz for 180 days, effective immediately. Unless he appeals the
action,
> > > > Abernethy may not get back on HF until January 22, 2000. The FCC
> letter
> > > > included a copy of a tape recording--supplied by complainants--of
> > > > transmissions said to be of Abernethy's station on July 16.
> > > Hollingsworth's
> > > > letter described the tape as "consisting of deliberate interference
on
> > > 3.965
> > > > MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH, noted
> that
> > > > Abernethy had been warned about deliberate interference at the time
> his
> > > > station was inspected last January. Abernethy has 30 days to protest
> the
> > > > sanction. FCC personnel inspected Abernethy's station January 21 and
> 22
> > in
> > > > the wake of what Hollingsworth called "longstanding complaints from
> > other
> > > > amateurs and from our field offices." In particular, he said, the
FCC
> > had
> > > > received "numerous complaints" about profanity, obscenity,
deliberate
> > > > interference, and failure to properly identify. Other complaints to
> the
```

> > > FCC
> > > > alleged that Abernethy had aired something called the "Porkbutt
Song,"
> > the
> > > > letter said, "for the purpose of harassment or deliberate
> interference."
> > > > Hollingsworth said the FCC's High Frequency Direction Finding Center
> in
> > > > Maryland tracked the transmissions of the "Porkbutt Song" to K4OKA.
> The
> > > FCC
> > > > letter also said the Commission had received complaints that
Abernethy
> > had
> > > > used AM and upper sideband on 75 "for the purpose of interference"
on
> or
> > > > near 3894.5 kHz. Abernethy also was warned in the letter about
> > over-power
> > > > operation. Hollingsworth said that the FCC has no plans to start
> > > revocation
> > > > proceedings against Abernethy "unless we have evidence of continued
> > > > violations" of the type the FCC described in its July 27 letter.
(For
> > > > additional details, see "FCC Takes North Carolina Ham off HF for Six
> > > Months"
> > > > elsewhere on the AWE news page.)
> > > >
> > > >
> > > > "BIG AL" <imafuckingwindbag@porkbutt.net> wrote in message
> > > > news:vmqshdfh78hr4b@corp.supernews.com...
> > > > > SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO
> > > > >
> > > > >
> > > > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > > > news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> > > > > >
> > > > > >
> > > > > > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > > > > > news:vmq5ars9c9i455@corp.supernews.com...
> > > > > > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5.
> THATS
> > > BIG
> > > > > ALS
> > > > > > > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> > > > > >
> > > > > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT
> SONG.
> > HO
> > > > > HO

> > > > > > >
> > > > > > > >
> > > > > > >
> > > > > > > If I choose to talk on that frequency, I will, so long as I'm
> > abiding
> > > by
> > > > > the
> > > > > > > rules and regulations as they are spelled out. YOU or no one
else,
> > can
> > > > > > tell
> > > > > > > me to stay off. ASS WIPE.
> > > > > > >
> > > > > > > BIG AL.. the only thing big about you, is your mouth....
> > > > > > >
> > > > > > > Lou
> > > > > > >
> > >
> > > Well Ass hole AL, looks like you've had your ass reamed out once,
trying
> > for
> > > seconds???? Something tells me, you're due for it.
> > > Lou
> > >
> > >
> >
> > Once? Boy are you out of touch.
> >
> > Dan/W4NTI
> >
> Not sure how the thread made it past my kill file, but to respond to your
> comment, I only went with what I was told and seen for myself as witnessed
> above.. IF there was more than one incident mentioned, then I didn't
notice
> in my speed read of the article.
> But, if it's been more than once, then maybe it's time they show him
they're
> done playing games.
> Lou
>
>

Well first off, the reference violation above is long done with. He spent his time in radio prison and returned to the HF bands. He has basically learned his lesson, this time. And has been a decent operator for several years now.

What I was refering to was he was removed from the radio voluntarily in lieu of being fined a big chunk of bux back in the 70s. He stayed off the air for years. Returned as KJ4JX and began his crap again. He later got his original call back under the vanity system.

He has been a QRMer for many years. BUT as stated above has finally seen the light.

This crap you see here from "BIG AL" is BS.. And same for the "3894.5" crap. Its just a troll.

But I wanted to set the record straight.

Dan/W4NTI

2167. Re: Anybody actually heard "BIG AL" on the air?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-23 23:46:44 UTC
From: Dan/W4NTI <w4nti@get>
Message-ID: <EX4cb.3005$ai7.2406@newsread1.news.atl.earthlink.net>
Source record: 32386
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
news:vn1mh7gl0j7b9d@corp.supernews.com...
> As most of you know, there is a troll on these boards claiming to be
K40KA.
> I'm still trying to figure out whether this guy is just trying to be
> annoying. If he is actually doing what he said he is, we can go to the
FCC,
> so I'd like to find out if he's actually on the air. Not owning any HF
> equipment, I can't do much my self. If somebody could listen in when he
says
> he'll be transmitting...
>
>
> 73 de KG6SGY
>
>

It'd s troll. Big AL gets on occasionaly on 3894.5 and talks with whats left of his "Abernathy Radio Group". Without his Henry 8K of course.

So don't worry about it.

Dan/W4NTI

2168. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 00:27:44 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <oy5cb.91$LJ5.6549@iad-read.news.verio.net>
Source record: 32387
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
news:lU4cb.2991$ai7.362@newsread1.news.atl.earthlink.net...

<A whole bunch of stuff snipped>

>
>
> Well first off, the reference violation above is long done with. He
spent
> his time in radio prison and returned to the HF bands. He has basically
> learned his lesson, this time. And has been a decent operator for
several
> years now.
>
> What I was refering to was he was removed from the radio voluntarily in
lieu
> of being fined a big chunk of bux back in the 70s. He stayed off the air
> for years. Returned as KJ4JX and began his crap again. He later got his
> original call back under the vanity system.
>
> He has been a QRMer for many years. BUT as stated above has finally seen
> the light.
>
> This crap you see here from "BIG AL" is BS.. And same for the "3894.5"
crap.
> Its just a troll.
>
> But I wanted to set the record straight.
>
> Dan/W4NTI
>

Well, whatever.. I'm kill filing everything and anything that comes across
about this after this response. If need be, remove the news group as well. I
won't miss it for a while. But I'm not going to get caught up in this
childish bull shit any more than I've already been suckered into doing..
Yeah, I DO fail once in a while! Lou

2169. LOU DONT GO. ITS FUN SLAPPING YOU AROUND

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 00:35:01 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn1plom0ib5h02@corp.supernews.com>
Source record: 32388
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

BYE BYE BOY. SEE YOU LATER BOY. COME TO MY FREQ AND I'LL RUN YOU OFF THERE
TO.

B I G A L

"Lou" <Spamfree@Spamfree.com> wrote in message
news:oy5cb.91$LJ5.6549@iad-read.news.verio.net...
> "Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
> news:lU4cb.2991$ai7.362@newsread1.news.atl.earthlink.net...
>
> <A whole bunch of stuff snipped>
>
> >
> >
> > Well first off, the reference violation above is long done with. He
> spent
> > his time in radio prison and returned to the HF bands. He has basically
> > learned his lesson, this time. And has been a decent operator for
> several
> > years now.
> >
> > What I was refering to was he was removed from the radio voluntarily in
> lieu
> > of being fined a big chunk of bux back in the 70s. He stayed off the
air
> > for years. Returned as KJ4JX and began his crap again. He later got
his
> > original call back under the vanity system.
> >
> > He has been a QRMer for many years. BUT as stated above has finally
seen
> > the light.
> >
> > This crap you see here from "BIG AL" is BS.. And same for the "3894.5"
> crap.
> > Its just a troll.
> >
> > But I wanted to set the record straight.
> >
> > Dan/W4NTI
> >
>
> Well, whatever.. I'm kill filing everything and anything that comes across

> about this after this response. If need be, remove the news group as well.
I
> won't miss it for a while. But I'm not going to get caught up in this
> childish bull shit any more than I've already been suckered into doing..
> Yeah, I DO fail once in a while! Lou
>
>
>

2170. TO THE BUNCH ON 3893

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 00:39:33 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn1pu8hul8bkf2@corp.supernews.com>
Source record: 32389
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YOU NEED A BIGGER SIGNAL TO SHUT ME AND FRANKY DOWN.

2171. Re: W7EL Optimized Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 01:02:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vn1r8ppf52eoa1@corp.supernews.com>
Source record: 32390

Sure. In this country at least, you can sue anyone for anything. Winning
is another matter. Collecting is another yet.

Roy Lewallen, W7EL

Reg Edwards wrote:
> Roy a thought just crossed my mind. Is it possible to sue sombody for damage
> to a reputation in such a situation?
> ---
> Reg
>
>
>

2172. Re: Fuel Tanks and Cereal Silos as Cavity Resonators for HF

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 02:06:53 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bkqu7tceo1@freenet9.carleton.ca>
Source record: 32392

SpamLover (n1jpr@hotmail.com) writes:
> Just out of curiosity - Did anyone ever try a cabinet-sized or
> room-sized cavity resonator as roof filter in a HF receiving system?
>
Someone did some work with 10meter cavities out of oil drums. He
wrote about it in 73 back in 1970 or so. But his goal wasn't
the cavities, but some weird modulation scheme that I'm not sure
really made sense, so I don't think the articles gave a lot of
detail to the cavities, and since the whole thing seemed hair-brained,
it might not be the best source of experience on HF cavities.

In the June (or maybe it was May?) 1972 issue of QST, there was
an article about making a filter out of a metal garbage can for
2meters. But of course, at those frequencies, a cavity is not
an exceptional sight.

There have been some articles, in QST and I think Ham Radio (in
the mid-seventies) about HF helical coils. That sort of filter
might be more realistic than a cavity at HF.

Michael VE2BVW

2173. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 02:08:59 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vn1v5ud4v57a02@corp.supernews.com>
Source record: 32391
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Yeah, if you look at some of the other Big-Al threads you'll see that we've decided he's not for real.
Now we're trying to get him for violations of Supernews's policy. Write to abuse@supernews.com and attach segments of his posts. Maybe then he'll have to post directly...

-KG6SGY

"Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message news:lU4cb.2991$ai7.362@newsread1.news.atl.earthlink.net...
>
> "Lou" <Spamfree@Spamfree.com> wrote in message
> news:xb3cb.87$LJ5.6464@iad-read.news.verio.net...
> > "Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
> > news:842cb.2349$ai7.1102@newsread1.news.atl.earthlink.net...
> > >
> > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > news:Q7Nbb.51$LJ5.4366@iad-read.news.verio.net...
> > > > "Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
> > > > news:vmv6j3kfrkpv64@corp.supernews.com...
> > > > > HICKORY, NC [UPDATE]: The FCC wrote General licensee John A.
> > Abernethy,
> > > > > K4OKA, July 27, 1999, modifying his license to prohibit operation
> > below
> > > > 30
> > > > > MHz for 180 days, effective immediately. Unless he appeals the
> action,
> > > > > Abernethy may not get back on HF until January 22, 2000. The FCC
> > letter
> > > > > included a copy of a tape recording--supplied by complainants--of
> > > > > transmissions said to be of Abernethy's station on July 16.
> > > > Hollingsworth's
> > > > > letter described the tape as "consisting of deliberate interference
> on
> > > > 3.965
> > > > > MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH, noted
> > that
> > > > > Abernethy had been warned about deliberate interference at the time
> > his

> > > > > station was inspected last January. Abernethy has 30 days to
protest
> > the
> > > > > sanction. FCC personnel inspected Abernethy's station January 21
and
> > 22
> > > in
> > > > > the wake of what Hollingsworth called "longstanding complaints
from
> > > other
> > > > > amateurs and from our field offices." In particular, he said, the
> FCC
> > > had
> > > > > received "numerous complaints" about profanity, obscenity,
> deliberate
> > > > > interference, and failure to properly identify. Other complaints
to
> > the
> > > > FCC
> > > > > alleged that Abernethy had aired something called the "Porkbutt
> Song,"
> > > the
> > > > > letter said, "for the purpose of harassment or deliberate
> > interference."
> > > > > Hollingsworth said the FCC's High Frequency Direction Finding
Center
> > in
> > > > > Maryland tracked the transmissions of the "Porkbutt Song" to
K4OKA.
> > The
> > > > FCC
> > > > > letter also said the Commission had received complaints that
> Abernethy
> > > had
> > > > > used AM and upper sideband on 75 "for the purpose of interference"
> on
> > or
> > > > > near 3894.5 kHz. Abernethy also was warned in the letter about
> > > over-power
> > > > > operation. Hollingsworth said that the FCC has no plans to start
> > > > revocation
> > > > > proceedings against Abernethy "unless we have evidence of
continued
> > > > > violations" of the type the FCC described in its July 27 letter.
> (For
> > > > > additional details, see "FCC Takes North Carolina Ham off HF for
Six
> > > > Months"
> > > > > elsewhere on the AWE news page.)
> > > > >

> > > > >
> > > > > "BIG AL" <imafuckingwindbag@porkbutt.net> wrote in message
> > > > > news:vmqshdfh78hr4b@corp.supernews.com...
> > > > > > SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO
> > > > > > >
> > > > > > >
> > > > > > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > > > > > news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> > > > > > > >
> > > > > > > >
> > > > > > > > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > > > > > > > news:vmq5ars9c9i455@corp.supernews.com...
> > > > > > > > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF 3.894.5.
> > THATS
> > > > > BIG
> > > > > > ALS
> > > > > > > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> > > > > > > >
> > > > > > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE PORKBUTT
> > SONG.
> > > > HO
> > > > > HO
> > > > > > >
> > > > > > >
> > > > > > > If I choose to talk on that frequency, I will, so long as I'm
> > > abiding
> > > > > by
> > > > > > the
> > > > > > > rules and regulations as they are spelled out. YOU or no one
> else,
> > > can
> > > > > > tell
> > > > > > > me to stay off. ASS WIPE.
> > > > > > >
> > > > > > > BIG AL.. the only thing big about you, is your mouth....
> > > > > > >
> > > > > > > Lou
> > > > > > >
> > > >
> > > > Well Ass hole AL, looks like you've had your ass reamed out once,
> trying
> > > for
> > > > > seconds???? Something tells me, you're due for it.
> > > > > Lou
> > > >
> > > >
> > >
> > > Once? Boy are you out of touch.
> > >

> > > Dan/W4NTI
> > >
> > Not sure how the thread made it past my kill file, but to respond to
your
> > comment, I only went with what I was told and seen for myself as
witnessed
> > above.. IF there was more than one incident mentioned, then I didn't
> notice
> > in my speed read of the article.
> > But, if it's been more than once, then maybe it's time they show him
> they're
> > done playing games.
> > Lou
> >
> >
>
> Well first off, the reference violation above is long done with. He
spent
> his time in radio prison and returned to the HF bands. He has basically
> learned his lesson, this time. And has been a decent operator for
several
> years now.
>
> What I was refering to was he was removed from the radio voluntarily in
lieu
> of being fined a big chunk of bux back in the 70s. He stayed off the air
> for years. Returned as KJ4JX and began his crap again. He later got his
> original call back under the vanity system.
>
> He has been a QRMer for many years. BUT as stated above has finally seen
> the light.
>
> This crap you see here from "BIG AL" is BS.. And same for the "3894.5"
crap.
> Its just a troll.
>
> But I wanted to set the record straight.
>
> Dan/W4NTI
>
>

2174. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 03:00:32 UTC
From: brooksvmi@yahoo.com
Message-ID: <1e6ea40d.0309231900.2bd6a22c@posting.google.com>
Source record: 32393
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

philh@cabalamat.org (phil hunt) wrote in message
news:<slrnbn1jgt.dtf.philh@cabalamat.cabalamat.com>...
> (I'm not an electronic engineer, so I've cross-posted this to some
> newsgroups which might be able to give informed comment on a number
> of points.)
>
> On 23 Sep 2003 05:51:41 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
> >philh@cabalamat.org (phil hunt) wrote in message
news:<slrnbmvau9.agb.philh@cabalamat.cabalamat.com>...
> >> [regarding battlefield internet]
> >> The signal must be such that the extended receiver can hear it. So
> >> others can too, in principle. (Though detecting the signal and
> >> knowing where it's from aren't the same thing). I'm not a radio
> >> engineer but I can imagine a few ways how direction-finding might
> >> work; for example place two (or 3) detectors a few meters apart
> >> and calculate the time delay between each one receiving the signal.
> >>
> >No. Paul is correct, DF'ing a "frequency agile" (or "hopping")
> >transmitter is no easy task. For example, the standard US SINCGARS
> >radio changes frequencies about one hundred times per *second*,
>
> Bear in mind that I'm talking about automated electronic gear here,
> not manual intervention. Electronics works in time spans a lot
> quicker than 10 ms.

So what? Unless you know the frequency hopping plan ahead of time
(something that is rather closely guarded), you can't capture enough
of the transmission to do you any good--they use a rather broad
spectrum.

>
> > over a
> >pretty wide band of freq's (this is why synchronization of the radios
> >on a time basis is critical to succesful operation of the net).
>
> So the frequency changes are pre-determined on a time basis?

Yes.

>
> If there is a radio receiver, is it better able to detect/deceive a
> signal whgen it knows the frequency in advance? Or can it "sniff"
> for lots of frequencies at a time and pick out what looks
> interesting?

Both radios have to be loaded with the same frequency hopping (FH) plan, and then they have to be synchronized by time. When SINGCARS first came out the time synch had to be done by having the net control station (NCS) perform periodic radio checks (each time your radio "talked" to the NCS, it resynchronized to the NCS time hack); failure to do this could result in the net "splitting", with some of your radios on one hack, and the rest on another, meaning the two could not talk to each other. I believe that the newer versions (known as SINCGARS EPLRS, for enhanced precision location system) may use GPS time data, ensuring that everyone is always on the same time scale.

Yes, you can set up to scan various nets (we did so for command post operations where we wanted to monitor multiple nets), but they all have to be on that same time hack, and you have to have each net's FH plan loaded; you can't just decide to operate it like a police scanner and listen in on whoever you choose to.

>
> If two receivers, placed say 10 m aparet, both pick up a signal, how
> accurately can the time difference between the repetion of both
> signals be calculated? Light moves 30 cm in 1 ns, so if time
> differences can be calculated to an accuracy of 0.1 ns, then
> direction could be resolved to an accuracy of 3 cm/10 m ~= 3 mrad.

The fact is that the direction finding (DF'ing) of frequency agile commo equipment is extremely difficult for the best of the world's intel folks, and darned near impossible for the rest (which is most of the rest of the world); that is why US radio procedures are a bit more relaxed than they used to be before the advent of FH, back when we tried to keep our transmissions to no more than five seconds at a time with lots of "breaks" in long messages to make DF'ing more difficult.

>
> Alternately, would something like a pinhole camera work? What I mean
> here is: imagine a cubic metal box, 1 m on its side, with a vertical
> slit, about 1 cm wide down one of its vertical faces. On the
> opposite face, there are detectors for detecting radio waves. If the
> elevctromatnetic ratiation coming into the box can only go in
> through the slit, and goes in a straight line, then knowing which
> detectors are lit up would allow someone to tell where the
> radiation was coming from. It may be that, depending on the
> wavelength, the incoming radiation would be diffracted by the slit
> and would get spread all over the detectors. If this is the case,
> perehaps multiple slits could be used, and the diffraction pattern
> would differ dependent on the angle with which the radiation strikes
> the slitted face? (because the radation at each slit would be
> out-of-phase with the radiation at other slits). Has anything like
> this been tried?

Hey, I just *used* the critters and was fortunate enough to attend new equipment training from the manufacturer when we got it; suffice it to say that use of FH makes DF'ing a remote concern, pretty much eliminates any concern over jamming (even broad band jamming can only

take down a small percentage of the available spectrum, making voice transmissions still very clear), and the use of FH combined with crypto key makes it darned near impossible for the bad guy to decypher it in any realistic timely manner.

>
> > It is
> >hard enough for the average "rest of the world" intel unit to DF an
> >old fashioned non-hopping transmitter if the radio operator uses good
> >RTO procedures--trying to pluck enough of these random
> >fractional-second bursts out of the ether to determine a direction is
> >more difficult by a few orders of magnitude.
>
> What methods are used to do DF?

You'd have to find a signals intel puke to answer that one (but you can rest assured that any really good methods/systems remain classified).

Brooks

2175. SHOW ME YOUR LITTLE ONE AND I'LL SHOW YOU MY BIG ONE BOY

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 03:24:55 UTC
From: BIG AL <bigal3.894.5@bigal3.894.5.com>
Message-ID: <vn07rpnvkjh12c@corp.supernews.com>
Source record: 32349
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

THIS IS K4OKA THE CARING STATION. HO HO

STOP PLAYING WITH YOURSELF BOY.

HO HO

2176. PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 03:27:31 UTC
From: BIG AL <bigal3.894.5@bigal3.894.5.com>
Message-ID: <vn080m13ld4oa1@corp.supernews.com>
Source record: 32350
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

AY YI YI YI YES ITS THE PORKBUTT SONG.

AY YI YI YI YES ITS THE PORKBUTT SONG.

AY YI YI YI YES ITS THE PORKBUTT SONG.

3894.5 IS MINE. STAY AWAY.

2177. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 03:32:00 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <bkr37g$4fl$1@208.206.142.79>
Source record: 32394

mike wrote:

> On Tue, 23 Sep 2003 12:40:22 GMT, mike <intotheapex@yahoo.com> wrote:
>
>
>
>>A side effect I noticed after installing the 1N914 diodes was images
>>scattered across the bands. For example, wwcr on 3200 was also on
>>2300. Another gentleman posted me link in the antenna group where he
>>found the same thing happening.
>>
>>Might the resistor in series with the diodes reduce this side effect?
>>
>
>
>
> hmmm... might be my impedance mismatch causing reflections of imcoming
> signals back and forth along the antenna, thus causing images.
>
> probable?
>

It may be a mixing product due to mixing of RF signals in a diode.

Dick
mike

2178. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 03:33:27 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <cq32nv0f3re8lcl3d6aopveutv7cd6hkmc@4ax.com>
Source record: 32395

On Thu, 18 Sep 2003 11:23:21 -0400, "R J Carpenter"
<rcarpen@erols.com> wrote:

>It's just a half-rhombic, but must suffer seriously from the poor grounding
>that the ground rods provide. That will both reduce the front-to-back ratio
>and make the input impedance vary (much) more with frequency.

According to US Army Signal Corps FM 24-18 chapter 3 section 7, poor
grounds can be helped with a dose of the following to increase
conductivity (in order of conductivity)

Sodium Chloride
Calcium Chloride
Copper Sulfate
Magnesium Sulfate
Postassium Nitrate

Course they also say dont let it get into the drinking water <grin>

mike

2179. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 04:44:41 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <bkr7fpfmj0@208.206.142.79>
Source record: 32396

Kieren wrote:

> Back to back: Take your two diodes and install them in parallel, but
> with one 'pointing' in the opposite direction. The idea is that, because
> each diode will conduct when the voltage rises above it's threashold, it
> doesn't matter if the spike is positive or negative. A radio signal is
> highly unlikely to be powerful enough to force either diode to conduct
> (and if it did, they'll protect the RX front end).
>
> I don't think they'd help much however! You only have to think about the
> kind of potential in a static build-up to decide that you do not want to
> rely on a pair of diodes to keep everything calm.

Once the static voltage builds to .7 volt one or the other diode will
conduct and "bleed" it off. Of course that assumes that we're not
talking of lightning-level static charge. In that case all bets are off.

Many HF and MF installations use an RF choke of sufficient impedance
placed across the antenna terminals to provide a discharge path for all
static voltages to be immediately shunted to ground without disturbing
the received radio signal in any way. No static ever builds up on the
antenna. All it takes is a small RF choke of sufficient impedance to be
transparent at the frequency of interest.

Dick

Far better to make
> sure your aerial has a DIRECT path to earth - a low impedence one at
> that. Best way to avoid static damage? Disconnect the hardware from the
> wire when you think there's static about. Oh - and avoid using
> headphones....
>
>
> Good luck.
> K
>
>
>
> mike <intotheapex@yahoo.com> wrote in
> news:gm1smv0caf1491rebdvp25bevv5qio1b9v@4ax.com:
>
>
>>Hey group,
>>
>>I have a portable radio with no external ground.
>>

>>Recently I built a PI network antenna tuner in a metal box and
>>included an output for earth ground. So the outer sheild of my coax
>>inputs as well as outputs and the variable capacitor frames are on
>>this ground to earth. The random wire input goes strait to the tuning
>>capacitor thus needs some kind of static drain off.
>>
>>I have heard using a neon bulb and a 2 watt 2.2k ohm resistor in
>>between the inputs and ground would discharge static buildup and give
>>me some warning of build up conditions.
>>
>>I am also concerned about limiting the voltage to the receiver front
>>end to prevent damage. I have heard installing back to back high speed
>>diodes between the imputs and ground would acheive this.
>>
>>I understand everything but the diodes. What does back to back mean. I
>>recall diodes are one way, but which way goes where? Should I look for
>>a certain type or rating of diode?
>>
>>
>>Thanks for your help,
>>
>>Mike
>>
>>
>>
>
>

2180. Re: Fuel Tanks and Cereal Silos as Cavity Resonators for HF

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 06:26:20 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0309232226.439ca3a2@posting.google.com>
Source record: 32297

n1jpr@hotmail.com (SpamLover) wrote in message
news:<95a201e0.0309230732.71b4ea40@posting.google.com>...
> Just out of curiosity - Did anyone ever try a cabinet-sized or
> room-sized cavity resonator as roof filter in a HF receiving system?
>
> I've trawled a bit for construction details, and found that a squat
> cylindrical resonator may have a radius of a quarter wave, so say...

Hi Filippo,
some experience is described by Harry SM0VPO at
http://w1.859.telia.com/~u85920178/use/cavity.htm He worked from 28
to 1300 MHz. The biggest object he used was an old galvanised dustbin.

BR from Ivan

2181. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 06:31:23 UTC
From: "Dave, AA6YQ" <aa6yq@ambersoft.com>
Message-ID: <%Sacb.420751$Oz4.215162@rwcrnsc54>
Source record: 32298

Yes, an emulation would be much faster, but you'd miss those flashing lights.

Tnx for the core explanation. Data General was still stringing their own core memory when I arrived in 1972, and there was a fellow who specialized in designing the read/write circuitry from whom I learned more than I wanted to know. The last models were 32kbyte arrays on 15" square PCBs. We began offering RAM-based memory in 1975, using 2K dynamic RAMs built in DG's Sunnyvale fab; that was the heydey of vertical integration - DG made everything from TTL to tape drives.

73,

Dave, AA6YQ

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:bkpds0$4iu$1@bob.news.rcn.net...
>
> "Dave, AA6YQ" <aa6yq@ambersoft.com> wrote in message
> news:_cPbb.129787$mp.66168@rwcrnsc51.ops.asp.att.net...
> > Getting core memories to work was black magic with the original
designers
> at
> > your side; that's something that you got a 1620 stack working on your
own.
> > For the price of a few electrolytics -- or a new switching PS -- and a
few
> > more hours, it definitely sounds worth resuscitating.
>
> It has enough sentimental value to keep, for now, but I guess I don't see
> any real reason to resuscitate it. Emulation on a modern PC would run
many
> times as fast. I have kept all the paper tape software and the
"high-speed"
> paper tape reader.
>
> As to the core memory, I lucked out.
>
> The 1620 stack had a two-level scheme to drive the 100 x 100 grid of
> selection wires. There were two sets of 100 switch cores that actually
> drove the wires in the core stack, one set for each axis. Each of those
200
> switch cores was threaded with two wires itself - a total of 20 wires for
> each set of 100 switch cores. You put a pulse through the two wires
> threaded through a particular switch core to make it flip - thus sending a

> pulse on a desired selection wire in the main core stack. You could think
> of the switch cores as a decimal decoder. There were ten "10s" wires, and
> ten "units" wires threaded through the set of 100 switch cores.
> Simultaneously pulse the "70" and the "3" wires to the switch cores and
the
> "73" selection wire to one axis of the main core stack was pulsed. The
> other axis of the main core stack had a similar scheme.
>
> Since I was only implementing 4096 locations, I didn't have to drive all
the
> "10s" and "units" wires to the switch cores. I had to drive 64 of the 100
> switch cores on each axis - and I could use any 64 I wanted. I split the
> 12-bit address into two 6-bit halves and drove the switch cores with
decoded
> versions from the 6-bit half associated with that axis of the main memory
> stack. The 64 switch cores for each axis only required use of 8 of the
> "10s" lines and 8 of the "units" wires through the switch cores for that
> axis - a total of 16 drivers per axis or 32 total switch core drivers -
far
> better than the 128 I would have needed to directly drive the main core
> stack selection wires.
>
> The 1620 core stack was thus a little unconventional, but was a big win
for
> me.
>
> 73 de bob w3otc
>
>

2182. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 09:19:38 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F7161AA.DC3658B9@ob-wan.com>
Source record: 32304

Yeah, and I can just see the neighbours demanding you shut down your dangerous transmitter. "Look at all the dead snails! See!! It's deadly!!!"

Rob

mike wrote:
>
> On Thu, 18 Sep 2003 11:23:21 -0400, "R J Carpenter"
> <rcarpen@erols.com> wrote:
>
> >It's just a half-rhombic, but must suffer seriously from the poor grounding
> >that the ground rods provide. That will both reduce the front-to-back ratio
> >and make the input impedance vary (much) more with frequency.
>
> According to US Army Signal Corps FM 24-18 chapter 3 section 7, poor
> grounds can be helped with a dose of the following to increase
> conductivity (in order of conductivity)
>
> Sodium Chloride
> Calcium Chloride
> Copper Sulfate
> Magnesium Sulfate
> Postassium Nitrate
>
> Course they also say dont let it get into the drinking water <grin>
>
> mike

2183. Re: 3.894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 09:25:05 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn2ongovmmqva8@corp.supernews.com>
Source record: 32299
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

WOULD YOU LIKE SOME CHEESE TO GO WITH THAT WHINE BOY.

HO HO

"Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message
news:vn1v5ud4v57a02@corp.supernews.com...
> Yeah, if you look at some of the other Big-Al threads you'll see that
we've
> decided he's not for real.
> Now we're trying to get him for violations of Supernews's policy. Write to
> abuse@supernews.com and attach segments of his posts. Maybe then he'll
have
> to post directly...
>
> -KG6SGY
>
>
>
>
> "Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
> news:lU4cb.2991$ai7.362@newsread1.news.atl.earthlink.net...
> >
> > "Lou" <Spamfree@Spamfree.com> wrote in message
> > news:xb3cb.87$LJ5.6464@iad-read.news.verio.net...
> > > "Dan/W4NTI" <w4nti@get rid of this mindspring.com> wrote in message
> > > news:842cb.2349$ai7.1102@newsread1.news.atl.earthlink.net...
> > > >
> > > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > > news:Q7Nbb.51$LJ5.4366@iad-read.news.verio.net...
> > > > > "Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in
> message
> > > > > news:vmv6j3kfrkpv64@corp.supernews.com...
> > > > > > HICKORY, NC [UPDATE]: The FCC wrote General licensee John A.
> > > Abernethy,
> > > > > > K4OKA, July 27, 1999, modifying his license to prohibit
operation
> > > below
> > > > > 30
> > > > > > MHz for 180 days, effective immediately. Unless he appeals the
> > action,
> > > > > > Abernethy may not get back on HF until January 22, 2000. The FCC
> > > letter
> > > > > > included a copy of a tape recording--supplied by

complainants--of
> > > > > > transmissions said to be of Abernethy's station on July 16.
> > > > > Hollingsworth's
> > > > > > letter described the tape as "consisting of deliberate
> interference
> > on
> > > > > > 3.965
> > > > > > MHz." In the letter, FCC Attorney Riley Hollingsworth, K4ZDH,
> noted
> > > that
> > > > > > Abernethy had been warned about deliberate interference at the
> time
> > > his
> > > > > > station was inspected last January. Abernethy has 30 days to
> protest
> > > the
> > > > > > sanction. FCC personnel inspected Abernethy's station January 21
> and
> > > 22
> > > > > in
> > > > > > the wake of what Hollingsworth called "longstanding complaints
> from
> > > > other
> > > > > > amateurs and from our field offices." In particular, he said,
the
> > FCC
> > > > had
> > > > > > received "numerous complaints" about profanity, obscenity,
> > deliberate
> > > > > > interference, and failure to properly identify. Other complaints
> to
> > > the
> > > > > > FCC
> > > > > > alleged that Abernethy had aired something called the "Porkbutt
> > Song,"
> > > > the
> > > > > > letter said, "for the purpose of harassment or deliberate
> > > interference."
> > > > > > Hollingsworth said the FCC's High Frequency Direction Finding
> Center
> > > in
> > > > > > Maryland tracked the transmissions of the "Porkbutt Song" to
> K4OKA.
> > > The
> > > > > > FCC
> > > > > > letter also said the Commission had received complaints that
> > Abernethy
> > > > had
> > > > > > used AM and upper sideband on 75 "for the purpose of
interference"

> > on
> > > or
> > > > > > near 3894.5 kHz. Abernethy also was warned in the letter about
> > > > over-power
> > > > > > operation. Hollingsworth said that the FCC has no plans to start
> > > > > revocation
> > > > > > proceedings against Abernethy "unless we have evidence of
> continued
> > > > > > violations" of the type the FCC described in its July 27 letter.
> > (For
> > > > > > additional details, see "FCC Takes North Carolina Ham off HF for
> Six
> > > > > Months"
> > > > > > elsewhere on the AWE news page.)
> > > > > >
> > > > > >
> > > > > > "BIG AL" <imafuckingwindbag@porkbutt.net> wrote in message
> > > > > > news:vmqshdfh78hr4b@corp.supernews.com...
> > > > > > > SHOW UP ON MY FREQUENCY AND I WILL RUN YOU OFF. HO HO
> > > > > > >
> > > > > > >
> > > > > > > "Lou" <Spamfree@Spamfree.com> wrote in message
> > > > > > > news:iO8bb.13$LJ5.2273@iad-read.news.verio.net...
> > > > > > > >
> > > > > > > >
> > > > > > > > "BIG AL" <imafuckingwindbag@bigalk4oka.net> wrote in message
> > > > > > > > news:vmq5ars9c9i455@corp.supernews.com...
> > > > > > > > > HO HO. SELL YOUR GEAR I DONT CARE. JUST STAY OFF OF
3.894.5.
> > > THATS
> > > > > > BIG
> > > > > > > > ALS
> > > > > > > > > FREQUENCY. HO HO. I'LL BE TAKING OVER 3.898 NEXT. HO HO
> > > > > > > >
> > > > > > > > AY YI YI IT'S THE PORKBUTT SONG. AY YI YI IT'S THE
PORKBUTT
> > > SONG.
> > > > > HO
> > > > > > > HO
> > > > > > > >
> > > > > > > >
> > > > > > > >
> > > > > > > > If I choose to talk on that frequency, I will, so long as
I'm
> > > > abiding
> > > > > > by
> > > > > > > > the
> > > > > > > > > rules and regulations as they are spelled out. YOU or no one
> > else,
> > > > > can

> > > > > > > tell
> > > > > > > > > me to stay off. ASS WIPE.
> > > > > > > > >
> > > > > > > > > BIG AL.. the only thing big about you, is your mouth....
> > > > > > > > >
> > > > > > > > > Lou
> > > > > > > > >
> > > > > >
> > > > > > Well Ass hole AL, looks like you've had your ass reamed out once,
> > trying
> > > > > > for
> > > > > > seconds???? Something tells me, you're due for it.
> > > > > > Lou
> > > > > >
> > > > > >
> > > > >
> > > > > Once? Boy are you out of touch.
> > > > >
> > > > > Dan/W4NTI
> > > > >
> > > Not sure how the thread made it past my kill file, but to respond to
> your
> > > comment, I only went with what I was told and seen for myself as
> witnessed
> > > above.. IF there was more than one incident mentioned, then I didn't
> > notice
> > > in my speed read of the article.
> > > But, if it's been more than once, then maybe it's time they show him
> > they're
> > > done playing games.
> > > Lou
> > >
> > >
> >
> > Well first off, the reference violation above is long done with. He
> spent
> > his time in radio prison and returned to the HF bands. He has basically
> > learned his lesson, this time. And has been a decent operator for
> several
> > years now.
> >
> > What I was refering to was he was removed from the radio voluntarily in
> lieu
> > of being fined a big chunk of bux back in the 70s. He stayed off the
air
> > for years. Returned as KJ4JX and began his crap again. He later got
his
> > original call back under the vanity system.
> >
> > He has been a QRMer for many years. BUT as stated above has finally

seen
> > the light.
> >
> > This crap you see here from "BIG AL" is BS.. And same for the "3894.5"
> crap.
> > Its just a troll.
> >
> > But I wanted to set the record straight.
> >
> > Dan/W4NTI
> >
> >
>
>

2184. AY YI YI AY YI YI

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 09:32:59 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn2p6colsb5r12@corp.supernews.com>
Source record: 32300
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YES ITS THE PORKBUTT SONG. CALL THE FCC CALL THE INTERNET POLICE CALL YOUR MOTHER BIG AL DOESNT CARE. IM BIG AL WITH THE BIG ONE. GREG IS GOING TO SAVE THE WORLD. THANK YOU GREG FOR BEING SUCH A MAN. AY YI YI AY YI YI YES GREG IS A PORKBUTT TO.

2185. Re: fm r/c transmitter circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 10:50:22 UTC
From: David King <king.dj@xtra.co.nz>
Message-ID: <6Hecb.157616$JA5.3866437@news.xtra.co.nz>
Source record: 32303

I wish to build a 3 channel single stick fm r/c transmitter and interested in any schematics for a suitable encoder and rf platform for radio control models.

Cheers
Kingi

2186. Re: fm r/c transmitter circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 11:31:21 UTC
From: nojunk.c.a.m@banthespam.blueyonder.co.uk
Message-ID: <g103nvod3neps5hr7n7umnlie1dm4nu8t7@4ax.com>
Source record: 32305

Their are ready made encoder chips around (don't know of any off hand).

But a PIC or an AVmega cpu would make a very nice ppm or pcm encoder these days.

Clive

2187. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 12:17:56 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bks21t$54247$1@ID-153362.news.uni-berlin.de>
Source record: 32306
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Ken Bessler" <kg0wx@IHATESPAMyahoo.com> wrote in message
news:pdCdnXYC3uH99u2iXTWJkg@comcast.com...
>
> "Bruce Lane" <SpammersAreVermin@dev.null> wrote in message
> news:MPG.19da046ab64a1ebf989a14@192.168.42.131...
> > In article <MaVbb.57$LJ5.4631@iad-read.news.verio.net>,
> > Spamfree@Spamfree.com says...
> >
> > > " BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
> > > news:vn07dg6h8lftdc@corp.supernews.com...
> >
> > <drivelectomy>
> >
> > Gang, it's just a troll, fercryinoutloud! They've been around
> > since the early days of Usenet, and their entire existence seems to be
> > centered around making outrageous posts just to see what kind of replies
> > they get.
> >
> > Just killfile him and be at peace. Don't even waste your energy on
> > a reply.
> >
> > 73 de KC7GR
> >
>
> Better yet, killfile him and create a message rule like this:
>
> Apply this rule after the message arrives
> Where the Subject line contains '3.894' or '3894' or 'bigal'
> Delete it
>

No!

Where the Subject line contains '3.894' or '3894' or 'bigal'
send the email back

73 de Rene PE1RA

2188. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 14:13:45 UTC
From: Henry <otc_friend@gmx.net>
Message-ID: <3f71f269_2@news.arcor-ip.de>
Source record: 32309
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

I read the patent application meantime. But I must say there is not much content in it. Especially nothing how to calculate dimensions, materials or taken measurements.
My understanding is that it is a helix antenna supported with a ferrite powder rod in the axis. And it is electrical much longer than the wavelength used. Adaption to the "ether" field Z(0) with up to 4 stages of different winding/mu(r) value materials. A magnetical antenna very similar to the electrical Yagi antenna. "The antenna works up to 500MHz", he says. "Greater frequency requires lower mu(r)."

Sorry, maybe it won't work at all. I'm not an antenna expert. Maybe the author of the patent will directly respond here sometime?

What do you think?

- Henry

Arie de Muynck schrieb in Nachricht
<3f70420c$0$58697$e4fe514c@news.xs4all.nl>...
>
>"Henry" wrote
>> You made great interesting experiments!
>> The electrical field will suffer with a alumni foil, surely. Magnetics
>> will go thru.
>
>You didn't do the experiment.
>
>Regards,
>Arie de Muynck
>
>
>
>
>

2189. Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 15:05:09 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <b1c3nvg8kri9661h0fgrn1o9cbp037p2f9@4ax.com>
Source record: 32307

Given I am currently using 75 ohm coax to feed my random wire, I believe I could use a 300 ohm to 75 ohm (4:1) TV twin lead to coax converter and get away with it.

Please correct me if I am wrong, but I think I would attach the random wire to one terminal of the 300 ohm input. The other would go directly to earth ground, or via a gas arc tube to ground.

On the other side, I would attach my coax cable.

To give the coax feeder a ground at the antenna end, I would to open up the converter and solder in a ground wire on the coax sheild terminal. This would kill off common mode currents.

This would give my antenna feeder system a matching transformer plus give the antenna a direct path to ground.

Theoretically, I am I missing anything?

mike

2190. Re: 03894.5-LSB-75-METERS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 17:57:02 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn3mnk2p842u9a@corp.supernews.com>
Source record: 32308
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

RENE?

HOMO?

FAGO?

HO HO?

"Rene PE1RA / ON6ALD" <REMOVErene.altena@gmx.net> wrote in message
news:bks21t$54247$1@ID-153362.news.uni-berlin.de...
>
> "Ken Bessler" <kg0wx@IHATESPAMyahoo.com> wrote in message
> news:pdCdnXYC3uH99u2iXTWJkg@comcast.com...
> >
> > "Bruce Lane" <SpammersAreVermin@dev.null> wrote in message
> > news:MPG.19da046ab64a1ebf989a14@192.168.42.131...
> > > In article <MaVbb.57$LJ5.4631@iad-read.news.verio.net>,
> > > Spamfree@Spamfree.com says...
> > >
> > > > " BIG AL" <bigal3.894.5@bigal3.894.5.com> wrote in message
> > > > news:vn07dg6h8lftdc@corp.supernews.com...
> > >
> > > <drivelectomy>
> > >
> > > Gang, it's just a troll, fercryinoutloud! They've been around
> > > since the early days of Usenet, and their entire existence seems to be
> > > centered around making outrageous posts just to see what kind of
replies
> > > they get.
> > >
> > > Just killfile him and be at peace. Don't even waste your energy on
> > > a reply.
> > >
> > > 73 de KC7GR
> > >
> >
> > Better yet, killfile him and create a message rule like this:
> >
> > Apply this rule after the message arrives
> > Where the Subject line contains '3.894' or '3894' or 'bigal'
> > Delete it
> >
>
> No!

>
> Where the Subject line contains '3.894' or '3894' or 'bigal'
> send the email back
>
>
> 73 de Rene PE1RA
>
>

2191. TONITE 7PM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 20:06:30 UTC
From: THE CARING STATION <THECARINGSTATION@B>
Message-ID: <vn3ua5i5lbu7da@corp.supernews.com>
Source record: 32310
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YOU KNOW THE FREQUENCY 3894.5-LSB. THAT'S ON 75 METERS FOR YOU LIMP ONES.
I'LL BE ON AROUND 7 OR SO. TRANSMIT ONLY AFTER I GIVE YOU PERMISSION.
OTHERWISE I WILL SHOW YOU THE DOOR.

"BIG AL"

2192. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 22:03:00 UTC
From: mcalhoun@ksu.edu
Message-ID: <bkt4ak$ach@unix1.cc.ksu.edu>
Source record: 32313

>....[snip]....
>>I've read suggestions for resistors ranging from 2.2 k ohms to 56 k
>>ohms all the way up to 100 k ohms. The most recent information being
>>the lowest value resistors. From the schematics I have seen, the
>>resistors were placed in parralel between the antenna input and ground
>>input. Or in the case of a two wire unbalanced input, between each
>>wire and the case of the tuner which is grounded.

It just depends on how much power you want to "waste" in the paralleled resistor. Think of it this way: IF you had a 50-ohm dipole antenna and you used a 50-ohm resistor across the antenna (and ignoring the effect of a 25-ohm load on your xmtr), half of your power go into the antenna proper and half would be dissipated in the resistor.

That's probably too much, so try a 500-ohm resistor: now about 90% of your xmtr power goes into the antenna and 10% into the resistor.

One more try: 5K-omn resistor: now about 99% goes into the antenna and 1% is wasted in the resistor.

This leads to one of the "rules of thumb" from a beginning EE class oh-so- many years ago: the power loss from paralleling a 100*R-ohm resistor with an R-ohm resistor is essentially negligible.

There is another GOOD effect of using any resistor across your feed line: a simple ohm-meter check from inside the shack can tell you if your feed line is intact!

--Myron, W0PBV.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

2193. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 22:04:06 UTC
From: averyfineman@aol.com
Message-ID: <20030924180406.08626.00000872@mb-m27.aol.com>
Source record: 32311

In article <b1c3nvg8kri9661h0fgrn1o9cbp037p2f9@4ax.com>, mike
<intotheapex@yahoo.com> writes:

>Given I am currently using 75 ohm coax to feed my random wire, I
>believe I could use a 300 ohm to 75 ohm (4:1) TV twin lead to coax
>converter and get away with it.
>
>Please correct me if I am wrong, but I think I would attach the random
>wire to one terminal of the 300 ohm input. The other would go directly
>to earth ground, or via a gas arc tube to ground.
>
>On the other side, I would attach my coax cable.
>
>To give the coax feeder a ground at the antenna end, I would to open
>up the converter and solder in a ground wire on the coax sheild
>terminal. This would kill off common mode currents.
>
>This would give my antenna feeder system a matching transformer plus
>give the antenna a direct path to ground.
>
>Theoretically, I am I missing anything?

You could simple attach the 300-to-75 Ohm matching thing to the long
wire and use the coax...provided that the Z-changing-transformer can
handle HF. It won't be good if it's just a TV accessory; those seldom go
down to 30 MHz.

You might check the "300 Ohm" side of the transformer to see if it
actually has a DC path across it (an Ohmmeter will show that). Such an
accessory doesn't always have a DC path there. If it ain't there, no sense
in using it for your application.

The long-wire's impedance is going to range all over the place on HF so
it won't make much difference to a 75 Ohm coaxial cable feed. Most
frequencies will be way off in impedance matching regardless of the ultimate
impedance of the receiver.

Keeping the coax feedline offers some protection from household QRM
that is between receiver and antenna.

Len Anderson
retired (from regular hours) electronic engineer person

2194. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 22:04:07 UTC
From: averyfineman@aol.com
Message-ID: <20030924180407.08626.00000873@mb-m27.aol.com>
Source record: 32312

In article <jve0nvkj0gvig3qdpurl48s9lah8bj19dt@4ax.com>, mike
<intotheapex@yahoo.com> writes:

>On 23 Sep 2003 05:09:01 GMT, averyfineman@aol.com (Avery Fineman)
>wrote:
>

>Silly me, I put them all in parallel.<grin>. I am a mechanic with some
>electrical knowledge, but not much electronics. So the resistor should
>be in series with the diodes to limit current.
>
>A side effect I noticed after installing the 1N914 diodes was images
>scattered across the bands. For example, wwcr on 3200 was also on
>2300. Another gentleman posted me link in the antenna group where he
>found the same thing happening.
>
>Might the resistor in series with the diodes reduce this side effect?

The effect should not be there with or without diodes, with or without
any resistors...unless there is some VERY big RF source out of the
receiver's tuning range that is supplying energy to the diodes and
thus causing the "mixer" effect.

It might be possible if you have some Local Oscillator energy leaking
out to the antenna connection, but even that is unlikely given "modern"
(in the last couple of decades) receiver design.

The diodes should not have any effect on anything but a few millivolts
of any signal arriving on your antenna. A non-conducting diode simply
shows a junction capacitance to the rest of the world. That's a minor
reactive discontinuity to the antenna connection.

It might be possible that some unusual circuitry in your receiver presents
a DC Voltage at the antenna port. If so, it might cause one of the diodes
to conduct. It would be better then to AC-couple the back-to-back diodes
to the receiver through a capacitor of 0.001 to 0.01 uFd to eliminate that
possibility. You should be able to measure any DC potential at the
antenna port with a high impedance multimeter.

Len Anderson
retired (from regular hours) electronic engineer person

2195. Re: TONITE 7PM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 23:05:21 UTC
From: "John S. MacKay" <k35454@direct.ca>
Message-ID: <vn48ple4earc5d@corp.supernews.com>
Source record: 32314
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"THE CARING STATION" <THECARINGSTATION@ B I G A L . O R G> wrote in message
news:vn3ua5i5lbu7da@corp.supernews.com...
> YOU KNOW THE FREQUENCY 3894.5-LSB. THAT'S ON 75 METERS FOR YOU LIMP ONES.
> I'LL BE ON AROUND 7 OR SO. TRANSMIT ONLY AFTER I GIVE YOU PERMISSION.
> OTHERWISE I WILL SHOW YOU THE DOOR.
>
> "BIG AL"
>
7:00 pm what time zone, and standard or daylight saving?
I didn't realize you were a newbie. JSM VE7AFN.

2196. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 23:22:55 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <jHpcb.7705$yp6.150952@nnrp1.ptd.net>
Source record: 32315

Even if the thing acted as a transformer at HF, I doubt that it would handle
much TX power ...

Carl - wk3c

"mike" <intotheapex@yahoo.com> wrote in message
news:b1c3nvg8kri9661h0fgrn1o9cbp037p2f9@4ax.com...
> Given I am currently using 75 ohm coax to feed my random wire, I
> believe I could use a 300 ohm to 75 ohm (4:1) TV twin lead to coax
> converter and get away with it.
>
> Please correct me if I am wrong, but I think I would attach the random
> wire to one terminal of the 300 ohm input. The other would go directly
> to earth ground, or via a gas arc tube to ground.
>
> On the other side, I would attach my coax cable.
>
> To give the coax feeder a ground at the antenna end, I would to open
> up the converter and solder in a ground wire on the coax sheild
> terminal. This would kill off common mode currents.
>
> This would give my antenna feeder system a matching transformer plus
> give the antenna a direct path to ground.
>
> Theoretically, I am I missing anything?
>
> mike
>
>

2197. Re: Fuel Tanks and Cereal Silos as Cavity Resonators for HF

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-24 23:45:40 UTC
From: DrGrok@mungednet.com
Message-ID: <bkt9nn$ip8$2@bob.news.rcn.net>
Source record: 32316

In article <bkqu7tceo1@freenet9.carleton.ca>, et472@FreeNet.Carleton.CA (Michael Black) wrote:
>SpamLover (n1jpr@hotmail.com) writes:
>> Just out of curiosity - Did anyone ever try a cabinet-sized or
>> room-sized cavity resonator as roof filter in a HF receiving system?
>>
>Someone did some work with 10meter cavities out of oil drums. He
>wrote about it in 73 back in 1970 or so. But his goal wasn't
>the cavities, but some weird modulation scheme that I'm not sure
>really made sense, so I don't think the articles gave a lot of
>detail to the cavities, and since the whole thing seemed hair-brained,
>it might not be the best source of experience on HF cavities.
>
>In the June (or maybe it was May?) 1972 issue of QST, there was
>an article about making a filter out of a metal garbage can for
>2meters. But of course, at those frequencies, a cavity is not
>an exceptional sight.
>
>There have been some articles, in QST and I think Ham Radio (in
>the mid-seventies) about HF helical coils. That sort of filter
>might be more realistic than a cavity at HF.

At a ham flea market some years back someone was selling a 10m cavity -- I think it might have started life as a hot water tank.

Dr. G.
>
> Michael VE2BVW
>

2198. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 00:10:56 UTC
From: philh@cabalamat.org
Message-ID: <slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com>
Source record: 32317
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

On 23 Sep 2003 20:00:32 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
>> >
>> >No. Paul is correct, DF'ing a "frequency agile" (or "hopping")
>> >transmitter is no easy task. For example, the standard US SINCGARS
>> >radio changes frequencies about one hundred times per *second*,
>>
>> Bear in mind that I'm talking about automated electronic gear here,
>> not manual intervention. Electronics works in time spans a lot
>> quicker than 10 ms.
>
>So what? Unless you know the frequency hopping plan ahead of time
>(something that is rather closely guarded), you can't capture enough
>of the transmission to do you any good--they use a rather broad
>spectrum.

OK, I now understand that DF generally relies on knowing the
frequency in advance.

BTW, when you say a rather broad spectrum, how broad? And divided
into how many bands, roughly?

>Both radios have to be loaded with the same frequency hopping (FH)
>plan, and then they have to be synchronized by time. When SINGCARS
>first came out the time synch had to be done by having the net control
>station (NCS) perform periodic radio checks (each time your radio
>"talked" to the NCS, it resynchronized to the NCS time hack); failure
>to do this could result in the net "splitting", with some of your
>radios on one hack, and the rest on another, meaning the two could not
>talk to each other. I believe that the newer versions (known as
>SINCGARS EPLRS, for enhanced precision location system) may use GPS
>time data, ensuring that everyone is always on the same time scale.

That would make sense.

>> If two receivers, placed say 10 m aparet, both pick up a signal, how
>> accurately can the time difference between the repetion of both
>> signals be calculated? Light moves 30 cm in 1 ns, so if time
>> differences can be calculated to an accuracy of 0.1 ns, then
>> direction could be resolved to an accuracy of 3 cm/10 m ~= 3 mrad.
>
>The fact is that the direction finding (DF'ing) of frequency agile
>commo equipment is extremely difficult for the best of the world's
>intel folks, and darned near impossible for the rest (which is most of
>the rest of the world); that is why US radio procedures are a bit more
>relaxed than they used to be before the advent of FH, back when we

>tried to keep our transmissions to no more than five seconds at a time
>with lots of "breaks" in long messages to make DF'ing more difficult.

So transmissions of 5 seconds tend to be hard to DF? Of course, with
the battlefield internet, a text transmission will typically be a
lot less than 5 s (assuming the same bandwidth as for a voice
transmission, i.e. somewhere in the region of 20-60 kbit/s).

>transmissions still very clear), and the use of FH combined with
>crypto key makes it darned near impossible for the bad guy to decypher
>it in any realistic timely manner.

Modern crypto is good enough to withstand all cryptanalytic
attacks.

--
"It's easier to find people online who openly support the KKK than
people who openly support the RIAA" -- comment on Wikipedia

2199. 4cx5000a and HV xfmr for sale trade

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 00:35:00 UTC
From: opcom <eccm@swbell.net>
Message-ID: <3F7252F9.F2C90253@SPAMswbell.com>
Source record: 32318

have a good 'pull' 4cx5000A and a 5600V 1.1A CCS transformer (300 lbs) to trade or sell. pick up in Dallas Texas.

remove the spaces to reply..

e c c m @ s w b e l l . n e t

2200. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 01:06:12 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <rkf4nvkbo434g65a8g36po3f137l57g6gk@4ax.com>
Source record: 32319

On 24 Sep 2003 22:04:06 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> You could simple attach the 300-to-75 Ohm matching thing to the long
> wire and use the coax...provided that the Z-changing-transformer can
> handle HF. It won't be good if it's just a TV accessory; those seldom go
> down to 30 MHz.
>
> You might check the "300 Ohm" side of the transformer to see if it
> actually has a DC path across it (an Ohmmeter will show that). Such an
> accessory doesn't always have a DC path there. If it ain't there, no sense
> in using it for your application.
>
> The long-wire's impedance is going to range all over the place on HF so
> it won't make much difference to a 75 Ohm coaxial cable feed. Most
> frequencies will be way off in impedance matching regardless of the ultimate
> impedance of the receiver.
>
> Keeping the coax feedline offers some protection from household QRM
> that is between receiver and antenna.
>
> Len Anderson
> retired (from regular hours) electronic engineer person

It does have a DC path so I went ahead and gave it a whirl, plus added
another 60 feet or so to my antenna, which probably didnt help.

Seems to be working OK.

I found a cheap source of T68-2 toroids so I going to pick up 5 or 6
and wind up several giving me an assortment of matching posts like the
ICE transformer. This would allow me to create an internal inductor
for my tuner as well.

mike

2201. VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 01:09:14 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <muf4nv4ktvp3hcb67h0hthila9oa20jtdf@4ax.com>
Source record: 32320

I found a cheap source of VU meters rated for 0-250uA.

Anyone know of a circuit I can create to measure incoming shortwave signal strength for a portable without a signal level meter?

mike

2202. Re: Looking for old microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 01:14:58 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3F724192.6020506@bellsouth.net>
Source record: 32321

Geoffrey G. Rochat wrote:
> kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote in message
> news:3F6BB493.2090503@bellsouth.net...
>
>>Does anybody know where I can get a Harris or Intersil
>>HD6100, HD6120, IM6100, or IM6120 microprocessor (cmos pdp-8)?
>>
>>I used to work for Digital, and thought it would be an interresting
>
> project
>
>>to homebrew a PDP-8 system. I have a T11 microprocessor chip in the
>
> junbox
>
>>someplace, so a PDP-11 system is also a possibility.
>>
>>
>
>
> In fact, there is a fellow who sells kits and parts for the SBC6120, which
> is a build-your-own PDP-8 based on the IM6120 chip:
>
> http://www.sparetimegizmos.com/Hardware/SBC6120-2.htm
>
> And this fellow has an add-on for the SBC6120:
>
> http://www.jkearney.com/sbc6120/iob6120.htm
>
> Also, IM6100 chips show up on eBay from time to time.
>
> PDP-8 documentation may be found at Al Kossow's site:
>
> http://www.spies.com/~aek/pdf/dec/pdp8/
>
> And at Dave Gesswein's site:
>
> http://www.pdp8.net
>
> Also, Bob Supnik's SIMH retrocomputing simulator supports the PDP-8. SIMH
> is hosted at Tom Shoppa's Trailing Edge site, currently down due to the
> effects of Isabel:
>

Now that's a name I haven't heard for a while. I worked with Bob at DEC
some 25 years ago.
Bob's the nerd that translated the Dungeon (aka Zork) game from Muddle into
Fortran to port it from the PDP-10 to the PDP-11 under RT11

2203. Re: VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 01:26:52 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <wvrcb.157526$3o3.11263638@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32322

"mike" <intotheapex@yahoo.com> wrote in message
news:muf4nv4ktvp3hcb67h0hthila9oa20jtdf@4ax.com...
> I found a cheap source of VU meters rated for 0-250uA.
>
> Anyone know of a circuit I can create to measure incoming shortwave
> signal strength for a portable without a signal level meter?
>
> mike

What kind of display did you envision rather than a meter? BTW, a VU meter is not the same as an S meter.

What's the source for the VU meters? How cheap? What size?
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Time is what keeps everything from happening all at once.

2204. Re: VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 02:31:09 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bktk1d$lo2$1@freenet9.carleton.ca>
Source record: 32323

"Tweetldee" (dgmason99@att99.net) writes:
> "mike" <intotheapex@yahoo.com> wrote in message
> news:muf4nv4ktvp3hcb67h0hthila9oa20jtdf@4ax.com...
>> I found a cheap source of VU meters rated for 0-250uA.
>>
>> Anyone know of a circuit I can create to measure incoming shortwave
>> signal strength for a portable without a signal level meter?
>>
>> mike
>
> What kind of display did you envision rather than a meter? BTW, a VU meter
> is not the same as an S meter.
>
> What's the source for the VU meters? How cheap? What size?

But chances are pretty good, given the "cheap" bit, that the meters
are just standard 250uA meters, with a VU scale. I've seen plenty of
those where they do not include any bridge inside, and make no attempt
at meeting the requirements of a "proper VU" meter.

In other words, it would just be a cheap sensitive meter, likely physically
small and cheaply built. The local surplus outlet used to have them,
right next to the same sort of meters with an S-meter scale, next to
similar meters with some other scale.

Given that, it's just a meter can be used as an S-meter when it's hooked
up to the AGC line of an existing receiver, maybe with a bit of buffering
so it doesn't load down the AGC.

Michael VE2BVW

2205. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 02:36:19 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bktkal$1she$1@otis.netspace.net.au>
Source record: 32324
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"phil hunt" <philh@cabalamat.org> wrote in message
news:slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com...

> >transmissions still very clear), and the use of FH combined with
> >crypto key makes it darned near impossible for the bad guy to decypher
> >it in any realistic timely manner.
>
> Modern crypto is good enough to withstand all cryptanalytic
> attacks.

Thank you Admiral Doenitz...

2206. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 02:59:39 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F725AC9.6730@armory.com>
Source record: 32325
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

L'acrobat wrote:
>
> "phil hunt" <philh@cabalamat.org> wrote in message
> news:slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com...
>
> > >transmissions still very clear), and the use of FH combined with
> > >crypto key makes it darned near impossible for the bad guy to decypher
> > >it in any realistic timely manner.
> >
> > Modern crypto is good enough to withstand all cryptanalytic
> > attacks.
>
> Thank you Admiral Doenitz...

He's right. Major breaththrough of all possible barriers, the RSA
algorithm. Uncrackable in the lifetime of the serious user, and
crack is entirely predictable with improved computing power and
can be lengthened to compensate.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2207. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 03:34:11 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F726233.13496C1C@ob-wan.com>
Source record: 32331

Mike,

Due to limited space in the roof - I'm renting so won't risk an external antenna - my setup is similar to this. I use an OCF dipole (some call it a Windom but this is incorrect) with a 300 ohm feedline running to a wallplate in the loungeroom. From there it goes to a 4:1 TV-style balun and into 75 ohm coax. Works quite well. The dipole is in parallel with an existing VHF TV antenna, so it should do well at 20 meters too when I finally decide to play up there.

Not sure about your earthing situation, mine didn't need it. The setup looks like this. I'm in Australia if you're worried about the weird orientation:

```
^
\
North

__________________( )_____________
| 10M H 5M |
| H |
| 4M H 3M |
| H |
| H
H
El-Cheapo H
4:1 Balun H 300 ohm
{X}========== ribbon feedline
|
| 75 ohm
| Coax
|
[SDR-1000]
```

Rob

mike wrote:
> Given I am currently using 75 ohm coax to feed my random wire, I
> believe I could use a 300 ohm to 75 ohm (4:1) TV twin lead to coax
> converter and get away with it.
>
> Please correct me if I am wrong, but I think I would attach the random
> wire to one terminal of the 300 ohm input. The other would go directly
> to earth ground, or via a gas arc tube to ground.
>

> On the other side, I would attach my coax cable.
>
> To give the coax feeder a ground at the antenna end, I would to open
> up the converter and solder in a ground wire on the coax sheild
> terminal. This would kill off common mode currents.
>
> This would give my antenna feeder system a matching transformer plus
> give the antenna a direct path to ground.
>
> Theoretically, I am I missing anything?
>
> mike

2208. GREG WILL SAVE ALL OF US

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 03:34:18 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn2p9equ7uq5b@corp.supernews.com>
Source record: 32301
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YES ITS THE PORKBUTT SONG. CALL THE FCC CALL THE INTERNET POLICE CALL YOUR MOTHER BIG AL DOESNT CARE. IM BIG AL WITH THE BIG ONE. GREG IS GOING TO SAVE THE WORLD. THANK YOU GREG FOR BEING SUCH A MAN. AY YI YI AY YI YI YES GREG IS A PORKBUTT TO. 38945 BIG ALS STAY AWAY.

2209. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 03:36:45 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F7262CD.8B526DB2@ob-wan.com>
Source record: 32332

Mike,

Due to limited space in the roof - I'm renting so won't risk an external antenna - my setup is similar to this. I use an OCF dipole (some call it a Windom but this is incorrect) with a 300 ohm feedline running to a wallplate in the loungeroom. From there it goes to a 4:1 TV-style balun and into 75 ohm coax. Works quite well. The dipole is in parallel with an existing VHF TV antenna, so it should do well at 2 meters too when I finally decide to play up there.

Not sure about your earthing situation, mine didn't need it. The setup looks like this. I'm in Australia if you're worried about the weird orientation:

```
^
\
North

__________________( )_____________
| 10M H 5M |
| H |
| 4M H 3M |
| H |
| H
H
El-Cheapo H
4:1 Balun H 300 ohm
{X}========== ribbon feedline
|
| 75 ohm
| Coax
|
[SDR-1000]
```

Rob

mike wrote:
> Given I am currently using 75 ohm coax to feed my random wire, I
> believe I could use a 300 ohm to 75 ohm (4:1) TV twin lead to coax
> converter and get away with it.
>
> Please correct me if I am wrong, but I think I would attach the random
> wire to one terminal of the 300 ohm input. The other would go directly
> to earth ground, or via a gas arc tube to ground.
>

> On the other side, I would attach my coax cable.
>
> To give the coax feeder a ground at the antenna end, I would to open
> up the converter and solder in a ground wire on the coax sheild
> terminal. This would kill off common mode currents.
>
> This would give my antenna feeder system a matching transformer plus
> give the antenna a direct path to ground.
>
> Theoretically, I am I missing anything?
>
> mike

2210. Re: Anybody actually heard "BIG AL" on the air?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 03:41:41 UTC
From: B I G A L <"B I G A L"@B>
Message-ID: <vn2pn6ba8g56a7@corp.supernews.com>
Source record: 32302
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

GREG WHEN YOU BECOME A REAL HAM NOT A TECH GET BACK WITH US. WE MAY LET YOU SAY A WORD NOW AND THEN. AY YI YI AY Y I YI GREG IS ONLY A TECH AY YI YI AY YI YI GREG CANT EVEN USE HF.

"Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message news:vn1mh7gl0j7b9d@corp.supernews.com...
> As most of you know, there is a troll on these boards claiming to be K40KA.
> I'm still trying to figure out whether this guy is just trying to be
> annoying. If he is actually doing what he said he is, we can go to the FCC,
> so I'd like to find out if he's actually on the air. Not owning any HF
> equipment, I can't do much my self. If somebody could listen in when he says
> he'll be transmitting...
>
>
> 73 de KG6SGY
>
>

2211. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 04:28:36 UTC
From: gagir <gagir1nospam@sympaticonospam.ca>
Message-ID: <I9ucb.6796$yD1.1189721@news20.bellglobal.com>
Source record: 32328
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

When I read this thred, I remembered about an antenna that would not need a ground plane, This enabled celphones 65% gain from amtenna looses to body and surroundings.

It was a cylindircal helix, very short. I understood it to be an antenna with differential emission, coaxial electrical feild perhaps.

gagir

"Henry" <otc_friend@gmx.net> wrote in message
news:3f71f269_2@news.arcor-ip.de...
> I read the patent application meantime. But I must say there is not much
> content in it. Especially nothing how to calculate dimensions, materials
or
> taken measurements.
> My understanding is that it is a helix antenna supported with a ferrite
> powder rod in the axis. And it is electrical much longer than the
wavelength
> used. Adaption to the "ether" field Z(0) with up to 4 stages of different
> winding/mu(r) value materials. A magnetical antenna very similar to the
> electrical Yagi antenna. "The antenna works up to 500MHz", he says.
"Greater
> frequency requires lower mu(r)."
>
> Sorry, maybe it won't work at all. I'm not an antenna expert. Maybe the
> author of the patent will directly respond here sometime?
>
> What do you think?
>
> - Henry
>
>
>
> Arie de Muynck schrieb in Nachricht
> <3f70420c$0$58697$e4fe514c@news.xs4all.nl>...
> >
> >"Henry" wrote
> >> You made great interesting experiments!
> >> The electrical field will suffer with a alumni foil, surely. Magnetics
> >> will go thru.
> >
> >You didn't do the experiment.
> >
> >Regards,

> >Arie de Muynck
> >
> >
> >
> >
> >
>
>

2212. Re: Anybody actually heard "BIG AL" on the air?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 04:38:03 UTC
From: nm5k@wt.net
Message-ID: <25eb70d7.0309242038.45054e77@posting.google.com>
Source record: 32326
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Greg Courville" <EngNOSPAMinuitor@Gee-Enginuity.com> wrote in message news:<vn1mh7gl0j7b9d@corp.supernews.com>...
> As most of you know, there is a troll on these boards claiming to be K40KA.
> I'm still trying to figure out whether this guy is just trying to be
> annoying. If he is actually doing what he said he is, we can go to the FCC,
> so I'd like to find out if he's actually on the air. Not owning any HF
> equipment, I can't do much my self. If somebody could listen in when he says
> he'll be transmitting...
>
>
> 73 de KG6SGY

The *real* Big Al is dead. Has been for a few years. He was quite a character. MK

2213. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 04:40:36 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <vhq4nv0k09nr62h1h1caeok5c5rki5rfej@4ax.com>
Source record: 32327

On 24 Sep 2003 22:04:07 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> The effect should not be there with or without diodes, with or without
> any resistors...unless there is some VERY big RF source out of the
> receiver's tuning range that is supplying energy to the diodes and
> thus causing the "mixer" effect.

It should also be noted that when several quite strong out of band
signals are present at the antenna, say ten signals, each with S9+60
dB, which is 50 mVrms (71 mVpeak) into 50 ohms and -13 dBm. On
average, these signals produce a combined signal ten times as large at
-3 dB and the rms voltage is about 150 mV. However, from time to time,
the vectors for each individual signal add up, so you have to add the
voltages for that moment, so the maximum theoretical peak amplitude
is 700 mV (10x71 mV), thus, a single silicon diode starts to conduct,
causing all kinds of mixing products.

Using two (or more) 1N4148 type diodes in series instead of a single
diode in the each back to back pair, will prevent any diode conduction
as long as the peak voltage is larger than 1,4 V in either direction.

The maximum number of diodes in series is determined by the amount of
voltage the following stages will tolerate without disintegrating.
Since most likely there will be some selectivity between this diode
clipper and the first amplifier stage, the amplifier stage will never
see voltages as the limiting voltages in normal operation, but the
diodes will still cut out some abnormal peaks e.g. induced by
lightnings.

> The diodes should not have any effect on anything but a few millivolts
> of any signal arriving on your antenna. A non-conducting diode simply
> shows a junction capacitance to the rest of the world. That's a minor
> reactive discontinuity to the antenna connection.

Putting multiple diodes in series in the back to back combination also
reduce the capacitances, since the capacitances in each string are in
series.

Paul OH3LWR

2214. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 04:44:53 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F72728D.794F34@earthlink.net>
Source record: 32329
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Rene PE1RA / ON6ALD wrote:
>
> No!
>
> Where the Subject line contains '3.894' or '3894' or 'bigal'
> send the email back
>
> 73 de Rene PE1RA

How do you bounce a message from multiple news servers? This isn't
e-mail, its usenet.

--

Michael A. Terrell
Central Florida

2215. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 04:47:07 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bktrvq$3jc$1@otis.netspace.net.au>
Source record: 32330
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F725AC9.6730@armory.com...
> L'acrobat wrote:
> >
> > "phil hunt" <philh@cabalamat.org> wrote in message
> > news:slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com...
> >
> > > >transmissions still very clear), and the use of FH combined with
> > > >crypto key makes it darned near impossible for the bad guy to
decypher
> > > >it in any realistic timely manner.
> > >
> > > Modern crypto is good enough to withstand all cryptanalytic
> > > attacks.
> >
> > Thank you Admiral Doenitz...
> ------------
> He's right. Major breaththrough of all possible barriers, the RSA
> algorithm. Uncrackable in the lifetime of the serious user, and
> crack is entirely predictable with improved computing power and
> can be lengthened to compensate.

The fact that you and I think it is unbeatable, doesn't mean it is.

"lifetime of the serious user" what bollocks, you and I have absolutely no
idea what sort of tech/processing power will be available 10 years from now,
let alone 30.

"and crack is entirely predictable with improved computing power" of course
it is...

Ask the good Admiral how confident he was that his system was secure.

Damn near as confident as you are and that worked out so well, didn't it?

2216. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 09:54:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vn5er8htdit0e0@corp.supernews.com>
Source record: 32333

Although 0.7 volts is a good rule of thumb for diode conduction in moderate impedance environments, it's important to keep in mind that diodes don't abruptly "turn on" at a fixed voltage. They conduct *some* current at *all* forward voltages. It just happens to be an exponential function, so it looks kind of like a sharp knee when viewed on a linear I-V scale. What's important here is how well the diode conducts compared to the circuit it's across. On a lab test bench, that's 25 ohms (50 ohm source and 50 ohm load), but it could be more or less when connected across an antenna.

A quick check with a couple of signal generators and a good combiner showed that cross modulation 60 dB below either signal was present when there was about 0.7 volts p-p (peak envelope, that is, at the peaks where both signals are in phase) across a back-to-back pair of 1N914 type diodes with 50 ohms source and load. That's only about 0.35 volts of forward diode voltage. At about 0.8 volts p-p, the cross modulation product was only about 40 dB below either signal. So appreciable cross modulation can occur at least several dB below the 0.7 volt level often considered to be the diode's conduction knee.

Paul's caution about multiple signals is important to note. Also remember that under some circumstances (for example, high Z looking into the antenna, and also looking into a tuner or receiver, from where the diodes are mounted), the diode's Z environment can be higher than 25 ohms, resulting in appreciable cross modulation at lower signal levels.

Roy Lewallen, W7EL

Paul Keinanen wrote:
> On 24 Sep 2003 22:04:07 GMT, averyfineman@aol.com (Avery Fineman)
> wrote:
>
>
>
>> The effect should not be there with or without diodes, with or without
>> any resistors...unless there is some VERY big RF source out of the
>> receiver's tuning range that is supplying energy to the diodes and
>> thus causing the "mixer" effect.
>
>
> It should also be noted that when several quite strong out of band
> signals are present at the antenna, say ten signals, each with S9+60
> dB, which is 50 mVrms (71 mVpeak) into 50 ohms and -13 dBm. On
> average, these signals produce a combined signal ten times as large at
> -3 dB and the rms voltage is about 150 mV. However, from time to time,

> the vectors for each individual signal add up, so you have to add the
> _voltages_ for that moment, so the maximum theoretical peak amplitude
> is 700 mV (10x71 mV), thus, a single silicon diode starts to conduct,
> causing all kinds of mixing products.
>
> Using two (or more) 1N4148 type diodes in series instead of a single
> diode in the each back to back pair, will prevent any diode conduction
> as long as the peak voltage is larger than 1,4 V in either direction.
>
> The maximum number of diodes in series is determined by the amount of
> voltage the following stages will tolerate without disintegrating.
> Since most likely there will be some selectivity between this diode
> clipper and the first amplifier stage, the amplifier stage will never
> see voltages as the limiting voltages in normal operation, but the
> diodes will still cut out some abnormal peaks e.g. induced by
> lightnings.
>
>
>> The diodes should not have any effect on anything but a few millivolts
>> of any signal arriving on your antenna. A non-conducting diode simply
>> shows a junction capacitance to the rest of the world. That's a minor
>> reactive discontinuity to the antenna connection.
>
>
> Putting multiple diodes in series in the back to back combination also
> reduce the capacitances, since the capacitances in each string are in
> series.
>
> Paul OH3LWR
>

2217. Re: Anybody actually heard "BIG AL" on the air?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 11:29:37 UTC
From: B i g A l <"B i g A l"@B>
Message-ID: <vn5kifi2lo50d9@corp.supernews.com>
Source record: 32334
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Mark Keith" <nm5k@wt.net> wrote in message
news:25eb70d7.0309242038.45054e77@posting.google.com...
>
> The *real* Big Al is dead. Has been for a few years. He was quite a
character. MK

WOW. SORRY TO HEAR THAT IM DEAD. MAYBE IM A GHOST IN HAM HEAVEN. LET ME
PINCH MYSELF. OUCH. NO IM STILL HERE. COME TO 3894.5LSB AND FIND OUT FOR
YOURSELF BOY.

HO HO

2218. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 13:10:10 UTC
From: philh@cabalamat.org
Message-ID: <slrnbn5q9i.43u.philh@cabalamat.cabalamat.com>
Source record: 32336
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

On Thu, 25 Sep 2003 14:47:07 +1000, L'acrobat <husky65@delete_me.netspace.net.au> wrote:
>
>"lifetime of the serious user" what bollocks, you and I have absolutely no
>idea what sort of tech/processing power will be available 10 years from now,

Ever heard of Moore's law?

I've got a pretty good idea. A typical PC now has a 2 GHz CPU, and
about 256 MB RAM.

Assume these double every 18 months. 10 years is about 7 doublings
so in 2003 we'll see PCs with 250 GHz CPUs and 32 GB of RAM.

--
"It's easier to find people online who openly support the KKK than
people who openly support the RIAA" -- comment on Wikipedia

2219. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 13:23:38 UTC
From: brooksvmi@yahoo.com
Message-ID: <1e6ea40d.0309250523.4504a9e7@posting.google.com>
Source record: 32335
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

philh@cabalamat.org (phil hunt) wrote in message
news:<slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com>...
> On 23 Sep 2003 20:00:32 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
> >> >
> >> >No. Paul is correct, DF'ing a "frequency agile" (or "hopping")
> >> >transmitter is no easy task. For example, the standard US SINCGARS
> >> >radio changes frequencies about one hundred times per *second*,
> >>
> >> Bear in mind that I'm talking about automated electronic gear here,
> >> not manual intervention. Electronics works in time spans a lot
> >> quicker than 10 ms.
> >
> >So what? Unless you know the frequency hopping plan ahead of time
> >(something that is rather closely guarded), you can't capture enough
> >of the transmission to do you any good--they use a rather broad
> >spectrum.
>
> OK, I now understand that DF generally relies on knowing the
> frequency in advance.
>
> BTW, when you say a rather broad spectrum, how broad? And divided
> into how many bands, roughly?

It uses the entire normal military VHF FM spectrum, 30-88 MHz. ISTR
that the steps in between are measured in 1 KHz increments, as opposed
to the old 10 KHz increments found in older FM radios like the
AN/VRC-12 family, so the number of different frequencies SINGCARS can
use is 58,000.

>
> >Both radios have to be loaded with the same frequency hopping (FH)
> >plan, and then they have to be synchronized by time. When SINGCARS
> >first came out the time synch had to be done by having the net control
> >station (NCS) perform periodic radio checks (each time your radio
> >"talked" to the NCS, it resynchronized to the NCS time hack); failure
> >to do this could result in the net "splitting", with some of your
> >radios on one hack, and the rest on another, meaning the two could not
> >talk to each other. I believe that the newer versions (known as
> >SINCGARS EPLRS, for enhanced precision location system) may use GPS
> >time data, ensuring that everyone is always on the same time scale.
>
> That would make sense.
>
> >> If two receivers, placed say 10 m aparet, both pick up a signal, how

> >> accurately can the time difference between the repetion of both
> >> signals be calculated? Light moves 30 cm in 1 ns, so if time
> >> differences can be calculated to an accuracy of 0.1 ns, then
> >> direction could be resolved to an accuracy of 3 cm/10 m ~= 3 mrad.
> >
> >The fact is that the direction finding (DF'ing) of frequency agile
> >commo equipment is extremely difficult for the best of the world's
> >intel folks, and darned near impossible for the rest (which is most of
> >the rest of the world); that is why US radio procedures are a bit more
> >relaxed than they used to be before the advent of FH, back when we
> >tried to keep our transmissions to no more than five seconds at a time
> >with lots of "breaks" in long messages to make DF'ing more difficult.
>
> So transmissions of 5 seconds tend to be hard to DF? Of course, with
> the battlefield internet, a text transmission will typically be a
> lot less than 5 s (assuming the same bandwidth as for a voice
> transmission, i.e. somewhere in the region of 20-60 kbit/s).

ISTR the old guidance was to keep transmissions no longer than 5 to 7 seconds without a break (a break normally was announced as part of the message, followed by release of the mic key, then rekeying and continuing the message).

>
> >transmissions still very clear), and the use of FH combined with
> >crypto key makes it darned near impossible for the bad guy to decypher
> >it in any realistic timely manner.
>
> Modern crypto is good enough to withstand all cryptanalytic
> attacks.

Only if it were so...but thank goodness it is not. Otherwise we would have lost the value of one of our largest and most valuable intel programs, and NSA would no longer exist. Even the cypher keys used by our modern tactical radios (said keys being generated by NSA at the top end, though we now have computers in the field capable of "key generation" using input from that source) are not unbreakable--instead, they are tough enough to break that we can be reasonably assured that the bad guys will not be able to gain any kind of *timely* tactical intel; enough computing power in the hands of the crypto-geeks and they can indeed break them, but it will probably take them a while, not to mention the time to get the data into their hands in the first place.

Brooks

2220. Re: battlefield Internet

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 13:51:14 UTC
From: mikea@mikea.ath.cx
Message-ID: <bkursi$nb1$6@puck.litech.org>
Source record: 32337
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

In <slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com> (rec.radio.amateur.homebrew), phil hunt wrote:

> Modern crypto is good enough to withstand all cryptanalytic
> attacks.

That's a great idea, and I suspect tthat you're right in the general case. But a modern cryptosystem, badly implemented, will have all manner of vulnerabilities -- most of which are not particularly obvious.

Remember the competition for the successor to DES as the standard crypto algorithm? That was *quite* interesting.

--
"Remember: every member of your 'target audience' also owns a broadcasting station. These 'targets' can shoot back."
-- Michael Rathbun to advertisers, in nanae

2221. Re: antenna noise reduction ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 14:17:35 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f72f924$0$23612$5a62ac22@freenews.iinet.net.au>
Source record: 32338

If you are working at low frequencies, I have seen an idea using a very long wire (say 4-5 wavelengths) at a low height above ground (say about 6 feet). The antenna can be directive in it's long axis. It can help to reduce QRM from a particular direction. Of course you need a fair bit of room...

Richard

mike <intotheapex@yahoo.com> wrote in message news:bjjrmvk0huueckf0ovqovjlqss6n20vbd5@4ax.com...
> Hey group,
>
>
> I build a PI network antenna tuner with 2 variable caps and an air
> form coil. Is there a componant I can add to this device to reduce
> noise from my random wire? I have heard a 1-1 transformer may help.
>
> I have a few toroids with very high Al (79uH per hundred turns)
> kicking around. Can I wind one of these to use a noise reducer?
>
> any other suggestions to reduce noise?
>
> can someone toss me a link to a howto?
>
> thanks,
>
> mike

2222. Re: Interesting antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 18:59:22 UTC
From: Arie de Muynck <Sorry_I_hate_spam@nomail.com>
Message-ID: <3f733b22$0$58711$e4fe514c@news.xs4all.nl>
Source record: 32339
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Henry" wrote ..
> I read the patent application meantime. But I must say there is not much
> content in it. Especially nothing how to calculate dimensions, materials
or
> taken measurements.
> My understanding is that it is a helix antenna supported with a ferrite
> powder rod in the axis. And it is electrical much longer than the
wavelength
> used. Adaption to the "ether" field Z(0) with up to 4 stages of different
> winding/mu(r) value materials. A magnetical antenna very similar to the
> electrical Yagi antenna. "The antenna works up to 500MHz", he says.
"Greater
> frequency requires lower mu(r)."

Thanks, that at least makes some sense of the sales story.

> Sorry, maybe it won't work at all. I'm not an antenna expert. Maybe the
> author of the patent will directly respond here sometime?
> What do you think?

I'm not an expert either, I just got triggered by the nonsensical "will work even when cast in metal" thing. I've constructed enough RF electronics to know when even a thin layer of copper (or aluminium) will shield EMC almost perfectly (closed box aka Faraday cage).

I checked the Norwegian patent office but they cannot afford a decent free publication site like the US has. Do you have a link to the patent or would you care to send a copy to strange.antenna@ademu.com (a temporary address)?

Oh yeah.... do try the experiment and be amazed...

Regards,
Arie de Muynck

2223. Re: Where Is Porkbut?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:12:38 UTC
From: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
Message-ID: <vn6j1albio4e4b@corp.supernews.com>
Source record: 32340
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YOU SPELT HIS NAME RONG. 2 T'S IN PORKBUTT.

"Fudge" <fudge@nrtco.net> wrote in message
news:mDEcb.6435$1H3.399842@news20.bellglobal.com...
> Where is Porkbut?. I still have a WAV file of his but I miss his cheery
> voice.
>
> Farmer John
>
>

2224. Re: Frenchies, back to fr.rec.radio.amateur !

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:26:11 UTC
From: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
Message-ID: <vn6jrb3pl58ncb@corp.supernews.com>
Source record: 32343
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

THE FRENCH ARE WORTHLESS COWARDS. FRENCH WOMEN HAVE A TERRIBLE BODY ODOR AND FRENCH MEN ARE COWARDS. SO YES PLEASE LEAVE YOU STINKING COWARDS.

"Thierry" <tlombry@hotmNOSPAMail.com> wrote in message news:3f734aa6_2@news.vo.lu...
> Hi OM, YL, and SWL
>
> This post is dedicated to all French spoken hams.
> If sometimes in the past you posted messages on fr.rec.radio.amateur forum
> you quickly discovered that this forum was invaded by CBists and "louts"
> like Coman, JMBCV and other anonymous who aggravated this forum,
> widespreading a poor image of amateurs radio activities.
>
> Today, the radioamateur.org forum is temporary closed so hams have to think
> back to use another forum like the first.
>
> Hopefully, for a few months now, a few amateur radios, including me, are
> trying to reverse the bad image given by fr.rec.radio.amateur, giving it a
> new breath and the secret hope to develop this French forum.
>
> So if you can write French and are interested in preserving the interest and
> ham spirit of our community, I suggest you to post sometimes, the soon the
> best, your post in French in fr.rec.radio.amateur so that this this forum
> recover quickly all its health ;-)
>
> Best 73's
> Thierry
> ON4SKY, LX3SKY
> http://www.astrosurf.com/lombry
>
>

2225. Re: wanna talk SHUDDER?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:31:41 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6k5klsh1uf17@corp.supernews.com>
Source record: 32344
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

I VOTE FOR PORKBUTT.

ELECTION OVER.

PORKBUTT IT IS.

HO**HO

"Leo" <nomail@nope.org> wrote in message
news:i2j6nvcf25qcd22h3v6nlqcvs2pcrmpg9c@4ax.com...
> Me too.
>
> Say, maybe that could be the official mascot of this group? A
> Porky-Pine.....;)
>
> 73, Leo
>
> On Thu, 25 Sep 2003 13:47:07 -0400, Mike Coslo <mjc5@psu.edu> wrote:
>
> >snip
>
> > Interesting, I have a "Porky-Pine" on my QSL card. I don't know what
> >the significance of that is, but I like the critters.
>
> > - Mike KB3EIA -
>

2226. Re: Frenchies, back to fr.rec.radio.amateur !

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:35:41 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bkvjit$6kn66$1@ID-153362.news.uni-berlin.de>
Source record: 32345
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

As you probably could have known, he was referring to french-speaking
people, not the French as a people.

The poster is from Belgium.

--
73 de Rene PE1RA / ON6ALD

Cuius testiculos habes, habeas cardeo et cerebellum

2227. Re: lloyd da toids favorite website <-- history

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:43:36 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6ks039qlbtb5@corp.supernews.com>
Source record: 32346
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.shortwave

YOU DO LIVE FOR MY EVERY POST DONT YOU.

I DO OWN YOU AND YOU KNOW IT.

YOU MUST BE A SHUT IN. YOUR ON HERE MOST OF THE DAY. BIG AL GETS OUT AND
ABOUT UNLIKE YOU. HAVE A NURSE TO WHEEL YOU OUTSIDE EVERY ONCE IN A WHILE
GET SOME AIR.

WELL YOU DONT HAVE TO HEAR US FOR US TO HEAR YOU. SO COME ON DOWN YOU CAN BE
THE NEXT CONTESTANT ON AY-YI- YI YES ITS THE PORKBUTT SONG. BUT NOW IF YOUR
AFFRAID OF BIG-AL STAY AWAY AND HIDE WE ALL UNDERSTAND. MAYBE YOUR SIGNAL
WILL BE BETTER THAN THOSE GUYS FROM ARKANSAS WHO ALWAYS TRY TO QRM US BUT
NEVER GET THE JOB DONE.

BYE HO$$$HO$$$

"Leo" <nomail@nope.org> wrote in message
news:euj6nvo7mu7r9pr96fnbupna0c17ke09a8@4ax.com...
> QRP, good buddy - can't hear you on 75.
>
> Crank up the Sky-Buddy a bit!
>
> 73, Leo
>
> On Thu, 25 Sep 2003 16:07:59 -0400, "BIG-AL-3894.5-LSB-75-METERS"
> <BIG-AL@BIG-AL.KOM> wrote:
>
> >
> >"Leo" <nomail@nope.org> wrote in message
> >news:20i6nvo6dl5ekjdajtlav78jcus8sa2e9v@4ax.com...
> >> Come to think of it, I haven't seen Big Al around today either.
> >> Perhaps Supernews abuse department caught up with him too...
> >>
> >> He must be going off the air soon, though, - he's selling off his rig
> >> on eBay: ;)
> >>
> >>
> >>BEEN RIGHT HERE BOY. HOW DOES IT FEEL TO BE OWNED BY BIG-AL? WHEN YOU
WALK
> >>DOWN THE STREET WATCH OUT FOR BIG-AL YOUR FRIEND. HE IS ALWAYS WATCHING
FOR
> >>LEO THE LION. COME ON TO 3894.5-LSB-75-METERS TONITE. I WILL BE WAITING
FOR
> >>YOU. WE USUALLY GET THERE AROUND 7PM EASTERN TIME. SOMETIMES A LITTLE

LATER
> >THOUGH. JUST STICK AROUND AND I WILL BE THERE. IF YOUR LUCKY YOUR SIGNAL
> >WILL BE A LITTLE STRONGER THAN THE BOYS FROM ARKANSAS. MAYBE WE WILL BE
ABLE
> >TO HEAR YOUR LITTLE PEANUT WHISTLE. DID I TELL YOU HOW BIG MINE IS? I
BET
> >ITS BIGGER THAN YOURS.
> >
>

2228. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:54:42 UTC
From: averyfineman@aol.com
Message-ID: <20030925165442.15462.00003217@mb-m06.aol.com>
Source record: 32198

In article <slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com>, philh@cabalamat.org (phil hunt) writes:

>On 23 Sep 2003 20:00:32 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
>>> >
>>> >No. Paul is correct, DF'ing a "frequency agile" (or "hopping")
>>> >transmitter is no easy task. For example, the standard US SINCGARS
>>> >radio changes frequencies about one hundred times per *second*,
>>>
>>> Bear in mind that I'm talking about automated electronic gear here,
>>> not manual intervention. Electronics works in time spans a lot
>>> quicker than 10 ms.
>>
>>So what? Unless you know the frequency hopping plan ahead of time
>>(something that is rather closely guarded), you can't capture enough
>>of the transmission to do you any good--they use a rather broad
>>spectrum.
>
>OK, I now understand that DF generally relies on knowing the
>frequency in advance.
>
>BTW, when you say a rather broad spectrum, how broad? And divided
>into how many bands, roughly?

On the SINCGARS family it can be the entire region of 30-88 MHz. With FHSS enabled, the hop rate is 10 per second. The hop frequency positioning and increments are set by the touch-screen entry; all the settings go in that way and that is called the "hop set."

One of my work tasks a decade or so ago was to TRY to locate a SINCGARS emitter using a vehicular model's high power setting (not the small output of the manpack PRC-119). While I can't say much about the test details, I think it is safe to say that it was damn difficult! [my little group was really trying to grab that emitter]

In this case the emitter was on all the time. With the manpack version as well as the vehicular version there is a power output selector switch to effectively go "QRP" to a minimum level necessary to maintain a linkage.

>>Both radios have to be loaded with the same frequency hopping (FH)
>>plan, and then they have to be synchronized by time. When SINGCARS
>>first came out the time synch had to be done by having the net control
>>station (NCS) perform periodic radio checks (each time your radio
>>"talked" to the NCS, it resynchronized to the NCS time hack); failure
>>to do this could result in the net "splitting", with some of your

>>radios on one hack, and the rest on another, meaning the two could not
>>talk to each other. I believe that the newer versions (known as
>>SINCGARS EPLRS, for enhanced precision location system) may use GPS
>>time data, ensuring that everyone is always on the same time scale.
>
>That would make sense.

The "SIP" (SINCGARS Improvement Program) resulted in ITT Fort Wayne
making the basic R/T in half the original size. Also added was the time
synchronization via a front panel connector to an AN/PSN-11 GPS
receiver...plus full internal voice or data encryption/decryption...voice is
digitized.

>>> If two receivers, placed say 10 m aparet, both pick up a signal, how
>>> accurately can the time difference between the repetion of both
>>> signals be calculated? Light moves 30 cm in 1 ns, so if time
>>> differences can be calculated to an accuracy of 0.1 ns, then
>>> direction could be resolved to an accuracy of 3 cm/10 m ~= 3 mrad.
>>
>>The fact is that the direction finding (DF'ing) of frequency agile
>>commo equipment is extremely difficult for the best of the world's
>>intel folks, and darned near impossible for the rest (which is most of
>>the rest of the world); that is why US radio procedures are a bit more
>>relaxed than they used to be before the advent of FH, back when we
>>tried to keep our transmissions to no more than five seconds at a time
>>with lots of "breaks" in long messages to make DF'ing more difficult.
>
>So transmissions of 5 seconds tend to be hard to DF? Of course, with
>the battlefield internet, a text transmission will typically be a
>lot less than 5 s (assuming the same bandwidth as for a voice
>transmission, i.e. somewhere in the region of 20-60 kbit/s).

Transmissions lasting only a 100 mSec are VERY hard to "see" over
a bandwidth larger than an octave. Trust me on that. :-)

The hop timing is internally coordinated with voice/data transmission
so that you can't really use fixed-carrier narrowband rules of thumb.
The SINCGARS family isn't really in the "battlefield internet" since all
nets are considered separate entities and many can exist in the same
geographical area. The choice of settings and interoperability is up to
the unit Signal Officer.

>>transmissions still very clear), and the use of FH combined with
>>crypto key makes it darned near impossible for the bad guy to decypher
>>it in any realistic timely manner.
>
>Modern crypto is good enough to withstand all cryptanalytic
>attacks.

It is safe to say that even the most modern cryptanalytic attack could
not get much useful information from a SINCGARS net in time to
counter any communications-coordinated military task. SINCGARS is

designed for small-unit land-air tactical operations...it isn't designed or intended for top-level sensitive communications. In its assigned task, the System is VERY good.

ITT Fort Wayne, IN, is the contracted manufacturer of SINCGARS. About a quarter million (!) systems have been built since 1989. The General Dynamics Land Division in FL made some SINCGARS but GD has since downsized its Land Division.

There's an amazing amount of publicly-available information on SINCGARS externals. That includes the frequency range, hop rate, bandwidth, hop increment and so on. What you will NOT get publicly is the details on the essential algorithms hardwired into the ICs within.

One of the good fall-outs of the military electronics programs begun in the 1980s is the improved stability of crystal oscillator packages over temperature and other nasty military environment extremes. That includes things like temperature-compensated voltage-controlled crystal oscillators and more specialized crystal cutting for better control over temperature. Major quartz crystal producers have put that improved technology on the market. Accurate, stable time control is essential to systems like the SINgle Channel Ground-Air Radio System.

Len Anderson
retired (from regular hours) electronic engineer person

2229. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:54:44 UTC
From: averyfineman@aol.com
Message-ID: <20030925165444.15462.00003218@mb-m06.aol.com>
Source record: 32199

In article <vhq4nv0k09nr62h1h1caeok5c5rki5rfej@4ax.com>, Paul Keinanen
<keinanen@sci.fi> writes:

>On 24 Sep 2003 22:04:07 GMT, averyfineman@aol.com (Avery Fineman)
>wrote:
>
>> The effect should not be there with or without diodes, with or without
>> any resistors...unless there is some VERY big RF source out of the
>> receiver's tuning range that is supplying energy to the diodes and
>> thus causing the "mixer" effect.
>
>It should also be noted that when several quite strong out of band
>signals are present at the antenna, say ten signals, each with S9+60
>dB, which is 50 mVrms (71 mVpeak) into 50 ohms and -13 dBm. On
>average, these signals produce a combined signal ten times as large at
>-3 dB and the rms voltage is about 150 mV. However, from time to time,
>the vectors for each individual signal add up, so you have to add the
>_voltages_ for that moment, so the maximum theoretical peak amplitude
>is 700 mV (10x71 mV), thus, a single silicon diode starts to conduct,
>causing all kinds of mixing products.

True enough. Some friends of mine live near the transmitter site of
AM broadcast transmitter of KMPC in the San Fernando Valley section
of Los Angeles, CA. KMPC is the only high power station in the "Valley"
at 50 KW _into_ the antenna. :-)

Within a few blocks of the KMPC transmitter, ANYTHING is possible
insofar as IMD products, from tube type to solid-state receivers,
some telephones, a few computers, intercoms, etc. :-(

>Using two (or more) 1N4148 type diodes in series instead of a single
>diode in the each back to back pair, will prevent any diode conduction
>as long as the peak voltage is larger than 1,4 V in either direction.

Good point.

>The maximum number of diodes in series is determined by the amount of
>voltage the following stages will tolerate without disintegrating.

:-) I once had a zener that became a sort of LED on a breadboard. For
about 5 seconds or so.

>Since most likely there will be some selectivity between this diode
>clipper and the first amplifier stage, the amplifier stage will never
>see voltages as the limiting voltages in normal operation, but the
>diodes will still cut out some abnormal peaks e.g. induced by
>lightnings.

True enough, but an electrostatic pickup during a storm MAY reach
as high as 200 Volts or so. That's a static charge effect during the
build-up period for lightning.

A friend of mine living in the mountains decided he would "scientifically"
measure the electrostatic charge build-up with VTVM connected to a
small strip-chart recorder on a long-wire antenna. Lived at a 4000 foot
elevation. Observation resulted in the "200 V" value. Unfortunately, he
had so much trouble with the cheap strip-chart recorder that storm
season was over by the time he got the recorder working. :-(

>> The diodes should not have any effect on anything but a few millivolts
>> of any signal arriving on your antenna. A non-conducting diode simply
>> shows a junction capacitance to the rest of the world. That's a minor
>> reactive discontinuity to the antenna connection.
>
>Putting multiple diodes in series in the back to back combination also
>reduce the capacitances, since the capacitances in each string are in
>series.

2 pFd at 10 MHz is only an 8 KOhm reactance.

Len Anderson
retired (from regular hours) electronic engineer person

2230. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:54:45 UTC
From: averyfineman@aol.com
Message-ID: <20030925165445.15462.00003219@mb-m06.aol.com>
Source record: 32200

In article <bkr7fpfmj0@208.206.142.79>, Dick Carroll
<dixie@NOSPAM.townsqr.com> writes:

>Kieren wrote:
>
>> Back to back: Take your two diodes and install them in parallel, but
>> with one 'pointing' in the opposite direction. The idea is that, because
>> each diode will conduct when the voltage rises above it's threashold, it
>> doesn't matter if the spike is positive or negative. A radio signal is
>> highly unlikely to be powerful enough to force either diode to conduct
>> (and if it did, they'll protect the RX front end).
>>
>> I don't think they'd help much however! You only have to think about the
>> kind of potential in a static build-up to decide that you do not want to
>> rely on a pair of diodes to keep everything calm.
>
> Once the static voltage builds to .7 volt one or the other diode will
>conduct and "bleed" it off. Of course that assumes that we're not
>talking of lightning-level static charge. In that case all bets are off.

Not quite right.

Semiconductor diodes will BEGIN conducting at lower voltages. Do a
V-I curve of forward conduction polarity to see that. That's a simple
test with a low voltage supply, a pot, a resistor, and a low-range
voltmeter.

> Many HF and MF installations use an RF choke of sufficient impedance
>placed across the antenna terminals to provide a discharge path for all
>static voltages to be immediately shunted to ground without disturbing
>the received radio signal in any way. No static ever builds up on the
>antenna. All it takes is a small RF choke of sufficient impedance to be
>transparent at the frequency of interest.

Not quite right. A reasonably-high value inductance in parallel with any
antenna is "transparent" at DC (limited to DC resistance) but is a VERY
high value of reactance at RF. X_L = 2 pi L. A 2.5 mHy RFC will have
a reactance of 15.7 KOhms at 1 MHz. Even with a long-wire whose
maximum impedance magnitude might reach 5 KOhms, the effect of
paralleling such an RFC is negligible. [in parallel it would be 3.8 KOhms]
At higher frequencies the inductive reactance is proportionally higher.

What MIGHT happen, depending on the particular inductor, is that the
inductor's self-resonance due to distributed capacity would defeat the
high-frequency reactance. Above self-resonance the RFC would appear
as a capacitor.

Len Anderson
retired (from regular hours) electronic engineer person

2231. Re: Static discharge protection questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:54:46 UTC
From: averyfineman@aol.com
Message-ID: <20030925165446.15462.00003220@mb-m06.aol.com>
Source record: 32197

In article <vmvt6egqqnp8a9@corp.supernews.com>, Roy Lewallen <w7el@eznec.com>
writes:

>Neon bulbs are curious critters. As you say, they have hysteresis -- a
>higher strike voltage than sustaining voltage. The company I worked for
>once used them as low current regulators here and there, as well as for
>static protection, so they bought or selected them to various
>specifications for strike and sustaining voltages.

Tektronix. :-) I'm thoroughly familiar with the 53n and 54n Tek scopes
and their "seriesed" power supplies. A rather good design concept in
my later opinion. Used to calibrate them at Ramo-Wooldridge Standards
Lab 1959-1961.

According to the parts descriptions they were controlled-characteristic
miniature neon pilot bulbs. That worked out rather well since I only had
one problem among about 300 or so scopes at R-W...and that was due
to the error amplifier (tube circuit), not the voltage reference of the
neon.

Much smaller than the common "high grade" VR tube, a 5651.

>The bulbs were commonly used as pilot lamps, but not when the supply was
>DC. (This lesson was learned the hard way, judging by company documents
>and app notes.) Depending on the supply impedance, the pilot bulb could
>become a relaxation oscillator, interfering with sensitive circuitry.

Heh, Tektronix and several other manufacturers of the 1950-1960 period.

General Electric had that problem in one piece of broadcast TV thing.
Encountered that at WREX-TV in 1956, where it was messing about
with the local color sub-carrier generator.

>I came in just as their day was ending.

I'm glad those are nearly gone. Neons are a nice AC pilot bulb or night
light where the minor heat and supply current is not a problem.

Today is a whole different ballgame with logic supply voltage dropping
to 3.3 VDC and rail supplies for op-amps down to 1.5 VDC. LEDs are
now cheap, take less power, and have different colors. Neon lamps are
rather fixed at orange.

ESD built into many MOS ICs makes it much easier on designers and
users and repair folks. Gotta love it now! :-)

Len Anderson
retired (from regular hours) electronic engineer person

2232. GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 20:56:27 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6lk3dd6nrg62@corp.supernews.com>
Source record: 32201
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

PARIS, France (AP) -- The death toll in France from August's blistering heat wave was nearly 15,000, according to a government report released Thursday that exceeded prior official estimates by 3,000 victims.

2233. Re: GIVE YOU PERMISSION 3894.5-LSB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:21:12 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bkvm88$6ir4b$1@ID-153362.news.uni-berlin.de>
Source record: 32202
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM> wrote in message
news:vn6jg14ja15c2f@corp.supernews.com...
> YOU KNOW THE FREQUENCY 3894.5-LSB. THAT'S ON 75 METERS FOR YOU LIMP ONES.
> I'LL BE ON AROUND 7 OR SO. TRANSMIT ONLY AFTER I GIVE YOU PERMISSION.
> OTHERWISE I WILL SHOW YOU THE DOOR.
>
> "BIG-AL"

I thought your mothers name was Big Al?

--
73 de Rene PE1RA / ON6ALD

Cuius testiculos habes, habeas cardeo et cerebellum

2234. Re: GIVE YOU PERMISSION 3894.5-LSB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:26:08 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6nbo2u03ld74@corp.supernews.com>
Source record: 32203
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

IVE GOT YOUR MOTHER ON HER KNEES RIGHT NOW.

H0H0

"Rene PE1RA / ON6ALD" <REMOVErene.altena@gmx.net> wrote in message
news:bkvm88$6ir4b$1@ID-153362.news.uni-berlin.de...
> "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM> wrote in message
> news:vn6jg14ja15c2f@corp.supernews.com...
> > YOU KNOW THE FREQUENCY 3894.5-LSB. THAT'S ON 75 METERS FOR YOU LIMP
ONES.
> > I'LL BE ON AROUND 7 OR SO. TRANSMIT ONLY AFTER I GIVE YOU PERMISSION.
> > OTHERWISE I WILL SHOW YOU THE DOOR.
> >
> > "BIG-AL"
>
> I thought your mothers name was Big Al?
>
> --
> 73 de Rene PE1RA / ON6ALD
>
> Cuius testiculos habes, habeas cardeo et cerebellum
>
>

2235. Re: LIMP ONES

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:30:45 UTC
From: Concerned of Usenet <deletethisbit.itsreallyhere@yahoo.com>
Message-ID: <3F7360F7.16E@yahoo.com>
Source record: 32204
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

path:news.btopenworld.com!btnet-feed5!btnet-peer1!btnet!news.maxwell.syr.edu!sn-xit-03!sn-xit-06!sn-post-01!supernews.com!corp.supernews.com!not-for-mail
From: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
Newsgroups: alt.ham-radio.hf, alt.ham-radio.ssb,
alt.radio.amateur, rec.radio.amateur.dx, rec.radio.amateur.homebrew,
rec.radio.amateur.misc, rec.radio.amateur.policy
Subject: LIMP ONES
Date: Thu, 25 Sep 2003 23:18:58 -0400
Organization: Posted via Supernews, http://www.supernews.com
Message-ID: <vn6jdmg6b00de0@corp.supernews.com>
Reply-To: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
X-Priority: 3
X-MSMail-Priority: Normal
X-Newsreader: Microsoft Outlook Express 6.00.2800.1158
X-MIMEOLE: Produced By Microsoft MimeOLE V6.00.2800.1165
X-Complaints-To: abuse@supernews.com
Lines: 5
Xref: news.btopenworld.com alt.ham-radio.hf:7357
alt.ham-radio.ssb:1409 rec.radio.amateur.dx:26796
rec.radio.amateur.homebrew:85027 rec.radio.amateur.misc:254967
rec.radio.amateur.policy:237060

BIG-AL-3894.5-LSB-75-METERS wrote:
>
> ALL YOU LIMP ONES STAY AWAY. ONLY THOSE WITH BIG ONES ALLOWED. LIKE FRANK
> AND JIMO. IF YOU THINK YOU HAVE A BIG ONE STOP BY. ILL SHOW YOU MY BIG ONE.
> HO-HO

--
"Free flow of information has a price and responsible Internauts"
The Internet under Surveillance a report by Vinton Cerf

2236. Re: GIVE YOU PERMISSION 3894.5-LSB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:37:10 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bkvn66$6e45q$1@ID-153362.news.uni-berlin.de>
Source record: 32205
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@
BIG-AL -003894.5-LSB-75-METERS> wrote in message
news:vn6nbo2u03ld74@corp.supernews.com...
> IVE GOT YOUR MOTHER ON HER KNEES RIGHT NOW.
>
> H0H0

No, that is your sister.

I've got your mother by the balls!

73 de Rene PE1RA / ON6ALD

2237. Re: LIMP ONES

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:39:12 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6o47jeju4ed9@corp.supernews.com>
Source record: 32206
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Path:
sn-us!sn-xit-01!sn-xit-06!sn-xit-08!supernews.com!news.tele.dk!news.tele.dk!
small.news.tele.dk!npeer.de.kpn-eurorings.net!newsfeed.stueberl.de!newsr1.ip
core.viaginterkom.de!btnet-peer1!btnet-feed5!btnet!news.btopenworld.com!not-
for-mail
From: Concerned of Usenet <deletethisbit.itsreallyhere@yahoo.com>
Newsgroups:
alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,re
c.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy
Subject: Re: LIMP ONES
Date: Thu, 25 Sep 2003 21:30:45 +0000 (UTC)
Organization: BT Openworld
Lines: 31
Message-ID: <3F7360F7.16E@yahoo.com>
References: <vn6jdmg6b00de0@corp.supernews.com>
Reply-To: deletethisbit.itsreallyhere@yahoo.com
NNTP-Posting-Host: host213-122-126-224.in-addr.btopenworld.com
Mime-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
X-Trace: hercules.btinternet.com 1064525445 28994 213.122.126.224 (25 Sep
2003 21:30:45 GMT)
X-Complaints-To: news-complaints@lists.btinternet.com
NNTP-Posting-Date: Thu, 25 Sep 2003 21:30:45 +0000 (UTC)
X-Mailer: Mozilla 3.01 (Win95; I)
Xref: sn-us alt.ham-radio.hf:7714 alt.ham-radio.ssb:2306
alt.radio.amateur:2663 rec.radio.amateur.dx:28164
rec.radio.amateur.homebrew:89051 rec.radio.amateur.misc:269086
rec.radio.amateur.policy:262297

"Concerned of Usenet" <deletethisbit.itsreallyhere@yahoo.com> wrote in
message news:3F7360F7.16E@yahoo.com...
>
path:news.btopenworld.com!btnet-feed5!btnet-peer1!btnet!news.maxwell.syr.edu
!sn-xit-03!sn-xit-06!sn-post-01!supernews.com!corp.supernews.com!not-for-mai
l
> From: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
> Newsgroups: alt.ham-radio.hf, alt.ham-radio.ssb,
> alt.radio.amateur, rec.radio.amateur.dx, rec.radio.amateur.homebrew,
> rec.radio.amateur.misc, rec.radio.amateur.policy
> Subject: LIMP ONES
> Date: Thu, 25 Sep 2003 23:18:58 -0400
> Organization: Posted via Supernews, http://www.supernews.com

> Message-ID: <vn6jdmg6b00de0@corp.supernews.com>
> Reply-To: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
> X-Priority: 3
> X-MSMail-Priority: Normal
> X-Newsreader: Microsoft Outlook Express 6.00.2800.1158
> X-MIMEOLE: Produced By Microsoft MimeOLE V6.00.2800.1165
> X-Complaints-To: abuse@supernews.com
> Lines: 5
> Xref: news.btopenworld.com alt.ham-radio.hf:7357
> alt.ham-radio.ssb:1409 rec.radio.amateur.dx:26796
> rec.radio.amateur.homebrew:85027 rec.radio.amateur.misc:254967
> rec.radio.amateur.policy:237060
>
>
> BIG-AL-3894.5-LSB-75-METERS wrote:
> >
> > ALL YOU LIMP ONES STAY AWAY. ONLY THOSE WITH BIG ONES ALLOWED. LIKE
FRANK
> > AND JIMO. IF YOU THINK YOU HAVE A BIG ONE STOP BY. ILL SHOW YOU MY BIG
ONE.
> > HO-HO
>
> --
> "Free flow of information has a price and responsible Internauts"
> The Internet under Surveillance a report by Vinton Cerf

2238. FS: Mil-Spec test leads, Sealed packs, really nice $13ppd w/pics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:40:09 UTC
From: rlucch2098@aol.com
Message-ID: <20030925174009.11352.00000145@mb-m25.aol.com>
Source record: 32207

Hi all;
Try these pics.
$13.00ppd
http://www.myradioroom.com/testleads1.jpg
http://www.myradioroom.com/testleads2.jpg
http://www.myradioroom.com/testleads3.jpg
http://www.myradioroom.com/testleads4.jpg

Thanks es 73..........RICH-WA2RQY RLUCCH2098@aol.com
Web-Page URL> HTTP://members.aol.com/rlucch2098/index.html

2239. Re: GIVE YOU PERMISSION 3894.5-LSB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:40:49 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6o78997qvh2a@corp.supernews.com>
Source record: 32208
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

MY MOTHER LOST HER BALLS IN WWI. YOU MUST HAVE MY FATHERS BALLS.

"Rene PE1RA / ON6ALD" <REMOVErene.altena@gmx.net> wrote in message
news:bkvn66$6e45q$1@ID-153362.news.uni-berlin.de...
> "BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@
> BIG-AL -003894.5-LSB-75-METERS> wrote in message
> news:vn6nbo2u03ld74@corp.supernews.com...
> > IVE GOT YOUR MOTHER ON HER KNEES RIGHT NOW.
> >
> > H0H0
>
> No, that is your sister.
>
> I've got your mother by the balls!
>
> 73 de Rene PE1RA / ON6ALD
>
>

2240. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:45:56 UTC
From: Zombie Wolf <zmbwf@acadia.net>
Message-ID: <vn6ogcdgnqum0c@corp.supernews.com>
Source record: 32209

Ladder line will offer little benefit is this kind of setup. Once you ground one side of it, it isnt even ladder line anymore, but is a single wire hookup to the long wire. Running the odd side of the ladder line to ground thru a gas arc makes little sense, since if you are gong to ground the wire in that side of the line, you may as well ground it directly and just get it over with. It is the LIVE side that would need to go thru the gas arc, if you were going to actually implement this setup.

The actual impedance of the long wire will vary with both the length of the wire, and the frequency it is being operated on. Effforts at "matching" this setup thru a "transformer" would assume its impedance will remain more or less constant , which , as I just got done saying, is not the case. You will get no "transformer" activity here with one side of the ladder line grounded anyway.

The reasoning behind your statements concerning "common-mode noise" and coaxial cable escape me. There really is no such thing as "common-mode noise" on a coax cable. either the shield is grounded , or it is not, in which case , the shield does not shield the inner conductor, which is where the radio takes the signal off the coax. It is the center conducter that picks up noise and feeds it to the radio. This is usually due to either the shield of the coax not being grounded or the chassis of the rig not being grounded (which usually accomplishes the shield ground anyway on most rigs). This lets the noise into the coax so that it can get onto the center conducter in the first place. You most certainly would not use things like gas arc supressors in these grounds, since you want a constant connection to ground on these, rather than one that only operates when a high voltage spike appears. Gas arc and gap type supressors are used on parts of the system that are NOT normally directly grounded, like the center conductor of the coax. If a lightning spike appears on the center conductor, then the gas arc or gap will "activate" and feed it to ground, which is the plan here. The rest of the time, the gas arc or gap type supressor is electrically open.

"mike" <intotheapex@yahoo.com> wrote in message
news:b1c3nvg8kri9661h0fgrn1o9cbp037p2f9@4ax.com...
> Given I am currently using 75 ohm coax to feed my random wire, I
> believe I could use a 300 ohm to 75 ohm (4:1) TV twin lead to coax
> converter and get away with it.
>
> Please correct me if I am wrong, but I think I would attach the random
> wire to one terminal of the 300 ohm input. The other would go directly
> to earth ground, or via a gas arc tube to ground.
>
> On the other side, I would attach my coax cable.

>
> To give the coax feeder a ground at the antenna end, I would to open
> up the converter and solder in a ground wire on the coax sheild
> terminal. This would kill off common mode currents.
>
> This would give my antenna feeder system a matching transformer plus
> give the antenna a direct path to ground.
>
> Theoretically, I am I missing anything?
>
> mike
>
>

2241. Re: LIMP ONES

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 21:46:33 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6oi0eqbm1m32@corp.supernews.com>
Source record: 32210
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

OLE LIMP ONE HIMSELF! CUT AND PASTE BOY. YOU SHOW BE BRIGHT THERE YOUNG BOY.

IM IMPRESSED WITH YOUR CUT AND PASTE SKILLS. CAN YOU TEACH THE REST OF US
HOW ITS DONE?

"Concerned of Usenet" <deletethisbit.itsreallyhere@yahoo.com> wrote in
message news:3F7360F7.16E@yahoo.com...
>
path:news.btopenworld.com!btnet-feed5!btnet-peer1!btnet!news.maxwell.syr.edu
!sn-xit-03!sn-xit-06!sn-post-01!supernews.com!corp.supernews.com!not-for-mai
l
> From: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
> Newsgroups: alt.ham-radio.hf, alt.ham-radio.ssb,
> alt.radio.amateur, rec.radio.amateur.dx, rec.radio.amateur.homebrew,
> rec.radio.amateur.misc, rec.radio.amateur.policy
> Subject: LIMP ONES
> Date: Thu, 25 Sep 2003 23:18:58 -0400
> Organization: Posted via Supernews, http://www.supernews.com
> Message-ID: <vn6jdmg6b00de0@corp.supernews.com>
> Reply-To: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
> X-Priority: 3
> X-MSMail-Priority: Normal
> X-Newsreader: Microsoft Outlook Express 6.00.2800.1158
> X-MIMEOLE: Produced By Microsoft MimeOLE V6.00.2800.1165
> X-Complaints-To: abuse@supernews.com
> Lines: 5
> Xref: news.btopenworld.com alt.ham-radio.hf:7357
> alt.ham-radio.ssb:1409 rec.radio.amateur.dx:26796
> rec.radio.amateur.homebrew:85027 rec.radio.amateur.misc:254967
> rec.radio.amateur.policy:237060
>
>
> BIG-AL-3894.5-LSB-75-METERS wrote:
> >
> > ALL YOU LIMP ONES STAY AWAY. ONLY THOSE WITH BIG ONES ALLOWED. LIKE
FRANK
> > AND JIMO. IF YOU THINK YOU HAVE A BIG ONE STOP BY. ILL SHOW YOU MY BIG
ONE.
> > HO-HO
>
> --
> "Free flow of information has a price and responsible Internauts"
> The Internet under Surveillance a report by Vinton Cerf

2242. Re: THE LIMP ONE LIST - 3 SO FAR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 22:36:51 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bkvqm3$6h91c$1@ID-153362.news.uni-berlin.de>
Source record: 32212
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@
BIG-AL -003894.5-LSB-75-METERS> wrote in message
news:vn6pet1b11o0fc@corp.supernews.com...
> NUMBER TWO (DRUM ROLL)
>
> RENE
>
> WHY. WELL FOR BEING JUST PLAIN DUMB. HEY KIDO, NOBODY CARES. GET IT???

Yeah, I got it all right. Did you get it?

I don't care!

Go live with your parents.... uh.... oops.

73 de Rene PE1RA

2243. Re: THE LIMP ONE LIST - 3 SO FAR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 22:38:09 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bkvqoi$6fr91$1@ID-153362.news.uni-berlin.de>
Source record: 32213
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

So you are one of those No-code CB'ers they keep talking about. Now I understand!

--
73 de Rene PE1RA / ON6ALD

Cuius testiculos habes, habeas cardeo et cerebellum

2244. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:18:42 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <6rs6nvo9cohh28a0gjjggq673i5tcenmq3@4ax.com>
Source record: 32214

On Thu, 25 Sep 2003 17:45:56 -0400, "Zombie Wolf" <zmbwf@acadia.net>
wrote:

>Ladder line will offer little benefit is this kind of setup. Once you ground
>one side of it, it isnt even ladder line anymore, but is a single wire
>hookup to the long wire. Running the odd side of the ladder line to ground
>thru a gas arc makes little sense, since if you are gong to ground the wire
>in that side of the line, you may as well ground it directly and just get it
>over with. It is the LIVE side that would need to go thru the gas arc, if
>you were going to actually implement this setup.

Oddly, when using an ohmmeter on both of my 300 ohm to 75 ohm
transformers, I find continuity between all 4 connections.

There is continuity between both 300 ohm terminals and the center
conductor as well as the sheild. This is normal and expected I am
told. Both the antenna and the coax sheild recieve their ground (at
the moment) from one of the 300 ohm terminals. The other terminal goes
to the antenna. Given this continuity I didnt see a point to giving
the coax sheild another ground as it already has one via this common
ground.

Thanks for the correction. Your idea makes more sense. I would want to
directly ground the antenna, as I have done in practice. The arc tube
would go between the transformer winding and the center conductor?

Its energy gets transfered to the coax center conductor via the
transformer and the shield of the coax is grounded at the transformer
end.

>The actual impedance of the long wire will vary with both the length of the
>wire, and the frequency it is being operated on. Effforts at "matching" this
>setup thru a "transformer" would assume its impedance will remain more or
>less constant , which , as I just got done saying, is not the case. You will
>get no "transformer" activity here with one side of the ladder line grounded
>anyway.
>

In another thread I had questioned the rational of ladder line. Here,
I am using 75 ohm coax. The sheild of the coax is grounded at both
ends to reduce common mode currents. However given the above
statements, effectively the center conductor has a path to ground at
the transformer end, (although that path takes it throught the toroid
windings first).

>The reasoning behind your statements concerning "common-mode noise" and
>coaxial cable escape me. There really is no such thing as "common-mode

>noise" on a coax cable. either the shield is grounded , or it is not, in
>which case , the shield does not shield the inner conductor, which is where
>the radio takes the signal off the coax. It is the center conducter that
>picks up noise and feeds it to the radio. This is usually due to either the
>shield of the coax not being grounded or the chassis of the rig not being
>grounded (which usually accomplishes the shield ground anyway on most rigs).
>This lets the noise into the coax so that it can get onto the center
>conducter in the first place. You most certainly would not use things like
>gas arc supressors in these grounds, since you want a constant connection to
>ground on these, rather than one that only operates when a high voltage
>spike appears. Gas arc and gap type supressors are used on parts of the
>system that are NOT normally directly grounded, like the center conductor of
>the coax. If a lightning spike appears on the center conductor, then the gas
>arc or gap will "activate" and feed it to ground, which is the plan here.
>The rest of the time, the gas arc or gap type supressor is electrically
>open.
>

See above statements for clarification. My sheild is directly grounded
at my antenna tuner. The antenna and coax sheilds share a common
ground via the transformer.

mike

2245. Re: VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:21:18 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <85u6nvs142oaogte5ee48g6alegf4nivjp@4ax.com>
Source record: 32215

On 25 Sep 2003 02:31:09 GMT, et472@FreeNet.Carleton.CA (Michael Black)
wrote:

>But chances are pretty good, given the "cheap" bit, that the meters
>are just standard 250uA meters, with a VU scale. I've seen plenty of
>those where they do not include any bridge inside, and make no attempt
>at meeting the requirements of a "proper VU" meter.
>
>In other words, it would just be a cheap sensitive meter, likely physically
>small and cheaply built. The local surplus outlet used to have them,
>right next to the same sort of meters with an S-meter scale, next to
>similar meters with some other scale.
>
>Given that, it's just a meter can be used as an S-meter when it's hooked
>up to the AGC line of an existing receiver, maybe with a bit of buffering
>so it doesn't load down the AGC.
>
> Michael VE2BVW

Whats AGC mean?

mike

2246. Re: VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:28:00 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <a6u6nvordn57169lvjvuu7619qa50apli6@4ax.com>
Source record: 32216

On Thu, 25 Sep 2003 01:26:52 GMT, "Tweetldee" <dgmason99@att99.net>
wrote:

>What kind of display did you envision rather than a meter? BTW, a VU meter
>is not the same as an S meter.
>
>What's the source for the VU meters? How cheap? What size?

So I can hook it up directly and have a visual of the signal strength
(signal curent) via a needle?

Should I find another one? Yes, I had an year old electronix express
catalog, they dont have any more of the vu meters.

mike

2247. For the electrical engineers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:37:13 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0309251537.196da5c3@posting.google.com>
Source record: 32217
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,alt.ham-radio.mods,rec.radio.amateur.equipment

Come join Electrical Engineering Hams at
http://groups.yahoo.com/group/eeham/

There are more electrical engineering forums than you can shake a stick at. There are more ham radio forums than you can shake a stick at. But until now, there have been NO forums dedicated to people who are both electrical engineers AND ham radio operators. You can think of Electrical Engineering Hams as the unofficial IEEE Amateur Radio Society. (No, it has NO offical status whatsoever!)

Jason Hsu, AG4DG
usenet@@@@jasonhsu.com

2248. Re: THE LIMP ONE LIST - 3 SO FAR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:38:39 UTC
From: Leo <nomail@nope.org>
Message-ID: <n2v6nv0rf2f49ke8jruasaop1if0kpd6rn@4ax.com>
Source record: 32218
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Thank yew, thank yew verra much...

Well, first, I'd like to thank the Academy...

73, Leo

On Thu, 25 Sep 2003 23:01:55 -0400, "BIG-AL@3894.5-LSB-75-METERS"
<BIG-AL -003894.5-LSB-75-METERS@ BIG-AL -003894.5-LSB-75-METERS>
wrote:

>NUMBER ONE ON THE LIST IS (DRUM ROLL)
>
>LEO
>
>WHY. WELL FOR BEING JUST PLAIN EASY TO TROLL.
>
>
>NUMBER TWO (DRUM ROLL)
>
>RENE
>
>WHY. WELL FOR BEING JUST PLAIN DUMB. HEY KIDO, NOBODY CARES. GET IT???
>
>NUMBER THREE (FART SOUND)
>
>CONCERNED OF USENET
>
>WHY. WELL THIS PERSON HAS TO BE THE BIGGEST IDIOT ON HERE. DOES IT THINK
>THAT POSTING PUBLIC HEADERS IN A MESSAGE IS GOING TO AMOUNT TO ANYTHING.
>WELL I GUESS HE/SHE DOESN'T HAVE A CLUE.
>
>
>

2249. Re: VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:46:28 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <o7Lcb.153195$0v4.11414461@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32219

"mike" <intotheapex@yahoo.com> wrote in message
news:a6u6nvordn57169lvjvuu7619qa50apli6@4ax.com...
> On Thu, 25 Sep 2003 01:26:52 GMT, "Tweetldee" <dgmason99@att99.net>
> wrote:
>
>
> >What kind of display did you envision rather than a meter? BTW, a VU
meter
> >is not the same as an S meter.
> >
> >What's the source for the VU meters? How cheap? What size?
>
> So I can hook it up directly and have a visual of the signal strength
> (signal curent) via a needle?
>
> Should I find another one? Yes, I had an year old electronix express
> catalog, they dont have any more of the vu meters.
>
> mike

As has been mentioned, if the meters that you had found are simply meter movements with a VU scale and no rectifier, then it should work just as well as any other meter in your application.... just that the scale will read VU instead of S-units. They are not the same.
VU meters are used in audio systems such as tape recorders, mixers, etc., and have no relation to an S-meter function. If the VU meters that you found are true VU meters, then they would be unsuitable without gutting the innards of the meter and replacing/redrawing the scale.
Cheers!!
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Never take a laxative and a sleeping pill at the same time!!

2250. Re: Where Is Porkbut?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:47:18 UTC
From: NetTracer <artrace@kapownet.com>
Message-ID: <Xns94028E98627kierenmail@195.129.110.200>
Source record: 32220
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Okay, so we know two things about this guy:

1. He's not origional, the best he can do is copy the style of another, allegedly dead, US operator. Badly, as it happens.
2. More interestingly (to me, at least) is that he connects to the Internet from a mainland UK address.

I'll not bother posting his street address on here. It's more fun to deal with this my way when it suits me.

Cheers all

"BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM> wrote in news:vn6j1albio4e4b@corp.supernews.com:

> YOU SPELT HIS NAME RONG. 2 T'S IN PORKBUTT.
>
>
> "Fudge" <fudge@nrtco.net> wrote in message
> news:mDEcb.6435$1H3.399842@news20.bellglobal.com...
>> Where is Porkbut?. I still have a WAV file of his but I miss his cheery
>> voice.
>>
>> Farmer John
>>
>>
>
>

2251. Re: For the electrical engineers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-25 23:51:13 UTC
From: tdonaly@aol.com
Message-ID: <20030925195113.29915.00000123@mb-m24.aol.com>
Source record: 32221

>
>Come join Electrical Engineering Hams at
>http://groups.yahoo.com/group/eeham/
>
>There are more electrical engineering forums than you can shake a
>stick at. There are more ham radio forums than you can shake a stick
>at. But until now, there have been NO forums dedicated to people who
>are both electrical engineers AND ham radio operators. You can think
>of Electrical Engineering Hams as the unofficial IEEE Amateur Radio
>Society. (No, it has NO offical status whatsoever!)
>
>Jason Hsu, AG4DG
>usenet@@@@jasonhsu.com
>
>

Who is going to referee all the fist-fights?
73,
Tom Donaly, KA6RUH

2252. Re: VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 00:23:56 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F7386C9.18968CA4@earthlink.net>
Source record: 32222

mike wrote:
>
> Whats AGC mean?
>
> mike

AGC = Automatic Gain Control. AKA: AVC = Automatic Volume Control
--

Michael A. Terrell
Central Florida

2253. Re: For the electrical engineers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 00:28:04 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F7387C0.978A0630@earthlink.net>
Source record: 32223

Tdonaly wrote:
>
> >
> >Come join Electrical Engineering Hams at
> >http://groups.yahoo.com/group/eeham/
> >
> >There are more electrical engineering forums than you can shake a
> >stick at. There are more ham radio forums than you can shake a stick
> >at. But until now, there have been NO forums dedicated to people who
> >are both electrical engineers AND ham radio operators. You can think
> >of Electrical Engineering Hams as the unofficial IEEE Amateur Radio
> >Society. (No, it has NO offical status whatsoever!)
> >
> >Jason Hsu, AG4DG
> >usenet@@@@jasonhsu.com
> >
> >
>
> Who is going to referee all the fist-fights?
> 73,
> Tom Donaly, KA6RUH

All you have to do is yell "Free food!", and they forget they are
fighting! ;-)
--

Michael A. Terrell
Central Florida

2254. Reducing microphonics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 00:57:59 UTC
From: W4UDX <w4udx.nospam@juno.com>
Message-ID: <09Mcb.23617$iO.21509@bignews5.bellsouth.net>
Source record: 32224

I recently built two Vectronics direct-conversion HF receivers that experience some really bad frequency shifts and microphonics when you tune or handle the radio. Now I understand that direct conversion receivers have that flaw by nature, but is there any way to reduce it without changing the entire receiver circuit? Will the matching metal cabinets help much?

Mark W4UDX

2255. Re: Where Is Porkbut?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:03:17 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <tfMcb.132$LJ5.9163@iad-read.news.verio.net>
Source record: 32225
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"NetTracer" <artrace@kapownet.com> wrote in message
news:Xns94028E98627kierenmail@195.129.110.200...
> Okay, so we know two things about this guy:
>
> 1. He's not origional, the best he can do is copy the style of another,
> allegedly dead, US operator. Badly, as it happens.
> 2. More interestingly (to me, at least) is that he connects to the
Internet
> from a mainland UK address.
>
> I'll not bother posting his street address on here. It's more fun to deal
> with this my way when it suits me.
>
>
>
> Cheers all
>

Ok, so he copies the style of a dead man, making him a dead loser.. Pretty bad when ya can't be original....
But the one thing he IS good at, is being an ASS HOLE... No wonder he likes PORK BUTT -> = FAT ASS. HIS!
As I said, BIG AL... BIG MOUTH - BIG ASS..... ALL YOURS! If YO momma lost "her" balls as you claim, then you ain't right! You're one screwed up individual.. But then we already knew that. You've proven your point. Just as a reminder dick wad, IF I ever want to get on the frequency, YOU will NEVER chase me off, so long as "I" am running per the laws established.
Jam all you want ASS HOLE, it will bury you, not me.
Enjoy!

2256. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:04:44 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F73915A.278@armory.com>
Source record: 32226
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
L'acrobat wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F725AC9.6730@armory.com...
> > L'acrobat wrote:
> > >
> > > "phil hunt" <philh@cabalamat.org> wrote in message
> > > news:slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com...
> > >
> > > > >transmissions still very clear), and the use of FH combined with
> > > > >crypto key makes it darned near impossible for the bad guy to
> decypher
> > > > >it in any realistic timely manner.
> > > >
> > > > Modern crypto is good enough to withstand all cryptanalytic
> > > > attacks.
> > >
> > > Thank you Admiral Doenitz...
> > ------------
> > He's right. Major breaththrough of all possible barriers, the RSA
> > algorithm. Uncrackable in the lifetime of the serious user, and
> > crack is entirely predictable with improved computing power and
> > can be lengthened to compensate.
>
> The fact that you and I think it is unbeatable, doesn't mean it is.
>
> "lifetime of the serious user" what bollocks, you and I have absolutely no
> idea what sort of tech/processing power will be available 10 years from now,
> let alone 30.
-----------------
Nothing CAN magically guess extraordinarily long primes. That will
never just magically become possible. This intrinsic truth resides
in the very mathematics itself, a fact outside of time and progress,
and not in any technology of any kind.

> "and crack is entirely predictable with improved computing power" of course
> it is...
>
> Ask the good Admiral how confident he was that his system was secure.
----------------------
Irrelevant. His system relied on technology, as any mathematician could
have told him. He merely held his nose and trusted the allies weren't
technically advanced enough to do it quick enough. He lost.
```

But the "bet" that RSA makes is totally different, in that it relies
statistically upon the ABSOLUTE RANDOM unlikelihood of any absolute
guessing of very large prime numbers by machines whose rate of guessing
is limited and well-known as their intrinsic limit. This number is a
VERY VERY VERY large prime number. In case you don't quite get it, the
most used high security prime number size is greater than the number
of atoms in the entire big-bang universe AND greater than even THAT
by an even GREATER multiplier! See the writings of James Bidzos, CEO of
RSA Tech. for these revelations.

> Damn near as confident as you are and that worked out so well, didn't it?

You have absolutely NO IDEA what the fuck you're talking about.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2257. Re: VU meter for portable?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:12:07 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <hk47nvckrqd1jo6s5rc62e53blha9p6umm@4ax.com>
Source record: 32227

On Thu, 25 Sep 2003 23:46:28 GMT, "Tweetldee" <dgmason99@att99.net>
wrote:

>
>As has been mentioned, if the meters that you had found are simply meter
>movements with a VU scale and no rectifier, then it should work just as well
>as any other meter in your application.... just that the scale will read VU
>instead of S-units. They are not the same.
>VU meters are used in audio systems such as tape recorders, mixers, etc.,
>and have no relation to an S-meter function. If the VU meters that you
>found are true VU meters, then they would be unsuitable without gutting the
>innards of the meter and replacing/redrawing the scale.
>Cheers!!

OK, S-meter would be correct. Guess I will just do a web search.

mike

2258. Re: Reducing microphonics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:32:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vn75qj3105u749@corp.supernews.com>
Source record: 32228

If you're starting with a poor design and want to "fix it but don't change anything", I think you're out of luck. Reincarnation is probably the only solution. The one thing you might be able to do without major surgery is to improve the mixer grounding.

The problem is due to LO radiation or other coupling to the front end or the mixer signal port. You've got volts of LO energy on essentially the same frequency as nanovolts of signal, and you need to restrict the mixing of the two to the mixer. It's essential to use a very well balanced mixer, like a diode ring. Pay careful attention to grounding -- all input and output signals to the mixer should be grounded at a single point. Shielding of the LO might be necessary. If it's poorly laid out, the very large circulating currents in the oscillator tank circuit can flow through the ground system in such a way as to couple back into the front end. Those problems can be minimized by grounding the bulk of the oscillator's tank L and C at a single point. Competent layout is the best solution, but you can sometimes minimize the damage by careful controlling of the mixer grounds. LO energy escaping out the antenna connector can cause problems also. This can be minimized by using a well balanced mixer, properly laid out, and a properly laid out and possibly shielded LO. An RF stage will help unless the layout is so poor as to let the signal escape around it, but it's not really necessary.

Direct conversion receivers don't have that flaw by nature. Only poorly designed or laid out ones do. A well-designed direct conversion rig isn't any more complicated than a poor one, but the difference in performance can be remarkable.

Roy Lewallen, W7EL

W4UDX wrote:
> I recently built two Vectronics direct-conversion HF receivers that
> experience some really bad frequency shifts and microphonics when you tune
> or handle the radio. Now I understand that direct conversion receivers have
> that flaw by nature, but is there any way to reduce it without changing the
> entire receiver circuit? Will the matching metal cabinets help much?
>
> Mark W4UDX
>
>

2259. Re: antenna noise reduction ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:45:14 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f7397df.2723303@news.cantech.net.au>
Source record: 32229

On Thu, 25 Sep 2003 22:17:35 +0800, "Richard Hosking"
<richardh@iinet.net.au> wrote:

>If you are working at low frequencies, I have seen an idea using a very long
>wire (say 4-5 wavelengths) at a low height above ground (say about 6 feet).
>The antenna can be directive in it's long axis. It can help to reduce QRM
>from a particular direction. Of course you need a fair bit of room...

Richard, back in the '80s we set up several of these for the SES for
poin-to-point operation from Perth to Carnarvon and Port Hedland.
They offer a huge number of positives for p2p and point-to-area.

There is a CCIR publication "Handbook on High-Frequency Directional
Antennae" published in 1966 which is very good background for anyone
into this area.

More specifically, there is a very specialised report from the
Communications Research Centre in Ottawa titled "Beverage Antennas for
HF Communications, Direction Finding and Over-the horizon Radars" (CRC
Report #1282 - August 1976). This gives in vol2 all sorts of
parameters for HF beverage-type antennae. Gain, takeoff angle,
beamwidth, impedance etc as a function of ground type/condition, wire
length, wire height above ground etc. One VERY good read.

Both are decades old, but the laws of physics and iononspheric
behaviour are pretty stable ;-)

2260. Re: SHOW ME YOUR LITTLE ONE AND I'LL SHOW YOU MY BIG ONE BOY

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:51:10 UTC
From: Walter Treftz <penguino@atlantic.net>
Message-ID: <3F739B74.4840BDBF@atlantic.net>
Source record: 32230
Cross-posted to: alt.ham-radio.dxing,alt.ham-radio.hf,alt.ham-radio.ssb,rec.radio.amateur.equipment,rec.radio.amateur.homebrew, rec.radio.amateur.misc,rec.radio.amateur.policy

God!!! I deserted HF and went down to VLF just to get away from
you assholes
N4GL

BIG AL wrote:

> THIS IS K4OKA THE CARING STATION. HO HO
>
> STOP PLAYING WITH YOURSELF BOY.
>
> HO HO

2261. Re: THE LIMP ONE LIST - 3 SO FAR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:54:28 UTC
From: Walter Treftz <penguino@atlantic.net>
Message-ID: <3F739C3A.54E75D39@atlantic.net>
Source record: 32232
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

You know, you assholes who are determined to ruin ham radio with your CB behavior, could always do it easier with telephones now that they have unlimited long distance calling. Then we who are real hams could enjoy both the internet and the ham bands.

"BIG-AL@3894.5-LSB-75-METERS" wrote:

> NUMBER ONE ON THE LIST IS (DRUM ROLL)
>
> LEO
>
> WHY. WELL FOR BEING JUST PLAIN EASY TO TROLL.
>
> NUMBER TWO (DRUM ROLL)
>
> RENE
>
> WHY. WELL FOR BEING JUST PLAIN DUMB. HEY KIDO, NOBODY CARES. GET IT???
>
> NUMBER THREE (FART SOUND)
>
> CONCERNED OF USENET
>
> WHY. WELL THIS PERSON HAS TO BE THE BIGGEST IDIOT ON HERE. DOES IT THINK
> THAT POSTING PUBLIC HEADERS IN A MESSAGE IS GOING TO AMOUNT TO ANYTHING.
> WELL I GUESS HE/SHE DOESN'T HAVE A CLUE.

2262. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:55:53 UTC
From: Thomas Schoene <taschoene@earthlink.invalid>
Message-ID: <J0Ncb.3608$RW4.1123@newsread4.news.pas.earthlink.net>
Source record: 32231
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F73915A.278@armory.com

> Nothing CAN magically guess extraordinarily long primes. That will
> never just magically become possible. This intrinsic truth resides
> in the very mathematics itself, a fact outside of time and progress,
> and not in any technology of any kind.

That's true now, but only to a point. That point is the advent of quantum computing, which allows you to effectively solve for all the possible factors in very little time (say 10^500 times faster than conventional computing for this sort of problem). If QC happens, large prime number encryption is crackable in a matter of seconds. And there is at least some reason to beleive that QC is achievable within a couple of decades.

OTOH, the real danger in the near- to mid-term is not crypto-system attack, but physical compromise of the crypto-system (the adversary getting hold of the both the mechanism and the keys themselves). If they have the actual keys, the eavesdroppers can decode RSA just as easily as the intended recipients.

--
Tom Schoene Replace "invalid" with "net" to e-mail
"If brave men and women never died, there would be nothing
special about bravery." -- Andy Rooney (attributed)

2263. Re: antenna noise reduction ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 01:59:31 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f739d54.4120613@news.cantech.net.au>
Source record: 32235

On Fri, 26 Sep 2003 01:45:14 GMT, budgie
<budgie@nowhere.cantech.net.au> wrote:

(snip)

>More specifically, there is a very specialised report from the
>Communications Research Centre in Ottawa titled "Beverage Antennas for
>HF Communications, Direction Finding and Over-the horizon Radars" (CRC
>Report #1282 - August 1976). This gives in vol2 all sorts of
>parameters for HF beverage-type antennae. Gain, takeoff angle,
>beamwidth, impedance etc as a function of ground type/condition, wire
>length, wire height above ground etc. One VERY good read.

First report cited at:
http://shekel.dgcp.crc.ca/web2/tramp2.exe/form/A15glkni.000

2264. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 02:03:14 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl06of$21fj$1@otis.netspace.net.au>
Source record: 32233
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"phil hunt" <philh@cabalamat.org> wrote in message
news:slrnbn5q9i.43u.philh@cabalamat.cabalamat.com...
> On Thu, 25 Sep 2003 14:47:07 +1000, L'acrobat
<husky65@delete_me.netspace.net.au> wrote:
> >
> >"lifetime of the serious user" what bollocks, you and I have absolutely
no
> >idea what sort of tech/processing power will be available 10 years from
now,
>
> Ever heard of Moore's law?
>
> I've got a pretty good idea. A typical PC now has a 2 GHz CPU, and
> about 256 MB RAM.
>
> Assume these double every 18 months. 10 years is about 7 doublings
> so in 2003 we'll see PCs with 250 GHz CPUs and 32 GB of RAM.

Right. you are going to base national security matter on a rule of thumb
that relates to a typical PC.

Good move.

2265. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 02:07:05 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl06vm$21gm$1@otis.netspace.net.au>
Source record: 32234
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F73915A.278@armory.com...
> L'acrobat wrote:
> >
> > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > news:3F725AC9.6730@armory.com...
> > > L'acrobat wrote:
> > > >
> > > > "phil hunt" <philh@cabalamat.org> wrote in message
> > > > news:slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com...
> > > > >
> > > > > >transmissions still very clear), and the use of FH combined with
> > > > > >crypto key makes it darned near impossible for the bad guy to
> > decypher
> > > > > >it in any realistic timely manner.
> > > > > >
> > > > > > Modern crypto is good enough to withstand all cryptanalytic
> > > > > > attacks.
> > > > > >
> > > > > Thank you Admiral Doenitz...
> > > > ------------
> > > He's right. Major breaththrough of all possible barriers, the RSA
> > > algorithm. Uncrackable in the lifetime of the serious user, and
> > > crack is entirely predictable with improved computing power and
> > > can be lengthened to compensate.
> > >
> > The fact that you and I think it is unbeatable, doesn't mean it is.
> >
> > "lifetime of the serious user" what bollocks, you and I have absolutely
no
> > idea what sort of tech/processing power will be available 10 years from
now,
> > let alone 30.
> -----------------
> Nothing CAN magically guess extraordinarily long primes. That will
> never just magically become possible. This intrinsic truth resides
> in the very mathematics itself, a fact outside of time and progress,
> and not in any technology of any kind.
>
>
> > "and crack is entirely predictable with improved computing power" of
course
> > it is...
```

> >
> > Ask the good Admiral how confident he was that his system was secure.
> ----------------------
> Irrelevant. His system relied on technology, as any mathematician could
> have told him. He merely held his nose and trusted the allies weren't
> technically advanced enough to do it quick enough. He lost.
>
> But the "bet" that RSA makes is totally different, in that it relies
> statistically upon the ABSOLUTE RANDOM unlikelihood of any absolute
> guessing of very large prime numbers by machines whose rate of guessing
> is limited and well-known as their intrinsic limit. This number is a
> VERY VERY VERY large prime number. In case you don't quite get it, the
> most used high security prime number size is greater than the number
> of atoms in the entire big-bang universe AND greater than even THAT
> by an even GREATER multiplier! See the writings of James Bidzos, CEO of
> RSA Tech. for these revelations.
>
>
> > Damn near as confident as you are and that worked out so well, didn't
it?
> ------------------------
> You have absolutely NO IDEA what the fuck you're talking about.
>

See Mr Schoenes response.

It seems that you sir, have no idea what the fuck you are talking about.

Again, ask the Good Admiral D how confident he was that his system was safe.

2266. THE LIMP ONE LIST - 3 SO FAR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 03:01:55 UTC
From: "BIG-AL@3894.5-LSB-75-METERS" <"BIG-AL -003894.5-LSB-75-METERS"@BIG-AL>
Message-ID: <vn6pet1b11o0fc@corp.supernews.com>
Source record: 32211
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

NUMBER ONE ON THE LIST IS (DRUM ROLL)

LEO

WHY. WELL FOR BEING JUST PLAIN EASY TO TROLL.

NUMBER TWO (DRUM ROLL)

RENE

WHY. WELL FOR BEING JUST PLAIN DUMB. HEY KIDO, NOBODY CARES. GET IT???

NUMBER THREE (FART SOUND)

CONCERNED OF USENET

WHY. WELL THIS PERSON HAS TO BE THE BIGGEST IDIOT ON HERE. DOES IT THINK
THAT POSTING PUBLIC HEADERS IN A MESSAGE IS GOING TO AMOUNT TO ANYTHING.
WELL I GUESS HE/SHE DOESN'T HAVE A CLUE.

2267. Re: LED education needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 03:11:15 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vn7ben1fcpm470@corp.supernews.com>
Source record: 32236

One issue with calculating the required resistance is that most LED's drop
the voltage about 2 volts.
So if you really wanna be accurate, use:
(supply voltage - 2) / (desired current) = reccommended resistor
But it shouldn't matter too much unless you are either using small voltages
or are concerned about exact current draw.

73
-KG6SGY

"Zombie Wolf" <zmbwf@acadia.net> wrote in message
news:vmctfne721ju71@corp.supernews.com...
> voltage / resistance = current. simple ohm's law.
>
> E
> I R
>
> voltage / current = required resistance
>
>
> "Bob Liesenfeld" <wb0poq@visi.com> wrote in message
> news:3F4D8062.5F61B5F5@visi.com...
> >
> >
> > bobinphx wrote:
> > >
> > > To All, I need to understand a few things about LED's, such as
amperage,
> > > current limiting and light output.. Anyone an expert that can explain
> things
> > > and answer my further rising questions in terms an electronics hack
> (myself)
> > > can understand...
> > >
> > > Thanks
> > > Bob in phx...
> >
> >
> > Well, as a start it is generally assumed that an LED when under
> > forward bias and lit up has 2V across it with 20mA flowing through it.
> > This allows you to calculate a series resistor with any applied voltage.
> > Does this help? Any other questions?
> >
> > Bob WB0POQ
>

>

2268. LIMP ONES

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 03:18:58 UTC
From: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
Message-ID: <vn6jdmg6b00de0@corp.supernews.com>
Source record: 32341
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

ALL YOU LIMP ONES STAY AWAY. ONLY THOSE WITH BIG ONES ALLOWED. LIKE FRANK
AND JIMO. IF YOU THINK YOU HAVE A BIG ONE STOP BY. ILL SHOW YOU MY BIG ONE.
HO-HO

2269. GIVE YOU PERMISSION 3894.5-LSB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 03:20:12 UTC
From: "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM>
Message-ID: <vn6jg14ja15c2f@corp.supernews.com>
Source record: 32342
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

YOU KNOW THE FREQUENCY 3894.5-LSB. THAT'S ON 75 METERS FOR YOU LIMP ONES.
I'LL BE ON AROUND 7 OR SO. TRANSMIT ONLY AFTER I GIVE YOU PERMISSION.
OTHERWISE I WILL SHOW YOU THE DOOR.

"BIG-AL"

2270. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 04:36:20 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F73C2F2.3FD4@armory.com>
Source record: 32237
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

Thomas Schoene wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F73915A.278@armory.com
>
> > Nothing CAN magically guess extraordinarily long primes. That will
> > never just magically become possible. This intrinsic truth resides
> > in the very mathematics itself, a fact outside of time and progress,
> > and not in any technology of any kind.
>
> That's true now, but only to a point. That point is the advent of quantum
> computing, which allows you to effectively solve for all the possible
> factors in very little time (say 10^500 times faster than conventional
> computing for this sort of problem). If QC happens, large prime number
> encryption is crackable in a matter of seconds. And there is at least some
> reason to beleive that QC is achievable within a couple of decades.

Or DNA computing, sure.

Just an escalation, the power of operations easier one way than the
other persists and an increase in length results in the same safety.

For it to be otherwise you need to postulate that the govt will be
doing its own fundamental research, and it NEVER does, and that it
will develop QC to that level BEFORE the market sells it or the people
developing it steal it and spread it around to prevent a national
monopoly on power, and that's pretty unlikely.

> OTOH, the real danger in the near- to mid-term is not crypto-system attack,
> but physical compromise of the crypto-system (the adversary getting hold of
> the both the mechanism and the keys themselves). If they have the actual
> keys, the eavesdroppers can decode RSA just as easily as the intended
> recipients.
>
> --
> Tom Schoene Replace "invalid" with "net" to e-mail
> "If brave men and women never died, there would be nothing
> special about bravery." -- Andy Rooney (attributed)

Yes. Goes without saying.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew

Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2271. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 04:42:06 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F73C44B.40C2@armory.com>
Source record: 32238
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
L'acrobat wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F73915A.278@armory.com...
> > L'acrobat wrote:
> > >
> > > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > > news:3F725AC9.6730@armory.com...
> > > > L'acrobat wrote:
> > > > >
> > > > > "phil hunt" <philh@cabalamat.org> wrote in message
> > > > > news:slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com...
> > > > > >
> > > > > > >transmissions still very clear), and the use of FH combined with
> > > > > > >crypto key makes it darned near impossible for the bad guy to
> > > decypher
> > > > > > >it in any realistic timely manner.
> > > > > > >
> > > > > > > Modern crypto is good enough to withstand all cryptanalytic
> > > > > > > attacks.
> > > > > > >
> > > > > > Thank you Admiral Doenitz...
> > > > > ------------
> > > > He's right. Major breaththrough of all possible barriers, the RSA
> > > > algorithm. Uncrackable in the lifetime of the serious user, and
> > > > crack is entirely predictable with improved computing power and
> > > > can be lengthened to compensate.
> > >
> > > The fact that you and I think it is unbeatable, doesn't mean it is.
> > >
> > > "lifetime of the serious user" what bollocks, you and I have absolutely
> no
> > > idea what sort of tech/processing power will be available 10 years from
> now,
> > > let alone 30.
> > -----------------
> > Nothing CAN magically guess extraordinarily long primes. That will
> > never just magically become possible. This intrinsic truth resides
> > in the very mathematics itself, a fact outside of time and progress,
> > and not in any technology of any kind.
> >
> >
> > > "and crack is entirely predictable with improved computing power" of
```

> course
> > > it is...
> > >
> > > Ask the good Admiral how confident he was that his system was secure.
> > ----------------------
> > Irrelevant. His system relied on technology, as any mathematician could
> > have told him. He merely held his nose and trusted the allies weren't
> > technically advanced enough to do it quick enough. He lost.
> >
> > But the "bet" that RSA makes is totally different, in that it relies
> > statistically upon the ABSOLUTE RANDOM unlikelihood of any absolute
> > guessing of very large prime numbers by machines whose rate of guessing
> > is limited and well-known as their intrinsic limit. This number is a
> > VERY VERY VERY large prime number. In case you don't quite get it, the
> > most used high security prime number size is greater than the number
> > of atoms in the entire big-bang universe AND greater than even THAT
> > by an even GREATER multiplier! See the writings of James Bidzos, CEO of
> > RSA Tech. for these revelations.
> >
> >
> > > Damn near as confident as you are and that worked out so well, didn't
> it?
> > ------------------------
> > You have absolutely NO IDEA what the fuck you're talking about.
> >
>
> See Mr Schoenes response.
>
> It seems that you sir, have no idea what the fuck you are talking about.

You're a lying shit and a bounder, and you're diddling yourself and
delaying the inevitable.

> Again, ask the Good Admiral D how confident he was that his system was safe.

You're blathering, hoping that line will sustain you while you try
to bluster your way out of this, when the fact is that RSA is
qualitatively different than any systematically crackable cipher.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2272. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 04:55:38 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl0grn$27be$1@otis.netspace.net.au>
Source record: 32239
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F73C44B.40C2@armory.com...
> L'acrobat wrote:
> >
> > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > news:3F73915A.278@armory.com...
> > > L'acrobat wrote:
> > > >
> > > > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > > > news:3F725AC9.6730@armory.com...
> > > > > L'acrobat wrote:
> > > > > >
> > > > > > "phil hunt" <philh@cabalamat.org> wrote in message
> > > > > > news:slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com...
> > > > > > >
> > > > > > > >transmissions still very clear), and the use of FH combined
with
> > > > > > > >crypto key makes it darned near impossible for the bad guy to
> > > > decypher
> > > > > > > >it in any realistic timely manner.
> > > > > > > >
> > > > > > > Modern crypto is good enough to withstand all cryptanalytic
> > > > > > > attacks.
> > > > > > >
> > > > > > Thank you Admiral Doenitz...
> > > > > > ------------
> > > > > He's right. Major breaththrough of all possible barriers, the RSA
> > > > > algorithm. Uncrackable in the lifetime of the serious user, and
> > > > > crack is entirely predictable with improved computing power and
> > > > > can be lengthened to compensate.
> > > >
> > > > The fact that you and I think it is unbeatable, doesn't mean it is.
> > > >
> > > > "lifetime of the serious user" what bollocks, you and I have
absolutely
> > no
> > > > > idea what sort of tech/processing power will be available 10 years
from
> > now,
> > > > > let alone 30.
> > > > -----------------
> > > Nothing CAN magically guess extraordinarily long primes. That will
> > > never just magically become possible. This intrinsic truth resides
```

> > > in the very mathematics itself, a fact outside of time and progress,
> > > and not in any technology of any kind.
> > >
> > >
> > > > "and crack is entirely predictable with improved computing power" of
> > course
> > > > > it is...
> > > > >
> > > > > Ask the good Admiral how confident he was that his system was
secure.
> > > ----------
> > > Irrelevant. His system relied on technology, as any mathematician
could
> > > have told him. He merely held his nose and trusted the allies weren't
> > > technically advanced enough to do it quick enough. He lost.
> > >
> > > But the "bet" that RSA makes is totally different, in that it relies
> > > statistically upon the ABSOLUTE RANDOM unlikelihood of any absolute
> > > guessing of very large prime numbers by machines whose rate of
guessing
> > > is limited and well-known as their intrinsic limit. This number is a
> > > VERY VERY VERY large prime number. In case you don't quite get it, the
> > > most used high security prime number size is greater than the number
> > > of atoms in the entire big-bang universe AND greater than even THAT
> > > by an even GREATER multiplier! See the writings of James Bidzos, CEO
of
> > > RSA Tech. for these revelations.
> > >
> > >
> > > > Damn near as confident as you are and that worked out so well,
didn't
> > it?
> > > ----------
> > > You have absolutely NO IDEA what the fuck you're talking about.
> > >
> >
> > See Mr Schoenes response.
> >
> > It seems that you sir, have no idea what the fuck you are talking about.
> ----------
> You're a lying shit and a bounder, and you're diddling yourself and
> delaying the inevitable.
>

Not trying to argue your already discredited position anymore Stevie?

Only an idiot would suggest that any code is "Uncrackable in the lifetime of
the serious user" ands so you did.

>
> > Again, ask the Good Admiral D how confident he was that his system was

safe.
> ----------------
> You're blathering, hoping that line will sustain you while you try
> to bluster your way out of this, when the fact is that RSA is
> qualitatively different than any systematically crackable cipher.

As has already been shown, RSA isn't uncrackable, but you are.

What, exactly do you think the NSA is doing with all those 'puters they own?
playing Doom?

Of course RSA is uncrackable, just like the good Admirals systems and I
assume he had a lackwitted buffoon just like you telling him that there was
no way anyone could be decrypting our stuff too...

2273. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 05:11:15 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F73CB20.1DB1@armory.com>
Source record: 32240
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
L'acrobat wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F73C44B.40C2@armory.com...
>
> > > > > > > Thank you Admiral Doenitz...
> > > > > > > ------------
> > > > > > > He's right. Major breaththrough of all possible barriers, the RSA
> > > > > > > algorithm. Uncrackable in the lifetime of the serious user, and
> > > > > > > crack is entirely predictable with improved computing power and
> > > > > > > can be lengthened to compensate.
> > > > > >
> > > > > > The fact that you and I think it is unbeatable, doesn't mean it is.
> > > > > >
> > > > > > "lifetime of the serious user" what bollocks, you and I have
> absolutely
> > > no
> > > > > > idea what sort of tech/processing power will be available 10 years
> from
> > > now,
> > > > > > let alone 30.
> > > > > -----------------
> > > > > Nothing CAN magically guess extraordinarily long primes. That will
> > > > > never just magically become possible. This intrinsic truth resides
> > > > > in the very mathematics itself, a fact outside of time and progress,
> > > > > and not in any technology of any kind.
> > > > >
> > > > >
> > > > > > "and crack is entirely predictable with improved computing power" of
> > > course
> > > > > > it is...
> > > > > >
> > > > > > Ask the good Admiral how confident he was that his system was
> secure.
> > > > > ----------------------
> > > > > Irrelevant. His system relied on technology, as any mathematician
> could
> > > > > have told him. He merely held his nose and trusted the allies weren't
> > > > > technically advanced enough to do it quick enough. He lost.
> > > > >
> > > > > But the "bet" that RSA makes is totally different, in that it relies
> > > > > statistically upon the ABSOLUTE RANDOM unlikelihood of any absolute
> > > > > guessing of very large prime numbers by machines whose rate of
```

> guessing
> > > > is limited and well-known as their intrinsic limit. This number is a
> > > > VERY VERY VERY large prime number. In case you don't quite get it, the
> > > > most used high security prime number size is greater than the number
> > > > of atoms in the entire big-bang universe AND greater than even THAT
> > > > by an even GREATER multiplier! See the writings of James Bidzos, CEO
> of
> > > > RSA Tech. for these revelations.
> > > >
> > > >
> > > > > Damn near as confident as you are and that worked out so well,
> didn't
> > > it?
> > > > ------------------------
> > > > You have absolutely NO IDEA what the fuck you're talking about.
> > > >
> > >
> > > See Mr Schoenes response.
> > >
> > > It seems that you sir, have no idea what the fuck you are talking about.
> > ------------------
> > You're a lying shit and a bounder, and you're diddling yourself and
> > delaying the inevitable.
>
> Not trying to argue your already discredited position anymore Stevie?

Ain't any such.

> Only an idiot would suggest that any code is "Uncrackable in the lifetime of
> the serious user" ands so you did.

It *IS*!
If you choose to try to crack RSA go to their site and download a
test message and try it. None have done so above the known prime
lengths that are do-able.

> > > Again, ask the Good Admiral D how confident he was that his system was
> safe.
> > ----------------
> > You're blathering, hoping that line will sustain you while you try
> > to bluster your way out of this, when the fact is that RSA is
> > qualitatively different than any systematically crackable cipher.
>
> As has already been shown, RSA isn't uncrackable,

Which we knew, but it takes for fucking ever statistically.
It can easily be made to take longer than the current age of the
universe.

> but you are.

More of your meaningless blather and ridiculous self-covering.

> What, exactly do you think the NSA is doing with all those 'puters they own?
> playing Doom?

Monitoring un-coded transmissions en masse hoping to flag trends
or conspiracies by other characteristic signatures.

But as for cracking RSA encoded messages or even kiddy porn being
sent encoded from Europe: Not a whole fucking hell of a lot anymore.
They are hoping their hardware will frighten terrorists out of using
commonly available public domain technology to completely defeat them,
while knowing that everyone who knows anything knows they are totally
defeated by any kid with a computer if he bothers to look it up and
download the tools and use a long enough bit-length and a decent
firewall properly installed.

> Of course RSA is uncrackable, just like the good Admirals systems
> and I
> assume he had a lackwitted buffoon just like you telling him that there was
> no way anyone could be decrypting our stuff too...

That's irrelevant, because he would have simply been technically
wrong out of his own ignorance of cryptology, whereas I am not.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2274. Re: antenna noise reduction ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 06:28:19 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0309252228.759d2c63@posting.google.com>
Source record: 32241

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:<3f72f924$0$23612$5a62ac22@freenews.iinet.net.au>...
> If you are working at low frequencies, I have seen an idea using a very long
> wire (say 4-5 wavelengths) at a low height above ground (say about 6 feet).
> The antenna can be directive in it's long axis. It can help to reduce QRM
> from a particular direction. Of course you need a fair bit of room...
>
> Richard

Hi all,
the wire should be resistor loaded at the far end. It is so-called
"Beverage antenna". If you have several acres of pastures, it is a
perfect solution for DXing.

BR from Ivan

2275. Re: Long wire transformer idea

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 07:10:35 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f73e4cf.107998994@news.freeserve.net>
Source record: 32242

On Wed, 24 Sep 2003 15:05:09 GMT, mike <intotheapex@yahoo.com> wrote:

>Given I am currently using 75 ohm coax to feed my random wire, I
>believe I could use a 300 ohm to 75 ohm (4:1) TV twin lead to coax
>converter and get away with it.
>
Mike, I used a 1:9 un-bal transformer, Its early and I'm rushing ,
but, 9 turns trifilar IIRC on an T50-2 toroid. the endfed was about
65' long. I fed it with 75R coax with the ground side of the unbal
going to the screen of the coax.

a bit like this (ant -u-u-----u-u--coax--u-u--gnd)
where --u-u-- is a winding of the unbal.

It worked reasonable well with 10watts on 40m and above using an atu,
but had problems with 80m due to RF feedback. A counterpoise from the
unbal gnd would probably have helped this.
gotta go.
atb Mike W
--

2276. Re: Where Is Porkbut?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 10:22:46 UTC
From: K4-OLD-KING-ALLIGATOR
Message-ID: <vn84slchoi7uf0@corp.supernews.com>
Source record: 32244
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

YOUR DUMMER THAN CONCERNED OF USENET BOY.

"NetTracer" <artrace@kapownet.com> wrote in message
news:Xns94028E98627kierenmail@195.129.110.200...
> Okay, so we know two things about this guy:
>
> 1. He's not origional, the best he can do is copy the style of another,
> allegedly dead, US operator. Badly, as it happens.
> 2. More interestingly (to me, at least) is that he connects to the
Internet
> from a mainland UK address.
>
> I'll not bother posting his street address on here. It's more fun to deal
> with this my way when it suits me.
>
>
>
> Cheers all
>
>
>
> "BIG-AL-3894.5-LSB-75-METERS" <BIG-AL@BIG-AL.KOM> wrote in
> news:vn6j1albio4e4b@corp.supernews.com:
>
> > YOU SPELT HIS NAME RONG. 2 T'S IN PORKBUTT.
> > >
> > >
> > > "Fudge" <fudge@nrtco.net> wrote in message
> > > news:mDEcb.6435$1H3.399842@news20.bellglobal.com...
> > >> Where is Porkbut?. I still have a WAV file of his but I miss his cheery
> > >> voice.
> > >>
> > >> Farmer John
> > >>
> > >>
> > > >
> > > >
>

2277. QRP Quarterly

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 12:09:05 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vn8b2sqar57810@corp.supernews.com>
Source record: 32147

Hello-
Looking for any QRP Quarterly back issues for sale from 1997 to
beginning of publishing. Thanks, Byron WA5THJ.

2278. Re: 03894.5-LSB-75-METERS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 13:51:28 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bl1g91$76hhf$1@ID-153362.news.uni-berlin.de>
Source record: 32148
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy
Body handling: HTML body converted to readable text

```
Every man is a little big gay. But you sure reign!

--
73 de Rene PE1RA / ON6ALD

Cuius testiculos habes, habeas cardeo et cerebellum

"B I G A L" wrote in message
news:vn3mnk2p842u9a@corp.supernews.com...
> RENE?
>
> HOMO?
>
> FAGO?
>
> HO HO?
>
> "Rene PE1RA / ON6ALD" wrote in message
> news:bks21t$54247$1@ID-153362.news.uni-berlin.de...
> >
> > "Ken Bessler" wrote in message
> > news:pdCdnXYC3uH99u2iXTWJkg@comcast.com...
> > >
> > > "Bruce Lane" wrote in message
> > > news:MPG.19da046ab64a1ebf989a14@192.168.42.131...
> > > > In article ,
> > > > Spamfree@Spamfree.com says...
> > > > >
> > > > > > " BIG AL" wrote in message
> > > > > news:vn07dg6h8lftdc@corp.supernews.com...
> > > > >
> > > > >
> > > > >
> > > > Gang, it's just a troll, fercryinoutloud! They've been around
> > > > since the early days of Usenet, and their entire existence seems to
be
> > > > centered around making outrageous posts just to see what kind of
> replies
> > > > they get.
> > > > >
> > > > Just killfile him and be at peace. Don't even waste your energy on
> > > > a reply.
```

> > > >
> > > > 73 de KC7GR
> > > >
> > >
> > > Better yet, killfile him and create a message rule like this:
> > >
> > > Apply this rule after the message arrives
> > > Where the Subject line contains '3.894' or '3894' or 'bigal'
> > > Delete it
> > >
> >
> > No!
> >
> > Where the Subject line contains '3.894' or '3894' or 'bigal'
> > send the email back
> >
> >
> > 73 de Rene PE1RA
> >
> >
>
>

2279. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 13:57:17 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bl1gjv$74p75$1@ID-153362.news.uni-berlin.de>
Source record: 32149
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

What is it with you and porkbutts? Do you need a transplant? Do you like porkbutts? Do you want somebody porking your butt? What is it?

--
73 de Rene PE1RA / ON6ALD

Cuius testiculos habes, habeas cardeo et cerebellum

" BIG AL" <bigal3.894.5 @bigal3.894.5.com> wrote in message news:vn080m13ld4oa1@corp.supernews.com...
> AY YI YI YI YES ITS THE PORKBUTT SONG.
>
> AY YI YI YI YES ITS THE PORKBUTT SONG.
>
> AY YI YI YI YES ITS THE PORKBUTT SONG.
>
> 3894.5 IS MINE. STAY AWAY.
>
>
>

2280. CQ CQ CQ

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 15:23:35 UTC
From: K4-OLD-KING-ALLIGATOR
Message-ID: <vn84u8t6mb580f@corp.supernews.com>
Source record: 32245
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

[No readable article body recovered]

2281. Re: QRP Quarterly

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 16:14:58 UTC
From: bball@green.home.org
Message-ID: <slrnbn8qqf.oh6.bball@green.home.org>
Source record: 32150

On Fri, 26 Sep 2003 07:09:05 -0500, Byron Tatum <bjtatum@ev1.net> wrote:
> Hello-
> Looking for any QRP Quarterly back issues for sale from 1997 to
> beginning of publishing. Thanks, Byron WA5THJ.
>

- hell, i joined a month ago, and i'm still waiting for my first copy!
(it took a while to get the cute wallpaper certificate, but i'd
rather have the current issue)
>

2282. IS THERE ANYBODY OUT THERE

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 17:24:14 UTC
From: K4-OLD-KING-ALLIGATOR
Message-ID: <vn84vkh742nn2b@corp.supernews.com>
Source record: 32246
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

[No readable article body recovered]

2283. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 18:29:01 UTC
From: Frank Todd IV <frank@127.0.0.1>
Message-ID: <Mz%cb.342886$2x.104572@rwcrnsc52.ops.asp.att.net>
Source record: 32151
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Rene PE1RA / ON6ALD wrote:
> What is it with you and porkbutts? Do you need a transplant? Do you like
> porkbutts? Do you want somebody porking your butt? What is it?
>
> --
> 73 de Rene PE1RA / ON6ALD
>
> Cuius testiculos habes, habeas cardeo et cerebellum
>
> " BIG AL" <bigal3.894.5 @bigal3.894.5.com> wrote in message
> news:vn080m13ld4oa1@corp.supernews.com...
>
>>AY YI YI YI YES ITS THE PORKBUTT SONG.
>>
>> AY YI YI YI YES ITS THE PORKBUTT SONG.
>>
>>AY YI YI YI YES ITS THE PORKBUTT SONG.
>>
>>3894.5 IS MINE. STAY AWAY.
>>
>>
>>
>
>
>
Porkbutt is the ex-WB2OTK Rich Whiten out of Easley, South Carolina, USA.

73

Frank K3EKO

2284. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 18:52:27 UTC
From: philh@cabalamat.org
Message-ID: <slrnbn92nb.8hs.philh@cabalamat.cabalamat.com>
Source record: 32155
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

On 25 Sep 2003 06:23:38 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
>philh@cabalamat.org (phil hunt) wrote in message
news:<slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com>...
>> On 23 Sep 2003 20:00:32 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
>> >> >
>> >> >No. Paul is correct, DF'ing a "frequency agile" (or "hopping")
>> >> >transmitter is no easy task. For example, the standard US SINCGARS
>> >> >radio changes frequencies about one hundred times per *second*,
>> >>
>> >> Bear in mind that I'm talking about automated electronic gear here,
>> >> not manual intervention. Electronics works in time spans a lot
>> >> quicker than 10 ms.
>> >
>> >So what? Unless you know the frequency hopping plan ahead of time
>> >(something that is rather closely guarded), you can't capture enough
>> >of the transmission to do you any good--they use a rather broad
>> >spectrum.
>>
>> OK, I now understand that DF generally relies on knowing the
>> frequency in advance.
>>
>> BTW, when you say a rather broad spectrum, how broad? And divided
>> into how many bands, roughly?
>
>It uses the entire normal military VHF FM spectrum, 30-88 MHz. ISTR
>that the steps in between are measured in 1 KHz increments, as opposed
>to the old 10 KHz increments found in older FM radios like the
>AN/VRC-12 family, so the number of different frequencies SINGCARS can
>use is 58,000.

More than one 1 kHz slot is likely to be in use at anyone time,
since you need enough bandwidth for voice. Say 20, then about
1/3000th of the frequency space is in use at any one time.

>> Modern crypto is good enough to withstand all cryptanalytic
>> attacks.
>
>Only if it were so...but thank goodness it is not.

Oh? So who can break AES/Rijndael?

> Otherwise we would
>have lost the value of one of our largest and most valuable intel
>programs, and NSA would no longer exist. Even the cypher keys used by

>our modern tactical radios (said keys being generated by NSA at the
>top end, though we now have computers in the field capable of "key
>generation" using input from that source) are not
>unbreakable--instead, they are tough enough to break that we can be
>reasonably assured that the bad guys will not be able to gain any kind
>of *timely* tactical intel; enough computing power in the hands of the
>crypto-geeks and they can indeed break them,

True, but "enough" happens to be more than all the computers in
existance right now, or likely to exist.

Assume: there are 1 billion computers, each of which can check 1
billion keys/second.

Then a brute-force search on a 128-bit keyspace would take about
10^60 years.

--
"It's easier to find people online who openly support the KKK than
people who openly support the RIAA" -- comment on Wikipedia

2285. Re: battlefield Internet

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 18:53:00 UTC
From: philh@cabalamat.org
Message-ID: <slrnbn92oc.8hs.philh@cabalamat.cabalamat.com>
Source record: 32154
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

On Thu, 25 Sep 2003 13:51:14 +0000 (UTC), Mike Andrews <mikea@mikea.ath.cx> wrote:
>In <slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com> (rec.radio.amateur.homebrew), phil hunt wrote:
>
>> Modern crypto is good enough to withstand all cryptanalytic
>> attacks.
>
>That's a great idea, and I suspect tthat you're right in the general
>case. But a modern cryptosystem, badly implemented, will have all
>manner of vulnerabilities -- most of which are not particularly
>obvious.

Absolutely.

>Remember the competition for the successor to DES as the standard
>crypto algorithm? That was *quite* interesting.

What was interesting about it?

--
"It's easier to find people online who openly support the KKK than
people who openly support the RIAA" -- comment on Wikipedia

2286. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 19:17:49 UTC
From: philh@cabalamat.org
Message-ID: <slrnbn946t.8hs.philh@cabalamat.cabalamat.com>
Source record: 32156
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

On Fri, 26 Sep 2003 01:55:53 GMT, Thomas Schoene <taschoene@earthlink.invalid> wrote:
>"R. Steve Walz" <rstevew@armory.com> wrote in message
>news:3F73915A.278@armory.com
>
>> Nothing CAN magically guess extraordinarily long primes. That will
>> never just magically become possible. This intrinsic truth resides
>> in the very mathematics itself, a fact outside of time and progress,
>> and not in any technology of any kind.
>
>That's true now, but only to a point. That point is the advent of quantum
>computing, which allows you to effectively solve for all the possible
>factors in very little time (say 10^500 times faster than conventional
>computing for this sort of problem). If QC happens, large prime number
>encryption is crackable in a matter of seconds.

Maybe. And maybe QC will make possible other encryption techniques.

>OTOH, the real danger in the near- to mid-term is not crypto-system attack,
>but physical compromise of the crypto-system (the adversary getting hold of
>the both the mechanism and the keys themselves).

All good cryptosystems are still effective if the adversary knows
the algorithm.

The most effective attacks aren't usually on the systems, but on the
people -- e.g. getting an insider to divulge secrets.

--
"It's easier to find people online who openly support the KKK than
people who openly support the RIAA" -- comment on Wikipedia

2287. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 19:30:15 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <gt0db.167$LJ5.9925@iad-read.news.verio.net>
Source record: 32152
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Frank Todd IV" <frank@127.0.0.1> wrote in message
news:Mz%cb.342886$2x.104572@rwcrnsc52.ops.asp.att.net...
> Rene PE1RA / ON6ALD wrote:
> > What is it with you and porkbutts? Do you need a transplant? Do you like
> > porkbutts? Do you want somebody porking your butt? What is it?
> >
> > --
> > 73 de Rene PE1RA / ON6ALD
> >
> > Cuius testiculos habes, habeas cardeo et cerebellum
> >
> > " BIG AL" <bigal3.894.5 @bigal3.894.5.com> wrote in message
> > news:vn080m13ld4oa1@corp.supernews.com...
> >
> >>AY YI YI YI YES ITS THE PORKBUTT SONG.
> >
> Porkbutt is the ex-WB2OTK Rich Whiten out of Easley, South Carolina, USA.
>
> 73
>
> Frank K3EKO
>

So then this guy has a "fetish" for him???? And this idiot called Rene a
Fag? Hmmmm Anyone who loves Pork BUTT, regardless the implication isn't
saying much for themselves. Big ASS er I mean Al, you sure a character.

L.

2288. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 19:37:59 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bl24io$78j4o$1@ID-153362.news.uni-berlin.de>
Source record: 32153
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Lou" <Spamfree@Spamfree.com> wrote in message
news:gt0db.167$LJ5.9925@iad-read.news.verio.net...
>
> "Frank Todd IV" <frank@127.0.0.1> wrote in message
> news:Mz%cb.342886$2x.104572@rwcrnsc52.ops.asp.att.net...
> > Rene PE1RA / ON6ALD wrote:
> > > What is it with you and porkbutts? Do you need a transplant? Do you
like
> > > porkbutts? Do you want somebody porking your butt? What is it?
> > >
> > > --
> > > 73 de Rene PE1RA / ON6ALD
> > >
> > > Cuius testiculos habes, habeas cardeo et cerebellum
> > >
> > > " BIG AL" <bigal3.894.5 @bigal3.894.5.com> wrote in message
> > > news:vn080m13ld4oa1@corp.supernews.com...
> > >
> > >>AY YI YI YI YES ITS THE PORKBUTT SONG.
> > >
> > Porkbutt is the ex-WB2OTK Rich Whiten out of Easley, South Carolina,
USA.
> >
> > 73
> >
> > Frank K3EKO
> >
>
> So then this guy has a "fetish" for him???? And this idiot called Rene a
> Fag? Hmmmm Anyone who loves Pork BUTT, regardless the implication isn't
> saying much for themselves. Big ASS er I mean Al, you sure a character.
>
> L.

Sorry to help you out of your (wet?) dream(s), but I am not gay. I was just
wondering why anybody would be interested in porkbutts.

Rene PE1RA

2289. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 20:01:35 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <FW0db.168$LJ5.9917@iad-read.news.verio.net>
Source record: 32157
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Rene PE1RA / ON6ALD" <REMOVErene.altena@gmx.net> wrote in message
news:bl24io$78j4o$1@ID-153362.news.uni-berlin.de...

<whole bunch of stuff snipped>

> > So then this guy has a "fetish" for him???? And this idiot called Rene a
> > Fag? Hmmmm Anyone who loves Pork BUTT, regardless the implication isn't
> > saying much for themselves. Big ASS er I mean Al, you sure a character.
> >
> > L.
>
> Sorry to help you out of your (wet?) dream(s), but I am not gay. I was
just
> wondering why anybody would be interested in porkbutts.
>
> Rene PE1RA
>
>

Not sure if you misunderstood ME or who it was Rene! I was posing a question of why Big Al has a fascination now for what seems another man who someone else pointed out was referred to as Pork Butt at some point in time. He - in a previous post - alluded to "you" - being a fag..... So, I was questioning HIS reasoning there, when it is HIM who seems to have the fascination with men - NOT YOU (Rene). So I TOO am wondering the same thing here.. I question no ones sexuality here except BIG ASS er I mean BIG AL's. I don't hear anyone else singing the Pork Butt song.. I bet his room is full of Porky the pig and Miss Piggy pictures and stuffed animals. He probably has a stuffed animal of each and rubs it on his dong too! The only wet dreams here are Big Ass er I mean Big AL doing Miss Piggy. Probably the only thing that will give him any attention sexually.
L.

2290. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 20:10:02 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <bl26es$790d5$1@ID-153362.news.uni-berlin.de>
Source record: 32158
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Sorry Lou that I misunderstood your posting! Sorry!

--
73 de Rene PE1RA / ON6ALD

Cuius testiculos habes, habeas cardeo et cerebellum

2291. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 20:18:57 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <Xa1db.169$LJ5.10042@iad-read.news.verio.net>
Source record: 32159
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Rene PE1RA / ON6ALD" <REMOVErene.altena@gmx.net> wrote in message
news:bl26es$790d5$1@ID-153362.news.uni-berlin.de...
> Sorry Lou that I misunderstood your posting! Sorry!
>
> --
> 73 de Rene PE1RA / ON6ALD
>
> Cuius testiculos habes, habeas cardeo et cerebellum
>
>

No Problem!!!!!!! I thought that was the case which is why I clarified it.
Should have made it more clear at the onset. My fault.
I'm on your side!
L.

2292. Pork Ass

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 20:22:39 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <oe1db.170$LJ5.10057@iad-read.news.verio.net>
Source record: 32160

DID I see someone say this yo yo BIG ASS er Al was in the U.K.? Hmmmm...
Well, we know that they had Mad Cow disease. Is there now a Mad Porker
disease? Big Ass er Al eating too much of it? Maybe it is localized to his
home.
L.

2293. try , nothing to read

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 20:41:47 UTC
From: Serge <poissondanlo-@-wanadoo.fr>
Message-ID: <3F74A48B.9070308@-wanadoo.fr>
Source record: 32161

hi

2294. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-26 20:53:27 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F74A7F9.14D9@armory.com>
Source record: 32162
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

Fred Abse wrote:
>
> On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
>
> > As has already been shown, RSA isn't uncrackable
>
> It was cracked by brute force but only on a 64-bit key.
>
> That was done by literally thousands of machines around the world,
> collaborating, using spare processor time (mine was one).
>
> 331,252 individuals participated (some were using multiple machines).
>
> 15,769,938,165,961,326,592 keys were tested
>
> It took 1757 days.
>
> Some guy in Japan is one happy bunny. He got the ten thousand buck prize
> from RSA Labs for the correct key.
>
> 2048 bit keys are a little more difficult :-)

We're talking life of the universe now using more computers than the
number of atoms in the big bang!

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2295. battlefield internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 00:47:54 UTC
From: averyfineman@aol.com
Message-ID: <20030926204754.29660.00000854@mb-m24.aol.com>
Source record: 32163

It's rather of academic interest to cryptologists to argue much but
essentially only intellectually about cryptology in here.

The mention of the US military SINCGARS family might be a more
practical homebrew application of actual R/Ts that might be built using
FHSS or Frequency-Hopping Spread Spectrum. The US military has
over a decade of operational experience with FHSS in the field, to the
severe environment experienced by the military...with a lot of success.
The mode works very well.

The problem is that the mode may not be within the various adminstration
allocations for amateur radio. However, that should not prohibit bench
testing and simulation of links that do not radiate RF. Another problem is
that the FHSS now used by the military is definitely not the conventional
narrowband, one-user, single-modulation type "traditional" in amateur
radio use.

However, SINCGARS is definitely not a wideband modulation spectrum
hog such as with DSSS or Direct Sequence Spread Spectrum common
on WLANs and newer cordless phones. FHSS can have thousands of
separate radio circuits operating in a relatively small bandwidth without
mutual interference...and with little interference to conventional modes
of communication. Wide bandwidth necessary to handle rapid frequency
jumping already exists in modern amateur transceivers...that is not any
real problem. Some means of synchronization and capture to get into a
circuit is an area ripe for experimentation. Super-accurate timebases
have already been worked up and shown on such sites as TAPR.

The concept of FHSS is intriguing in its possibilites for the future...if
only
enough wish to truly experiment in new things. Just some idle thoughts.

Len Anderson
retired (from regular hours) electronic engineer person

2296. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 01:14:42 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl2oa2$154r$1@otis.netspace.net.au>
Source record: 32164
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"Fred Abse" <excretatauris@cerebrumconfus.it> wrote in message
news:pan.2003.09.26.18.56.35.507185.669@cerebrumconfus.it...
> On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
>
> > As has already been shown, RSA isn't uncrackable
>
> It was cracked by brute force but only on a 64-bit key.
>
> That was done by literally thousands of machines around the world,
> collaborating, using spare processor time (mine was one).
>
> 331,252 individuals participated (some were using multiple machines).
>
> 15,769,938,165,961,326,592 keys were tested
>
> It took 1757 days.
>
> Some guy in Japan is one happy bunny. He got the ten thousand buck prize
> from RSA Labs for the correct key.
>
> 2048 bit keys are a little more difficult :-)

and Govts have a little more money and slightly better machines for the
task.

2297. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 01:19:05 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl2oi8$157b$1@otis.netspace.net.au>
Source record: 32165
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F73CB20.1DB1@armory.com...

>
>
> > Only an idiot would suggest that any code is "Uncrackable in the
lifetime of
> > the serious user" ands so you did.
> ---------------------------
> It *IS*!
> If you choose to try to crack RSA go to their site and download a
> test message and try it. None have done so above the known prime
> lengths that are do-able.

We aren't discussing ME doing it you cretin.

We are discussing a Govt doing it.

>
>
> > > > Again, ask the Good Admiral D how confident he was that his system
was
> > safe.
> > > ----------------
> > > You're blathering, hoping that line will sustain you while you try
> > > to bluster your way out of this, when the fact is that RSA is
> > > qualitatively different than any systematically crackable cipher.
> >
> > As has already been shown, RSA isn't uncrackable,
> -------------------
> Which we knew, but it takes for fucking ever statistically.
> It can easily be made to take longer than the current age of the
> universe.
>

That is what you believe. you are wrong. everyone always thinks their codes
are safe right up to the point that they are not safe.

>
> > but you are.
> --------------------
> More of your meaningless blather and ridiculous self-covering.

Yawn.

>
>
> > What, exactly do you think the NSA is doing with all those 'puters they
own?
> > playing Doom?
> ---------------------
> Monitoring un-coded transmissions en masse hoping to flag trends
> or conspiracies by other characteristic signatures.
>
> But as for cracking RSA encoded messages or even kiddy porn being
> sent encoded from Europe: Not a whole fucking hell of a lot anymore.
> They are hoping their hardware will frighten terrorists out of using
> commonly available public domain technology to completely defeat them,
> while knowing that everyone who knows anything knows they are totally
> defeated by any kid with a computer if he bothers to look it up and
> download the tools and use a long enough bit-length and a decent
> firewall properly installed.

Of course they are, they have eleventy squillion bucks worth of
supercomputers, all of which is just to 'frighten'.

>
>
> > Of course RSA is uncrackable, just like the good Admirals systems
> > and I
> > assume he had a lackwitted buffoon just like you telling him that there
was
> > no way anyone could be decrypting our stuff too...
> --------------------------
> That's irrelevant, because he would have simply been technically
> wrong out of his own ignorance of cryptology, whereas I am not.

Anyone stupid enough to believe their crypto is uncrackable is utterly
ignorant and a dangerous fool to boot.

2298. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 01:21:22 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F74E6C4.3EDC@armory.com>
Source record: 32166
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
L'acrobat wrote:
>
> "Fred Abse" <excretatauris@cerebrumconfus.it> wrote in message
> news:pan.2003.09.26.18.56.35.507185.669@cerebrumconfus.it...
> > On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
> >
> > > As has already been shown, RSA isn't uncrackable
> >
> > It was cracked by brute force but only on a 64-bit key.
> >
> > That was done by literally thousands of machines around the world,
> > collaborating, using spare processor time (mine was one).
> >
> > 331,252 individuals participated (some were using multiple machines).
> >
> > 15,769,938,165,961,326,592 keys were tested
> >
> > It took 1757 days.
> >
> > Some guy in Japan is one happy bunny. He got the ten thousand buck prize
> > from RSA Labs for the correct key.
> >
> > 2048 bit keys are a little more difficult :-)
>
> and Govts have a little more money and slightly better machines for the
> task.
------------------
BUT NOT a billion trillion times more, which is just
about right. (~10^22)

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public
```

2299. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 01:27:27 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F74E830.2603@armory.com>
Source record: 32167
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

L'acrobat wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F73CB20.1DB1@armory.com...
>
> > > Only an idiot would suggest that any code is "Uncrackable in the
> lifetime of
> > > the serious user" ands so you did.
> > ---------------------------
> > It *IS*!
> > If you choose to try to crack RSA go to their site and download a
> > test message and try it. None have done so above the known prime
> > lengths that are do-able.
>
> We aren't discussing ME doing it you cretin.
> We are discussing a Govt doing it.

You have megalomaniacal paranoid delusions as to the capability
of govts.

> > > > > Again, ask the Good Admiral D how confident he was that his system
> was
> > > safe.
> > > > ----------------
> > > > You're blathering, hoping that line will sustain you while you try
> > > > to bluster your way out of this, when the fact is that RSA is
> > > > qualitatively different than any systematically crackable cipher.
> > >
> > > As has already been shown, RSA isn't uncrackable,
> > -------------------
> > Which we knew, but it takes for fucking ever statistically.
> > It can easily be made to take longer than the current age of the
> > universe.
>
> That is what you believe. you are wrong.

No, that is what Whit Diffie, R., S., and A, in "RSA" and
James Bidzos believe for solid mathematical reasons.

> everyone always thinks their codes
> are safe right up to the point that they are not safe.

That alone has nothing to do with the mathematical argument here,
and what is truly sad is that you simply don't understand the math.

> > > What, exactly do you think the NSA is doing with all those 'puters they
> own?
> > > playing Doom?
> > ---------------------
> > Monitoring un-coded transmissions en masse hoping to flag trends
> > or conspiracies by other characteristic signatures.
> >
> > But as for cracking RSA encoded messages or even kiddy porn being
> > sent encoded from Europe: Not a whole fucking hell of a lot anymore.
> > They are hoping their hardware will frighten terrorists out of using
> > commonly available public domain technology to completely defeat them,
> > while knowing that everyone who knows anything knows they are totally
> > defeated by any kid with a computer if he bothers to look it up and
> > download the tools and use a long enough bit-length and a decent
> > firewall properly installed.
>
> Of course they are, they have eleventy squillion bucks worth of
> supercomputers, all of which is just to 'frighten'.

I see you don't actually even KNOW the scale difference available
to the NSA. Example, please define "eleventy squillion".

> > > Of course RSA is uncrackable, just like the good Admirals systems
> > > and I
> > > assume he had a lackwitted buffoon just like you telling him that there
> was
> > > no way anyone could be decrypting our stuff too...
> > ---------------------------
> > That's irrelevant, because he would have simply been technically
> > wrong out of his own ignorance of cryptology, whereas I am not.
>
> Anyone stupid enough to believe their crypto is uncrackable is
> utterly ignorant and a dangerous fool to boot.

Unless they're right, and then, of course, they're aren't.
And you don't even know. Pitiful.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2300. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 02:43:39 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl2tgr$167j$1@otis.netspace.net.au>
Source record: 32168
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F74E830.2603@armory.com...
> L'acrobat wrote:
> >
> > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > news:3F73CB20.1DB1@armory.com...
> >
> > > > Only an idiot would suggest that any code is "Uncrackable in the
> > lifetime of
> > > > the serious user" ands so you did.
> > > ---------------------------
> > > It *IS*!
> > > If you choose to try to crack RSA go to their site and download a
> > > test message and try it. None have done so above the known prime
> > > lengths that are do-able.
> >
> > We aren't discussing ME doing it you cretin.
> > We are discussing a Govt doing it.
> ---------------
> You have megalomaniacal paranoid delusions as to the capability
> of govts.

And you are an idiot who believes that Crypto is unbreakable. Which belief
is more dangerous?

>
>
> > > > > > Again, ask the Good Admiral D how confident he was that his
system
> > was
> > > > > safe.
> > > > > ----------------
> > > > > You're blathering, hoping that line will sustain you while you try
> > > > > to bluster your way out of this, when the fact is that RSA is
> > > > > qualitatively different than any systematically crackable cipher.
> > > >
> > > > As has already been shown, RSA isn't uncrackable,
> > > -------------------
> > > Which we knew, but it takes for fucking ever statistically.
> > > It can easily be made to take longer than the current age of the
> > > universe.
> >
> > That is what you believe. you are wrong.
> --------------

> No, that is what Whit Diffie, R., S., and A, in "RSA" and
> James Bidzos believe for solid mathematical reasons.

Just as every other crypto expert has believed their system is safe and they
have always been wrong.

>
>
> > everyone always thinks their codes
> > are safe right up to the point that they are not safe.
> ---------------
> That alone has nothing to do with the mathematical argument here,
> and what is truly sad is that you simply don't understand the math.

I do understand the math. it is not unbreakable. everyone who thinks their
favorite crypto system is safe always quotes the math. Doenitzs crypto guys
quoted the math.

>
>
> > > > What, exactly do you think the NSA is doing with all those 'puters
they
> > own?
> > > > playing Doom?
> > > ---------------------
> > > Monitoring un-coded transmissions en masse hoping to flag trends
> > > or conspiracies by other characteristic signatures.
> > >
> > > But as for cracking RSA encoded messages or even kiddy porn being
> > > sent encoded from Europe: Not a whole fucking hell of a lot anymore.
> > > They are hoping their hardware will frighten terrorists out of using
> > > commonly available public domain technology to completely defeat them,
> > > while knowing that everyone who knows anything knows they are totally
> > > defeated by any kid with a computer if he bothers to look it up and
> > > download the tools and use a long enough bit-length and a decent
> > > firewall properly installed.
> >
> > Of course they are, they have eleventy squillion bucks worth of
> > supercomputers, all of which is just to 'frighten'.
> ----------------------------------
> I see you don't actually even KNOW the scale difference available
> to the NSA. Example, please define "eleventy squillion".

A fuck of a lot more than a bunch of PCs.

Now give some proof that the NSAs role is to 'frighten terrorists'.

> > > > Of course RSA is uncrackable, just like the good Admirals systems
> > > > and I
> > > > assume he had a lackwitted buffoon just like you telling him that
there
> > was

> > > > no way anyone could be decrypting our stuff too...
> > > ---------------------------
> > > That's irrelevant, because he would have simply been technically
> > > wrong out of his own ignorance of cryptology, whereas I am not.
> >
> > Anyone stupid enough to believe their crypto is uncrackable is
> > utterly ignorant and a dangerous fool to boot.
> ----------------------
> Unless they're right, and then, of course, they're aren't.
> And you don't even know. Pitiful.

You are simply an idiot with dangerous delusions that RSA is uncrackable.

2301. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 02:45:14 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl2tjp$168d$1@otis.netspace.net.au>
Source record: 32169
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F74E6C4.3EDC@armory.com...
> L'acrobat wrote:
> >
> > "Fred Abse" <excretatauris@cerebrumconfus.it> wrote in message
> > news:pan.2003.09.26.18.56.35.507185.669@cerebrumconfus.it...
> > > On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
> > >
> > > > As has already been shown, RSA isn't uncrackable
> > >
> > > It was cracked by brute force but only on a 64-bit key.
> > >
> > > That was done by literally thousands of machines around the world,
> > > collaborating, using spare processor time (mine was one).
> > >
> > > 331,252 individuals participated (some were using multiple machines).
> > >
> > > 15,769,938,165,961,326,592 keys were tested
> > >
> > > It took 1757 days.
> > >
> > > Some guy in Japan is one happy bunny. He got the ten thousand buck
prize
> > > from RSA Labs for the correct key.
> > >
> > > 2048 bit keys are a little more difficult :-)
> >
> > and Govts have a little more money and slightly better machines for the
> > task.
> ------------------
> BUT NOT a billion trillion times more, which is just
> about right. (~10^22)

Just like nobody could do the amount of computations needed to crack the
good admirals codes.

Yet they did. the ONLY constant in crypto is idiots like yourself being
proved wrong. always.

2302. CQ 75 CQ 75 CQ 75

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 03:14:15 UTC
From: K4-OLD-KING-ALLIGATOR
Message-ID: <vn84c75mdd0bc8@corp.supernews.com>
Source record: 32243
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

```
THIS IS "BIG--AL" CALLING.
CQ 75 CQ 75 CQ 75
THIS IS "BIG--AL" CALLING.
WHERE YOU AT BOY?
THIS IS "BIG--AL" CALLING.
CQ 75 CQ 75 CQ 75
THIS IS "BIG--AL" CALLING.
WHERE YOU AT BOY?
```

2303. Re: For the electrical engineers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 03:17:02 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F75012E.24C31505@ob-wan.com>
Source record: 32170
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,alt.ham-radio.mods,rec.radio.amateur.equipment

Gads, another elitist twonk.

Jason Hsu wrote:
>
> Come join Electrical Engineering Hams at
> http://groups.yahoo.com/group/eeham/
>
> There are more electrical engineering forums than you can shake a
> stick at. There are more ham radio forums than you can shake a stick
> at. But until now, there have been NO forums dedicated to people who
> are both electrical engineers AND ham radio operators. You can think
> of Electrical Engineering Hams as the unofficial IEEE Amateur Radio
> Society. (No, it has NO offical status whatsoever!)
>
> Jason Hsu, AG4DG
> usenet@@@@jasonhsu.com

2304. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 08:02:52 UTC
From: LaShaun Ivory <NoSpam@NOSpam.com>
Message-ID: <bl3g7afnl0@pita.alt.net>
Source record: 32171
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Porkbutt is the ex-WB2OTK Rich Whiten out of Easley, South Carolina, USA.

73

Frank K3EKO

==========

Yes, Porkbutt IS the ex operator so named. He made himself infamous during his years as an overbearing, selfish, and overpowered Ham op on 14.313.
Rich is not missed save by a few of his malingerers.
The band is a better place without him.

And Frankie, why can't you and Dan just get along? Yeah, Dan is garrulous, he is known to be a pain in the ass at times, but why promulgate it with your inane comments?
Do you take pleasure in needling Dan? Why?
Dan has his schedule full enough as it is...he has to deal with jammers and the likes of David Tolassi and Dumbass Donnie. There is no need for you, Frankie, to be tossing your two cents worth into the already confused foray.
Frankie...ever pull your dictionary off the shelf and read the definition of "maturity"? Perhaps you and Dan should both do so, but most of all, YOU should do so Frankie.

One thing still eludes me in all of this. Why the Hell are all of you guys so set on attacking Lloyd? He doesn't really upset the cart all that much, but yet you guys persist in attacking him at every turn. What gives? Is this a "pile-on" mentality whereby all you macho Ham geeks attack the weakest of the weak? Like sharks going for the scent of blood? Playground Bullies? Cowards? Pussies? Whassa matter? Lloyd doesn't use a pocket protector for his fifteen multi-colored ball-point pens? Doesn't wear his callsign on his baseball hat? Doesn't run around with six HT's on his belt? Doesn't have six antennas on his SUV?
Face it...look at all the posts allegedly made by Lloyd...there are many. You guys don't know the real Lloyd from the sock puppet Lloyds, nor do you care to find out, if you can.

Give Lloyd a break, whoever he is. It is beyond your areas of expertise to cull out the real Lloyd from the anonymous Lloyds.

Maybe one of these days you freaks can take off your aluminum helmets with the rubber duckies mounted on them and join the real world.

Frankie...stop messing with Dan. Change your diapers and move on....

2305. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 08:41:37 UTC
From: John Keeney <jdkeeney@iglou.com>
Message-ID: <3f754cd0_1@news.iglou.com>
Source record: 32172
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F74A7F9.14D9@armory.com...
> Fred Abse wrote:
> >
> > On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
> >
> > > As has already been shown, RSA isn't uncrackable
> >
> > It was cracked by brute force but only on a 64-bit key.
> >
> > That was done by literally thousands of machines around the world,
> > collaborating, using spare processor time (mine was one).
> >
> > 331,252 individuals participated (some were using multiple machines).
> >
> > 15,769,938,165,961,326,592 keys were tested
> >
> > It took 1757 days.
> >
> > Some guy in Japan is one happy bunny. He got the ten thousand buck prize
> > from RSA Labs for the correct key.
> >
> > 2048 bit keys are a little more difficult :-)
> ------------------------
> We're talking life of the universe now using more computers than the
> number of atoms in the big bang!

Hmm, not very limiting. Atoms come significantly after the big bang.

2306. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 09:58:46 UTC
From: ^^^I Am Fileo - I Am Fileo^^^ <fileo@hotmail.cc>
Message-ID: <innanv8hp6e8hlavjeult6942o9ud9fj61@4ax.com>
Source record: 32173
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

On Wed, 24 Sep 2003 14:17:56 +0200, "Rene PE1RA / ON6ALD"
<REMOVErene.altena@gmx.net> wrote:

>No!
>
>Where the Subject line contains '3.894' or '3894' or 'bigal'
>send the email back
>
>
>73 de Rene PE1RA

E-MAIL???

You are on Usenet, Rene - not E-MAIL!

You CAN'T send it back! LOL!

2307. HP141T Leads

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 11:47:33 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000096.0012e486@btinternet.com>
Source record: 32174

Hi,

Can anyone point me to the web address of the company that sells extension leads for the HP141T/8553B/8552B spectrum analyser? I've 'googled' for a couple of days and failed to locate it although I know there is one out there. Better still, a source of the blue Cinch 24-way plugs and sockets to make-up my own.

73 de Joe, G3LLV

2308. Bargain

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 12:31:33 UTC
From: The Genie <the_genie@btopenworld.com>
Message-ID: <bl3vv5$mg1$1@titan.btinternet.com>
Source record: 32175

Now this has to be a bargain for someone in the UK

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=3048371005&category=1502&rd=1

2309. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 16:32:26 UTC
From: philh@cabalamat.org
Message-ID: <slrnbnbesq.59t.philh@cabalamat.cabalamat.com>
Source record: 32180
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

On Sat, 27 Sep 2003 11:14:42 +1000, L'acrobat
<husky65@delete_me.netspace.net.au> wrote:
>>
>> 2048 bit keys are a little more difficult :-)
>
>and Govts have a little more money and slightly better machines for the
>task.

If you think that throwing money and machines at the problem will
crack a 2048 bit assymetric cipher, you nare a complete and utter
fool who knows nothing, I repeat *nothing* about encryption.

--
"It's easier to find people online who openly support the KKK than
people who openly support the RIAA" -- comment on Wikipedia

2310. Re: HP141T Leads

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 17:48:59 UTC
From: Gene Marcus <mmarcus@hiwaay.net>
Message-ID: <3F75CD8B.5080308@hiwaay.net>
Source record: 32176

Joe McElvenney wrote:
> Hi,
>
> Can anyone point me to the web address of the company that
> sells extension leads for the HP141T/8553B/8552B spectrum
> analyser? I've 'googled' for a couple of days and failed to
> locate it although I know there is one out there. Better still, a
> source of the blue Cinch 24-way plugs and sockets to make-up my
> own.
>
>
> 73 de Joe, G3LLV
>
>

Hi Joe,

Try this URL:

http://www.glkinst.com/cables/hp_cables.htm

I bought a tracking generator cable from them a couple years ago. The quality was very good, but the cost was a bit less expensive then.

73,

Gene Marcus W3PM GM4YRE
Huntsville, AL.

2311. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 17:53:32 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F75CF4C.528F@armory.com>
Source record: 32177
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
L'acrobat wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F74E830.2603@armory.com...
> > L'acrobat wrote:
> > >
> > > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > > news:3F73CB20.1DB1@armory.com...
> > >
> > > > > Only an idiot would suggest that any code is "Uncrackable in the
> > > lifetime of
> > > > > the serious user" ands so you did.
> > > > ---------------------------
> > > > It *IS*!
> > > > If you choose to try to crack RSA go to their site and download a
> > > > test message and try it. None have done so above the known prime
> > > > lengths that are do-able.
> > >
> > > We aren't discussing ME doing it you cretin.
> > > We are discussing a Govt doing it.
> > ---------------
> > You have megalomaniacal paranoid delusions as to the capability
> > of govts.
>
> And you are an idiot who believes that Crypto is unbreakable. Which belief
> is more dangerous?
---------------------
Yours, because it's wrong.

> > > > > > > Again, ask the Good Admiral D how confident he was that his
> system
> > > was
> > > > > safe.
> > > > > > ----------------
> > > > > > You're blathering, hoping that line will sustain you while you try
> > > > > > to bluster your way out of this, when the fact is that RSA is
> > > > > > qualitatively different than any systematically crackable cipher.
> > > > >
> > > > > As has already been shown, RSA isn't uncrackable,
> > > > -------------------
> > > > Which we knew, but it takes for fucking ever statistically.
> > > > It can easily be made to take longer than the current age of the
> > > > universe.
```

> > >
> > > That is what you believe. you are wrong.
> > --------------
> > No, that is what Whit Diffie, R., S., and A, in "RSA" and
> > James Bidzos believe for solid mathematical reasons.
>
> Just as every other crypto expert has believed their system is safe and they
> have always been wrong.

None of them had reason to believe so. They merely preferred to
believe so. Now we DO have reason to believe it.

> > > everyone always thinks their codes
> > > are safe right up to the point that they are not safe.
> > ---------------
> > That alone has nothing to do with the mathematical argument here,
> > and what is truly sad is that you simply don't understand the math.
>
> I do understand the math. it is not unbreakable. everyone who thinks their
> favorite crypto system is safe always quotes the math. Doenitzs crypto guys
> quoted the math.

Doenitz trusted the Czech engineer who built the Enigma.
Bad practice for a Nazi.
He didn't anticipate Colossus, which he SHOULD have if he had read
the papers of Konrad Zuse who had already submitted plans for a
general purpose tube computer to the Reich, after building slower
ones out of relays in his parents' front room using university
student labor, and another two for the Reich using telephone relays.
Those relay machines could have cracked some of the Enigma messages
by iteration WITHOUT being rebuilt 2000 times faster with tubes!

> > > > > What, exactly do you think the NSA is doing with all those 'puters
> they
> > > own?
> > > > > playing Doom?
> > > > ----------------------
> > > > Monitoring un-coded transmissions en masse hoping to flag trends
> > > > or conspiracies by other characteristic signatures.
> > > >
> > > > But as for cracking RSA encoded messages or even kiddy porn being
> > > > sent encoded from Europe: Not a whole fucking hell of a lot anymore.
> > > > They are hoping their hardware will frighten terrorists out of using
> > > > commonly available public domain technology to completely defeat them,
> > > > while knowing that everyone who knows anything knows they are totally
> > > > defeated by any kid with a computer if he bothers to look it up and
> > > > download the tools and use a long enough bit-length and a decent
> > > > firewall properly installed.
> > >
> > > Of course they are, they have eleventy squillion bucks worth of
> > > supercomputers, all of which is just to 'frighten'.

> > ------------------------------------
> > I see you don't actually even KNOW the scale difference available
> > to the NSA. Example, please define "eleventy squillion".
>
> A fuck of a lot more than a bunch of PCs.

Irrelevant.

> Now give some proof that the NSAs role is to 'frighten terrorists'.

If deterrence by reputation wasn't one of their major roles, then
they aren't too sharp.

> > > > > Of course RSA is uncrackable, just like the good Admirals systems
> > > > > and I
> > > > > assume he had a lackwitted buffoon just like you telling him that
> there
> > > was
> > > > > no way anyone could be decrypting our stuff too...
> > > > ---------------------------
> > > > That's irrelevant, because he would have simply been technically
> > > > wrong out of his own ignorance of cryptology, whereas I am not.
> > >
> > > Anyone stupid enough to believe their crypto is uncrackable is
> > > utterly ignorant and a dangerous fool to boot.
> > ----------------------
> > Unless they're right, and then, of course, they're aren't.
> > And you don't even know. Pitiful.
>
> You are simply an idiot with dangerous delusions that RSA is > uncrackable.

That's not even what I said, but you continue to delude yourself
pitifully.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2312. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 17:56:58 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F75D01C.4973@armory.com>
Source record: 32178
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
L'acrobat wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F74E6C4.3EDC@armory.com...
> > L'acrobat wrote:
> > >
> > > "Fred Abse" <excretatauris@cerebrumconfus.it> wrote in message
> > > news:pan.2003.09.26.18.56.35.507185.669@cerebrumconfus.it...
> > > > On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
> > > > >
> > > > > > As has already been shown, RSA isn't uncrackable
> > > > >
> > > > > It was cracked by brute force but only on a 64-bit key.
> > > > >
> > > > > That was done by literally thousands of machines around the world,
> > > > > collaborating, using spare processor time (mine was one).
> > > > >
> > > > > 331,252 individuals participated (some were using multiple machines).
> > > > >
> > > > > 15,769,938,165,961,326,592 keys were tested
> > > > >
> > > > > It took 1757 days.
> > > > >
> > > > > Some guy in Japan is one happy bunny. He got the ten thousand buck
> prize
> > > > > from RSA Labs for the correct key.
> > > > >
> > > > > 2048 bit keys are a little more difficult :-)
> > > >
> > > > and Govts have a little more money and slightly better machines for the
> > > > task.
> > > ------------------
> > > BUT NOT a billion trillion times more, which is just
> > > about right. (~10^22)
> >
> > Just like nobody could do the amount of computations needed to crack the
> > good admirals codes.
-----------------------------
Indeed we DO know PRECISELY the kind of computing power required,
it falls right out of the procedure of the RSA algorithm itself.
Anyone who has studied it can tell you to the Megaflop how much
and how long it takes statistically for a given key length.
```

Why are you still on about Doenitz? He didn't even DO any math.

> Yet they did. the ONLY constant in crypto is idiots like yourself being
> proved wrong. always.

You're blathering some mystical true-believerism that makes you
pitiful.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2313. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 17:58:26 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F75D075.7EFD@armory.com>
Source record: 32179
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

John Keeney wrote:
>
> "R. Steve Walz" <rstevew@armory.com> wrote in message
> news:3F74A7F9.14D9@armory.com...
> > Fred Abse wrote:
> > >
> > > On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
> > >
> > > > As has already been shown, RSA isn't uncrackable
> > >
> > > It was cracked by brute force but only on a 64-bit key.
> > >
> > > That was done by literally thousands of machines around the world,
> > > collaborating, using spare processor time (mine was one).
> > >
> > > 331,252 individuals participated (some were using multiple machines).
> > >
> > > 15,769,938,165,961,326,592 keys were tested
> > >
> > > It took 1757 days.
> > >
> > > Some guy in Japan is one happy bunny. He got the ten thousand buck prize
> > > from RSA Labs for the correct key.
> > >
> > > 2048 bit keys are a little more difficult :-)
> > ------------------------
> > We're talking life of the universe now using more computers than the
> > number of atoms in the big bang!
>
> Hmm, not very limiting. Atoms come significantly after the big bang.

You don't even understand the math, go the fuck away and be pitiful.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2314. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 19:21:57 UTC
From: Frank <frank@127.0.0.1>
Message-ID: <prldb.602930$o%2.282438@sccrnsc02>
Source record: 32181
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

LaShaun Ivory wrote:
> Porkbutt is the ex-WB2OTK Rich Whiten out of Easley, South Carolina, USA.
>
> 73
>
> Frank K3EKO
>
> ========================
>
> Yes, Porkbutt IS the ex operator so named. He made himself infamous during
> his years as an overbearing, selfish, and overpowered Ham op on 14.313.
> Rich is not missed save by a few of his malingerers.
> The band is a better place without him.
>
> And Frankie, why can't you and Dan just get along? Yeah, Dan is garrulous,
> he is known to be a pain in the ass at times, but why promulgate it with
> your inane comments?
> Do you take pleasure in needling Dan? Why?
> Dan has his schedule full enough as it is...he has to deal with jammers and
> the likes of David Tolassi and Dumbass Donnie. There is no need for you,
> Frankie, to be tossing your two cents worth into the already confused foray.
> Frankie...ever pull your dictionary off the shelf and read the definition of
> "maturity"? Perhaps you and Dan should both do so, but most of all, YOU
> should do so Frankie.
>
> One thing still eludes me in all of this. Why the Hell are all of you guys
> so set on attacking Lloyd? He doesn't really upset the cart all that much,
> but yet you guys persist in attacking him at every turn. What gives? Is this
> a "pile-on" mentality whereby all you macho Ham geeks attack the weakest of
> the weak? Like sharks going for the scent of blood? Playground Bullies?
> Cowards? Pussies? Whassa matter? Lloyd doesn't use a pocket protector for
> his fifteen multi-colored ball-point pens? Doesn't wear his callsign on his
> baseball hat? Doesn't run around with six HT's on his belt? Doesn't have six
> antennas on his SUV?
> Face it...look at all the posts allegedly made by Lloyd...there are many.
> You guys don't know the real Lloyd from the sock puppet Lloyds, nor do you
> care to find out, if you can.
>
> Give Lloyd a break, whoever he is. It is beyond your areas of expertise to
> cull out the real Lloyd from the anonymous Lloyds.
>
> Maybe one of these days you freaks can take off your aluminum helmets with
> the rubber duckies mounted on them and join the real world.

>
> Frankie...stop messing with Dan. Change your diapers and move on....
>
>
>
>
>
>
>
>
>
NO CALL, NO BALLS HERE.....

73

Frank K3EKO

2315. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 23:51:57 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F762350.2B2A@armory.com>
Source record: 32182
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

Fred Abse wrote:
>
> On Sat, 27 Sep 2003 18:53:32 +0100, R. Steve Walz wrote:
>
> > Doenitz trusted the Czech engineer who built the Enigma. Bad practice
> > for a Nazi.
> > He didn't anticipate Colossus
>
> Sorry, Steve, have to correct you here. Colossus had nothing to do with
> Enigma, it was used on the Lorenz pseudo-random (more pseudo than random
> to quote Tony Sale) teletype encryptor. (Codename Fish)

Ooops, sorry, you're right, but the Lorenz was a machine that used the
same basic principle as Enigma.

> I've seen the replica running. The paper tape reader is awesome. 5000
> characters a second.
>
> The machines used on Enigma were called Bombes.

True, thanks for that!

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2316. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-27 23:53:43 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F7623BA.39A9@armory.com>
Source record: 32183
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

Fred Abse wrote:
>
> On Sat, 27 Sep 2003 02:27:27 +0100, R. Steve Walz wrote:
>
> > No, that is what Whit Diffie, R., S., and A, in "RSA" and James Bidzos
> > believe for solid mathematical reasons.
>
> You forgot Bruce Schneier.
>
> And (taking a bit of a liberty), Claude Elwood Shannon (RIP).

Yes, this all comes out of Claude's signal theory.
And a couple others as well!

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2317. Re: IS THERE ANYBODY OUT THERE

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 00:01:00 UTC
From: core_dump <corenodumpspam0@mernocuryspamlink.net>
Message-ID: <Xns9403CBB79A0DFcoredumpmercurylinkn@216.168.3.44>
Source record: 32184
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"K4-OLD-KING-ALLIGATOR" <BIG-AL@ -003894.5-LSB-75-METERS@@@BIG-AL@@@-003894.5-LSB-75-METERS> wrote in news:vn84vkh742nn2b@corp.supernews.com:

>
>
>

just not if you can hear me...

--
-core_dump

-----BEGIN GEEK CODE BLOCK-----
Version: 3.12
GCS/M/CC d- s-:+ a--- C+++ UL+ P L++++ E--- W++ N+++ o? K? w(--)
O? M-- V? PS+(---) PE(++) Y+ PGP- t+ 5? X+ R tv b+ DI+ D+(---) G e h! r--
(---)
z--
------END GEEK CODE BLOCK------
Segmentation fault (core dumped)

2318. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 02:01:43 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl5fe5jqi1@otis.netspace.net.au>
Source record: 32185
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F75CF4C.528F@armory.com...
> L'acrobat wrote:
> >
> > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > news:3F74E830.2603@armory.com...
> > > L'acrobat wrote:
> > > >
> > > > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > > > news:3F73CB20.1DB1@armory.com...
> > > > >
> > > > > > Only an idiot would suggest that any code is "Uncrackable in the
> > > > lifetime of
> > > > > > the serious user" ands so you did.
> > > > > ---------------------------
> > > > > It *IS*!
> > > > > If you choose to try to crack RSA go to their site and download a
> > > > > test message and try it. None have done so above the known prime
> > > > > lengths that are do-able.
> > > > >
> > > > We aren't discussing ME doing it you cretin.
> > > > We are discussing a Govt doing it.
> > > ---------------
> > > You have megalomaniacal paranoid delusions as to the capability
> > > of govts.
> > >
> > And you are an idiot who believes that Crypto is unbreakable. Which
belief
> > is more dangerous?
> ---------------------
> Yours, because it's wrong.

Yours, because it is both stupid and wrong.

>
>
> > > > > > > Again, ask the Good Admiral D how confident he was that his
> > system
> > > > > was
> > > > > > > safe.
> > > > > > ----------------
> > > > > > You're blathering, hoping that line will sustain you while you
try
> > > > > > to bluster your way out of this, when the fact is that RSA is

> > > > > > > qualitatively different than any systematically crackable
cipher.
> > > > > > >
> > > > > > > As has already been shown, RSA isn't uncrackable,
> > > > > > ----------
> > > > > > Which we knew, but it takes for fucking ever statistically.
> > > > > > It can easily be made to take longer than the current age of the
> > > > > > universe.
> > > > > >
> > > > > That is what you believe. you are wrong.
> > > > ----------
> > > > No, that is what Whit Diffie, R., S., and A, in "RSA" and
> > > > James Bidzos believe for solid mathematical reasons.
> > >
> > Just as every other crypto expert has believed their system is safe and
they
> > have always been wrong.
> ----------
> None of them had reason to believe so. They merely preferred to
> believe so. Now we DO have reason to believe it.

Thank you Admiral D's crypto buffoon.

>
>
> > > > everyone always thinks their codes
> > > > are safe right up to the point that they are not safe.
> > > ----------
> > > That alone has nothing to do with the mathematical argument here,
> > > and what is truly sad is that you simply don't understand the math.
> >
> > I do understand the math. it is not unbreakable. everyone who thinks
their
> > favorite crypto system is safe always quotes the math. Doenitzs crypto
guys
> > quoted the math.
> ----------
> Doenitz trusted the Czech engineer who built the Enigma.
> Bad practice for a Nazi.
> He didn't anticipate Colossus, which he SHOULD have if he had read
> the papers of Konrad Zuse who had already submitted plans for a
> general purpose tube computer to the Reich, after building slower
> ones out of relays in his parents' front room using university
> student labor, and another two for the Reich using telephone relays.
> Those relay machines could have cracked some of the Enigma messages
> by iteration WITHOUT being rebuilt 2000 times faster with tubes!

I don't suppose you'd like to tell us what it is that you aren't
anticipating?

>
>
> > > > > > What, exactly do you think the NSA is doing with all those
'puters
> > they
> > > > > own?
> > > > > > > playing Doom?
> > > > > > ----------------------
> > > > > > Monitoring un-coded transmissions en masse hoping to flag trends
> > > > > > or conspiracies by other characteristic signatures.
> > > > > >
> > > > > > But as for cracking RSA encoded messages or even kiddy porn being
> > > > > > sent encoded from Europe: Not a whole fucking hell of a lot
anymore.
> > > > > > They are hoping their hardware will frighten terrorists out of
using
> > > > > > commonly available public domain technology to completely defeat
them,
> > > > > > while knowing that everyone who knows anything knows they are
totally
> > > > > > defeated by any kid with a computer if he bothers to look it up
and
> > > > > > download the tools and use a long enough bit-length and a decent
> > > > > > firewall properly installed.
> > > > >
> > > > > Of course they are, they have eleventy squillion bucks worth of
> > > > > supercomputers, all of which is just to 'frighten'.
> > > ------------------------------------
> > > I see you don't actually even KNOW the scale difference available
> > > to the NSA. Example, please define "eleventy squillion".
> >
> > A fuck of a lot more than a bunch of PCs.
> -------------------
> Irrelevant.
>

Nope, you just hate to face the fact that your toy will be cracked.

>
> > Now give some proof that the NSAs role is to 'frighten terrorists'.
> ----------------------
> If deterrence by reputation wasn't one of their major roles, then
> they aren't too sharp.
>

Not proof, stevie boy, just the opinion of a fool.

>
> > > > > > Of course RSA is uncrackable, just like the good Admirals
systems
> > > > > > and I
> > > > > > assume he had a lackwitted buffoon just like you telling him

that
> > there
> > > > was
> > > > > > no way anyone could be decrypting our stuff too...
> > > > > ---------------------------
> > > > > That's irrelevant, because he would have simply been technically
> > > > > wrong out of his own ignorance of cryptology, whereas I am not.
> > > >
> > > > Anyone stupid enough to believe their crypto is uncrackable is
> > > > utterly ignorant and a dangerous fool to boot.
> > > ----------------------
> > > Unless they're right, and then, of course, they're aren't.
> > > And you don't even know. Pitiful.
> >
> > You are simply an idiot with dangerous delusions that RSA is >
uncrackable.
> -------------------------
> That's not even what I said, but you continue to delude yourself
> pitifully.

Poor Steve. RSA will be cracked well within the lifetime of the user. and
you know it.

2319. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 02:02:55 UTC
From: L'acrobat <husky65@delete_me.netspace.net.au>
Message-ID: <bl5fgc$jr2$1@otis.netspace.net.au>
Source record: 32186
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

```
"R. Steve Walz" <rstevew@armory.com> wrote in message
news:3F75D01C.4973@armory.com...
> L'acrobat wrote:
> >
> > "R. Steve Walz" <rstevew@armory.com> wrote in message
> > news:3F74E6C4.3EDC@armory.com...
> > > L'acrobat wrote:
> > > >
> > > > "Fred Abse" <excretatauris@cerebrumconfus.it> wrote in message
> > > > news:pan.2003.09.26.18.56.35.507185.669@cerebrumconfus.it...
> > > > > On Fri, 26 Sep 2003 05:55:38 +0100, L'acrobat wrote:
> > > > >
> > > > > > As has already been shown, RSA isn't uncrackable
> > > > >
> > > > > It was cracked by brute force but only on a 64-bit key.
> > > > >
> > > > > That was done by literally thousands of machines around the world,
> > > > > collaborating, using spare processor time (mine was one).
> > > > >
> > > > > 331,252 individuals participated (some were using multiple
machines).
> > > > >
> > > > > 15,769,938,165,961,326,592 keys were tested
> > > > >
> > > > > It took 1757 days.
> > > > >
> > > > > Some guy in Japan is one happy bunny. He got the ten thousand buck
> > > prize
> > > > > from RSA Labs for the correct key.
> > > > >
> > > > > 2048 bit keys are a little more difficult :-)
> > > >
> > > > and Govts have a little more money and slightly better machines for
the
> > > > task.
> > > ------------------
> > > BUT NOT a billion trillion times more, which is just
> > > about right. (~10^22)
> >
> > Just like nobody could do the amount of computations needed to crack the
> > good admirals codes.
> ----------------------------
> Indeed we DO know PRECISELY the kind of computing power required,
```

> it falls right out of the procedure of the RSA algorithm itself.
> Anyone who has studied it can tell you to the Megaflop how much
> and how long it takes statistically for a given key length.
>
> Why are you still on about Doenitz? He didn't even DO any math.
>
>
> > Yet they did. the ONLY constant in crypto is idiots like yourself being
> > proved wrong. always.
> ----------
> You're blathering some mystical true-believerism that makes you
> pitiful.

And right.

2320. A PC sound card DSP shell, come and gettid

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 05:57:01 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0309272157.5cc64599@posting.google.com>
Source record: 32187

driven by a desire to play around with the DSP stuff in EMRFD, i wrote a DSP shell similar to the one in the book for the PC sound card. The book has examples for a DSP card called EZ-LITE which costs quite some money (and it is not available in India, where I live).
A PC based DSP shell has the following benefits:

1) I have written this one for M$ Windoze (okay, okay, i know , i know...) But most of us have Windoze on our systems. That makes the shell more useful.

2) You can program and debug in C.
That means, you dont have to learn complexities of the DSP processors. You can use floating points directly to do your work. Pentium comes with a floating co-processor that is virutally idle all the time. Use can use visual studio or borland c++ to write your dsp applications.

3) it doesnt cost money!
i will shortly host it on sourceforge.net (pending approval). in the meantime, if you want to play with it, email me and i will send it in source form as an visual studio project. You should be able to compile it on your own.

- farhan

2321. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 14:32:04 UTC
From: brooksvmi@yahoo.com
Message-ID: <1e6ea40d.0309280632.6cc55617@posting.google.com>
Source record: 32188
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

philh@cabalamat.org (phil hunt) wrote in message
news:<slrnbn92nb.8hs.philh@cabalamat.cabalamat.com>...
> On 25 Sep 2003 06:23:38 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
> >philh@cabalamat.org (phil hunt) wrote in message
news:<slrnbn4ckg.1lp.philh@cabalamat.cabalamat.com>...
> >> On 23 Sep 2003 20:00:32 -0700, Kevin Brooks <brooksvmi@yahoo.com> wrote:
> >> >>
> >> >> >No. Paul is correct, DF'ing a "frequency agile" (or "hopping")
> >> >> >transmitter is no easy task. For example, the standard US SINCGARS
> >> >> >radio changes frequencies about one hundred times per *second*,
> >> >>
> >> >> Bear in mind that I'm talking about automated electronic gear here,
> >> >> not manual intervention. Electronics works in time spans a lot
> >> >> quicker than 10 ms.
> >> >
> >> >So what? Unless you know the frequency hopping plan ahead of time
> >> >(something that is rather closely guarded), you can't capture enough
> >> >of the transmission to do you any good--they use a rather broad
> >> >spectrum.
> >>
> >> OK, I now understand that DF generally relies on knowing the
> >> frequency in advance.
> >>
> >> BTW, when you say a rather broad spectrum, how broad? And divided
> >> into how many bands, roughly?
> >
> >It uses the entire normal military VHF FM spectrum, 30-88 MHz. ISTR
> >that the steps in between are measured in 1 KHz increments, as opposed
> >to the old 10 KHz increments found in older FM radios like the
> >AN/VRC-12 family, so the number of different frequencies SINGCARS can
> >use is 58,000.
>
> More than one 1 kHz slot is likely to be in use at anyone time,
> since you need enough bandwidth for voice. Say 20, then about
> 1/3000th of the frequency space is in use at any one time.
>
> >> Modern crypto is good enough to withstand all cryptanalytic
> >> attacks.
> >
> >Only if it were so...but thank goodness it is not.
>
> Oh? So who can break AES/Rijndael?
>

> > Otherwise we would
> >have lost the value of one of our largest and most valuable intel
> >programs, and NSA would no longer exist. Even the cypher keys used by
> >our modern tactical radios (said keys being generated by NSA at the
> >top end, though we now have computers in the field capable of "key
> >generation" using input from that source) are not
> >unbreakable--instead, they are tough enough to break that we can be
> >reasonably assured that the bad guys will not be able to gain any kind
> >of *timely* tactical intel; enough computing power in the hands of the
> >crypto-geeks and they can indeed break them,
>
> True, but "enough" happens to be more than all the computers in
> existance right now, or likely to exist.
>
> Assume: there are 1 billion computers, each of which can check 1
> billion keys/second.
>
> Then a brute-force search on a 128-bit keyspace would take about
> 10^60 years.

Well, I guess you ought to inform Congress that the NSA is a sham, then.

Brooks

2322. Re: Frenchies, back to fr.rec.radio.amateur !

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 15:06:19 UTC
From: Drink <drink@gnt.net>
Message-ID: <vne1cusbngbd0e@corp.supernews.com>
Source record: 32189
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

So much for international good will... :(

2323. Midland 70-1336B

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 15:57:38 UTC
From: scooter <scooter9@NO_SPAM_offworld1.net>
Message-ID: <9CDdb.11690$Ly2.1840552@cletus.bright.net>
Source record: 32190

I just acquired the above radio, and am looking for some items for it. I'm looking for a service/tech manual for it (I need the pinout for the power connector), a programming cable and software. If someone has a link on this radio, I'd appreciate it. Google wasn't very helpful. Thanks in advance.

--
Chris KB8ZHW
Remove NO_SPAM_ to reply

2324. WTB: 2" open wire spreaders

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 17:30:47 UTC
From: k9sqg@aol.com
Message-ID: <20030928133047.29142.00000246@mb-m24.aol.com>
Source record: 32191

Would like to buy a few more, new, Johnson spreaders to make 2" open wire line.

Thanks.

Evan

2325. Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 17:46:19 UTC
From: abr <abr@iw.net>
Message-ID: <3f75cd01_3@newsfeed.slurp.net>
Source record: 32194

I am a newbie to the hobby, I arrived at this newsgroup from the "AM window web site,,, I will take my tech test in a few months, I need some advise on what to get for a transceiver and not spend a fortune. After 43 long years I have renewed my interest in the hobby and am looking forward to pursuing it. Secondly, am I in the right place to ask this question or is there another newsgroup that would be better for a newbie like me. Thanks for all your help,,, Gary

2326. IC Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 17:55:48 UTC
From: ku4yp <ku4yp@earthlink.net>
Message-ID: <5g7envov8v8kcok0pp8ojjkvfdtv19moqt@4ax.com>
Source record: 32192

hello all,

in a recent move, (from my former estate) i found a bunch of
stuff i got from a radio shack "store cleaning" deal. alot of it is
leds and such, but i have several ic chips and was wanting to hear if
anyone is familiar with them and if so, could suggest some projects
for them. i am just gonna list what i have. if i have excess and
someone needs one, drop me a line. will gladly drop it in the mail.

8 74HCT163 presettable synchronous 4 bit binary counter
3 74HCT161 "
"
1 74HCT164 8-bit serial in/ parallel-out shift register
2 74HCT08 quad 2-input and gate
2 74HCT14 Hex inverting schmitt trigger
2 74HCT132 quad 2-input nand schmitt trigger
3 74HCT32 quad 2-input or gate
3 74HCT123 dual retriggerable monostable multivibrator with reset
1 74HCT138 3-8 line decoder/demultiplexer; inverting
1 74HCT00 quad2-input nand gate
4 74HCT02 quad 2-input nor gate

now, i am about to "wow" you out of the chair. i am limited in
the tech department (shameful, isn't it?) will entertain any use.
paperweight, neat christmas decorations, wind
chimes.....

tnx and 73 mike.

Michael D. Prevatt "Real Radios Glow in the Dark"
Amateur Callsign: KU4YP Advanced Operator
Lakeland, Florida
"What other dungeon is so dark as One's own heart?
What jailer so inexorable as One's own self?"
Nathaniel Hawthorne

2327. Re: CQ 75 CQ 75 CQ 75

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 20:53:23 UTC
From: Arendal <newsreader@spamhate.org>
Message-ID: <2THdb.33425$Hb.509415@news4.e.nsc.no>
Source record: 32193
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Just one more reason for moderating this group...

"K4-OLD-KING-ALLIGATOR"
<BIG-AL@ -003894.5-LSB-75-METERS@@@BIG-AL@@@-003894.5-LSB-75-METERS> skrev i melding news:vn84c75mdd0bc8@corp.supernews.com...
> THIS IS "BIG--AL" CALLING.
> CQ 75 CQ 75 CQ 75
> THIS IS "BIG--AL" CALLING.
> WHERE YOU AT BOY?
> THIS IS "BIG--AL" CALLING.
> CQ 75 CQ 75 CQ 75
> THIS IS "BIG--AL" CALLING.
> WHERE YOU AT BOY?
>
>

2328. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 22:41:05 UTC
From: Spurious Noise <HDA@zilch.com>
Message-ID: <5sJdb.31086$Ms2.26085@fed1read03>
Source record: 32195

Hi Gary -- this group is OK but rec.radio.amateur.equipment
might get a better response.

Since you specified Tech license, I assume without code, your privileges
will be in the VHF/UHF
range. http://www.arrl.org/FandES/ead/classes.html

New HT's and mobiles run $135 or so, used ones for as low as $30
For reviews see eHam reviews http://www.eham.net/reviews/

For used gear see swap pages http://ac6v.com/swap.htm

Good luck on the test.
--
73 From the Spurious Noise ';';;';x":.,";"'

"abr" <abr@iw.net> wrote in message news:3f75cd01_3@newsfeed.slurp.net...
> I am a newbie to the hobby, I arrived at this newsgroup from the "AM
window
> web site,,, I will take my tech test in a few months, I need some advise
on
> what to get for a transceiver and not spend a fortune. After 43 long
years
> I have renewed my interest in the hobby and am looking forward to pursuing
> it. Secondly, am I in the right place to ask this question or is there
> another newsgroup that would be better for a newbie like me. Thanks for
all
> your help,,, Gary
>
>

2329. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 22:54:56 UTC
From: jgboyles@aol.com
Message-ID: <20030928185456.23263.00000222@mb-m14.aol.com>
Source record: 32196

>I am a newbie to the hobby

>I need some advise on
>what to get for a transceiver and not spend a fortune.

>am I in the right place to ask this question

Hi Gary, The best place to find out all this stuff would be the ARRL web site.
They have a lot of advice on how to get started.
My 2 cents, an excellent, used solid state HF Xcvr can be had for $300-$350.
Check Ham adds, EBAY, Hamfests ect. Tube rigs are even less, but they have
problems that a newbie would not know how to deal with. (drift, tube failure,
caps dry out ect.). A new low end solid state rig will run you $600-$800.
These do offer excellent performance compared to older rigs.
Once you have a rig, you will need a power supply and antenna. A good 12 VDC
@ 20 amps power supply is available now for less than $100. Once you have the
rig and PS, you will need an antenna.
The antenna system can run from nothing to thousands, depends on what you wish
to do with your ham ticket. Good luck.
73 Gary N4AST

2330. Re: CQ 75 CQ 75 CQ 75

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-28 23:43:55 UTC
From: Dwight Stewart <stewartx@STOPearthlinkSPAM.net>
Message-ID: <%mKdb.36509$ai7.32754@newsread1.news.atl.earthlink.net>
Source record: 32247
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Arendal" <newsreader@spamhate.org> wrote:
> Just one more reason for moderating this group...

Please delete rec.radio.amateur.policy from future posting to this thread.
Nobody from this newsgroup has participated in this thread recently. Cross
posting is not a good idea anyway, so you might also want to consider
deleting the other newsgroups as well.

Not a lecture - just a simple request.

Dwight Stewart (W5NET)

http://www.qsl.net/w5net/

2331. Re: battlefield Internet (was: Stryker/C-130 Pics)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 00:28:55 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F777D7B.3E6B@armory.com>
Source record: 32248
Cross-posted to: rec.aviation.military,rec.radio.amateur.homebrew,sci.electronics.misc

L'acrobat wrote:
>
> Yours, because it is both stupid and wrong.
>
> Thank you Admiral D's crypto buffoon.
>
> I don't suppose you'd like to tell us what it is that you aren't
> anticipating?
>
> Nope, you just hate to face the fact that your toy will be cracked.
>
> Poor Steve. RSA will be cracked well within the lifetime of the user. and
> you know it.

You have said precisely nothing contentful.

You're merely spoiling for flame without even owning a brain.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2332. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 00:56:53 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vnf0qpkhhs6k17@corp.supernews.com>
Source record: 32249

Gary

What is right for you depends a lot on where you are and what your interests are.

As a tech licensee, you won't have access to the HF spectrum, so for now, you probably don't want to spend a ton of money on an HF rig. Of course, even that depends a lot on your plans and your situation. Perhaps dropping in the neighborhood of a grand for a radio that can cover VHF, and will allow you to listen to HF to spur you on to get your general is what it right for you. But for most people, it wouldn't be.

If your interest is public service, you may want to check your local ARES/RACES group and see what they use. If you want to chat with local folks, find your radio club, or check to see what repeaters are in your area. Then perhaps try to locate some folks to talk with. In some major cities you may find that 2 meters is so congested as to be almost useless, and if you are going to enjoy your first experiences, you want to get on 70cm. On the other hand, in much of the country, there is NO 70 cm activity to speak of. VHF and UHF are mostly local, so understanding what is happening in your area is important.

If you're really into the tecchie stuff, perhaps you want to try some of the more exotic modes. You will find QSOs few and far between, but there is a trememdous amount of excitement from that first satellite or EME contact.

Keep in mind that, as a tech, most of the activity you will see is local, so understanding what is happening in your area is a big deal. Also, on VHF, the radio is less important than the antenna, and especially, on how high it is. VHF is mostly line of sight, and the higher your antenna, the longer that line of sight.

..

"abr" <abr@iw.net> wrote in message news:3f75cd01_3@newsfeed.slurp.net...
> I am a newbie to the hobby, I arrived at this newsgroup from the "AM
window
> web site,,, I will take my tech test in a few months, I need some advise
on
> what to get for a transceiver and not spend a fortune. After 43 long
years
> I have renewed my interest in the hobby and am looking forward to pursuing
> it. Secondly, am I in the right place to ask this question or is there
> another newsgroup that would be better for a newbie like me. Thanks for
all
> your help,,, Gary

>
>

2333. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 01:16:21 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <EJLdb.4788$Hd6.2651138@newssvr28.news.prodigy.com>
Source record: 32250

"abr" <abr@iw.net> wrote in message news:3f75cd01_3@newsfeed.slurp.net...
> I am a newbie to the hobby, I arrived at this newsgroup from the "AM
window
> web site,,, I will take my tech test in a few months, I need some advise
on
> what to get for a transceiver and not spend a fortune. After 43 long
years
> I have renewed my interest in the hobby and am looking forward to pursuing
> it. Secondly, am I in the right place to ask this question or is there
> another newsgroup that would be better for a newbie like me. Thanks for
all
> your help,,, Gary
>
>

In addition to checking ARRL reviews and other online sources, join a local ham club in your area. It really helps to be able to draw on a knowledge base in your local area.

Dee D. Flint, N8UZE

2334. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 02:15:21 UTC
From: mike <intotheapex@yahoo.com>
Message-ID: <3c5fnvki5dnnklq1q5k7s7i8ri8n37q1gl@4ax.com>
Source record: 32251

On Sun, 28 Sep 2003 15:41:05 -0700, "Spurious Noise" <HDA@zilch.com>
wrote:

>Since you specified Tech license, I assume without code, your privileges
>will be in the VHF/UHF
>range. http://www.arrl.org/FandES/ead/classes.html

Thats one way to keep HF less crowded.
Don't flame me, but IMHO, I don't see much rational for morse code
tests being a part of the HAM liscencing scheme. Aside from the above
statement.

mike

2335. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 02:23:45 UTC
From: "Dee D. Flint" <deehays@qix.net>
Message-ID: <RIMdb.4804$Hd6.2661614@newssvr28.news.prodigy.com>
Source record: 32252

"mike" <intotheapex@yahoo.com> wrote in message
news:3c5fnvki5dnnklq1q5k7s7i8ri8n37q1gl@4ax.com...
> On Sun, 28 Sep 2003 15:41:05 -0700, "Spurious Noise" <HDA@zilch.com>
> wrote:
>
>
> >Since you specified Tech license, I assume without code, your privileges
> >will be in the VHF/UHF
> >range. http://www.arrl.org/FandES/ead/classes.html
>
> Thats one way to keep HF less crowded.
> Don't flame me, but IMHO, I don't see much rational for morse code
> tests being a part of the HAM liscencing scheme. Aside from the above
> statement.
>
> mike

If you wish to debate the test requirements, go to rec.radio.amateur.policy,
which is intended to discuss issues of this nature.

Dee D. Flint, N8UZE

2336. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 02:59:33 UTC
From: Greg Courville <EngNOSPAMinuitor@Gee-Enginuity.com>
Message-ID: <vnf7sgpfd0b378@corp.supernews.com>
Source record: 32253

I don't know how much money you want to spend to start out. I'm selling my VHF rig if you're interested. If you're on a tight budget it will work well for you. If you have more money to spend, I suggest getting a dual-band 2m/70cm mobile.
My rig is currently at $20.50 on eBay. Read the auction page for full description.
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=4674&item=3049697146

73 de KG6SGY

"abr" <abr@iw.net> wrote in message news:3f75cd01_3@newsfeed.slurp.net...
> I am a newbie to the hobby, I arrived at this newsgroup from the "AM window
> web site,,, I will take my tech test in a few months, I need some advise on
> what to get for a transceiver and not spend a fortune. After 43 long years
> I have renewed my interest in the hobby and am looking forward to pursuing
> it. Secondly, am I in the right place to ask this question or is there
> another newsgroup that would be better for a newbie like me. Thanks for all
> your help,,, Gary
>
>

2337. Re: source for solar cells

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 07:20:02 UTC
From: Mike Burch <mburch46@mchsi.com>
Message-ID: <C2Rdb.631067$o%2.291021@sccrnsc02>
Source record: 32254

But if they were recycled there wouldn't be anything left to drop on
Europe. :-) Well.... except the onboard reactors.

K8MB Apache Junction Arizona

2338. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 07:28:03 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F77DF03.8BF48407@ob-wan.com>
Source record: 32256

Mike,

It won't be that way for long. ITU has made the requirement optional as
of last year.

73 de VK3XVK (Rob)

mike wrote:
>
> On Sun, 28 Sep 2003 15:41:05 -0700, "Spurious Noise" <HDA@zilch.com>
> wrote:
>
> >Since you specified Tech license, I assume without code, your privileges
> >will be in the VHF/UHF
> >range. http://www.arrl.org/FandES/ead/classes.html
>
> Thats one way to keep HF less crowded.
> Don't flame me, but IMHO, I don't see much rational for morse code
> tests being a part of the HAM liscencing scheme. Aside from the above
> statement.
>
> mike

2339. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 07:48:50 UTC
From: donutbandit <none@none.com>
Message-ID: <Xns9405776D2319donutbandit@216.102.43.227>
Source record: 32255

"abr" <abr@iw.net> wrote in news:3f75cd01_3@newsfeed.slurp.net:

> I am a newbie to the hobby, I arrived at this newsgroup from the "AM
> window web site,,, I will take my tech test in a few months, I need
> some advise on what to get for a transceiver and not spend a fortune.
> After 43 long years I have renewed my interest in the hobby and am
> looking forward to pursuing it. Secondly, am I in the right place to
> ask this question or is there another newsgroup that would be better
> for a newbie like me. Thanks for all your help,,, Gary
>
>

My question would be - why did you choose the homebrew group to ask this
question in?

2340. thanks

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 13:02:00 UTC
From: abr <abr@iw.net>
Message-ID: <3f76dc02_3@newsfeed.slurp.net>
Source record: 32260

Thanks all for all your help!!!!!

2341. Re: CQ 75 CQ 75 CQ 75

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 14:56:14 UTC
From: Concerned of the Internet <deletethis@ho.com>
Message-ID: <3F784820.AFD@ho.com>
Source record: 32257
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Arendal wrote:
>
> Just one more reason for moderating this group...
>

Hopefully Supernews took care of him after the abuse reports "SOMEONE"
sent to them. Not that it'll stop him but just be irritating to him.

--
"Free flow of information has a price and responsible Internauts"
The Internet under Surveillance a report by Vinton Cerf

2342. Re: Newbie

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 15:07:09 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vngil2g2mvf1b7@corp.supernews.com>
Source record: 32258

"donutbandit" <none@none.com> wrote in message
news:Xns9405776D2319donutbandit@216.102.43.227...
> My question would be - why did you choose the homebrew group to ask this
> question in?

This is a really good question. If you are really into building stuff, there is no reason why you can't build a rig. Recognize, though, that equipment for VHF/UHF is somewhat more difficult to construct than HF equipment. Still, if it's the highly technical aspect of the hobby that turns you on, there is no reason not to go after a homebrew station. Amateur radio is the only service (in the U.S.) where you are allowed to build and operate your own equipment, and many people do, especially folks that follow this newsgroup.

For any new ham, especially one interested in building, the Radio Amateur's Handbook must be the first purchase. Certainly, it bears significant study before going out and plunking down a lot of money for a rig.

..

2343. Re: IC Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 15:36:41 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0309290736.dc40156@posting.google.com>
Source record: 32259

ku4yp <ku4yp@earthlink.net> wrote in message

> stuff i got from a radio shack "store cleaning" deal. alot of it is
> leds and such, but i have several ic chips and was wanting to hear if
> anyone is familiar with them and if so, could suggest some projects ...

> 8 74HCT163 presettable synchronous 4 bit binary counter
> 3 74HCT161 "

these are interesting chips, and they can be configured as
programmable dividers. first hook up a small oscillator using one of
the 74hc132. make sure that it oscillates at just about 1 hz or so. u
can hook up one of the several LEDs to watch it flash. then connect it
to the 74hc163 to see it count (you can see it using the LEDs).

once you have understood how the 74hc163 works, then you can drive it
with a higher frequency source (like a VCO). If you can get your hands
on 74hc74, you can hook up a phase-frequency detector too. read up the
chapter on oscillators in EMRFD to get a full-fledged PLL going. It is
educative, fun and also very useful thing to have around.

- farhan

> 1 74HCT164 8-bit serial in/ parallel-out shift register
> 2 74HCT08 quad 2-input and gate
> 2 74HCT14 Hex inverting schmitt trigger
> 2 74HCT132 quad 2-input nand schmitt trigger
> 3 74HCT32 quad 2-input or gate
> 3 74HCT123 dual retriggerable monostable multivibrator with reset
> 1 74HCT138 3-8 line decoder/demultiplexer; inverting
> 1 74HCT00 quad2-input nand gate
> 4 74HCT02 quad 2-input nor gate
>
> now, i am about to "wow" you out of the chair. i am limited in
> the tech department (shameful, isn't it?) will entertain any use.
> paperweight, neat christmas decorations, wind
> chimes.....
>
> tnx and 73 mike.
>
>
>
> Michael D. Prevatt "Real Radios Glow in the Dark"
> Amateur Callsign: KU4YP Advanced Operator
> Lakeland, Florida
> "What other dungeon is so dark as One's own heart?

> What jailer so inexorable as One's own self?"
> Nathaniel Hawthorne

2344. Battery recharger schmatics sought

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 19:04:13 UTC
From: voice_of_reason@australia.edu
Message-ID: <9428c6a7.0309291104.6917c844@posting.google.com>
Source record: 32261
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Greetings:

I am interested in finding a source for schematics and/or a kit for constructing a battery recharing unit.

I'm new to "homebrew". So kits and/or schematics with explicit directions is appreciated.

The battery pack I am looking to recharge is a collection of approx 40 1.5v NiMH cells for about 28V overall. In fact, any kits/plans/suggestion on making the battery pack itself would also be appreciated.

Thanks!!

2345. Re: Battery recharger schmatics sought

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 22:22:38 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vnhi70cavj6ic4@corp.supernews.com>
Source record: 32263
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Having that many cells in series is a bit of a challenge. By my math, it's about 2 dozen cells to get to 28 volts, so if you're looking for a tad more capacity then maybe 48 cells, 2 sets of 24. (NiMH cells are about 1.2 volts fully charged.)

In principle, it's pretty simple business to charge NiMH cells, just put a little more voltage on them than they normally produce, and limit the current. If you want to charge them fast, you need to monitor the temperature of the cells and manage that temperature. If you are patient, though, just charge them slowly and no need to watch the temperature.

However, when you get cells in series, slight differences between the cells will cause one cell to take more of the charge than others. Eventually, this leads to the failure of the battery, but for small numbers of cells, it's typically not a problem. With your 24 cells in a line that could be a problem, but again., if you charge them really slowly there's less need to be concerned.

In use, you need to have the 24 cells in series, but for charging, you might consider some sort of a scheme where there are fewer cells in series and more in parallel. When charging the cells in parallel keep in mind current limiting on each parallel branch individually, but that could allow you to use something a little more common as a voltage source, say the station supply or a 15 volt wall-wart. Older cell phone batteries used to use this sort of scheme, where the connector was arranged so that the batteries were connected to the charging connector differently than to the discharging connector.

..

"Quiet Voice" <voice_of_reason@australia.edu> wrote in message
news:9428c6a7.0309291104.6917c844@posting.google.com...
> Greetings:
>
> I am interested in finding a source for schematics and/or a kit for
> constructing a battery recharing unit.
>
> I'm new to "homebrew". So kits and/or schematics with explicit
> directions is appreciated.
>
> The battery pack I am looking to recharge is a collection of approx 40
> 1.5v NiMH cells for about 28V overall. In fact, any
> kits/plans/suggestion on making the battery pack itself would also be
> appreciated.
>

>
> Thanks!!

2346. Motorola OCXO Spec's?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-29 23:19:43 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <BqGcnSVlp56LI-WiXTWJiw@comcast.com>
Source record: 32262
Cross-posted to:
rec.radio.amateur.homebrew,sci.electronics.components,sci.electronics.equipment,sci.electronics.misc,sci.electronics.repair

I have a Motorola "High Stability Oscillator" module. It is marked model K1052A ASP06, and S/N 401033. There are three terminals on the top face of the case marked E1, E2, and E3. The module is about 4.5 inches long by 1.5 inches wide by 2 inches tall. The crystal in side the oven chamber, in a glass envelope, is marked 3.0000 MHz.

```
|-----------------------------------------------
--------------|
| (M) MOTOROLA
| <- Coarse freq adjust on side
| High Stability Oscillator
|
|
E1 E2 E3 |
| Model K1052A ASP06 () ()
() |
|
| <- Fine freq adjust on side
| Serial 401033
|
|-----------------------------------------------
--------------|
```

The "()" are feed-through wire connectors.

So far all I have figured out is that E1 is the 3 MHz output, E2 is the oscillator supply, and E3 is the oven controller supply. The module when I found it at the flea-market had E2 and E3 connected together.

When I powered up the module I get a 3 MHz sine wave output on E1 and the module does not draw any significant current until the voltage supply to E2 and E3 exceeds 15 VDC. At 18 VDC on E2 and E3 the module draws about 125 to 150 ma and I can the see the frequency of the oscillator start to drop as the module heats up. The power in to the module at this point would be about 2 watts which is similar to what the HP-10811 OXCO draws, which I do have data on. I get about 1.5 Vpk sinewave output on E1 at 3 MHz at the above supply voltage open circuit.

The course and fine frequency adjustments seem to work once the module heats up for a while too.

Right now I have no idea if the module is working correctly or not. Without any specifications or other data I can't tell if the oven controller is working right, what voltages should I be running the module at etc. I'm assuming it came out of an old Motorola radio test set or some kind of Motorola two-way radio system that required high frequency stability. There is a small chance it came out of some old Motorola manufactured military equipment judging by the gay paint on the Aluminum two part case. When I contacted Motorola they couldn't identify the module, it wasn't in their database! Does anybody have any data on this module they would like to share?

--
Leland C. Scott
KC8LDO

ARRL Member
NCI Member

Charter member of the
Lawrence Technological University
Wireless Society W8LTU

2347. Re: CQ 75 CQ 75 CQ 75

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 01:14:16 UTC
From: Mohawk Brewing <mohawkspa@yahoo.com>
Message-ID: <UcWdne0O4a9zReWiXTWJiw@comcast.com>
Source record: 32264
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

LID

"K4-OLD-KING-ALLIGATOR"
<BIG-AL@ -003894.5-LSB-75-METERS@@@BIG-AL@@@-003894.5-LSB-75-METERS> wrote
in message news:vn84c75mdd0bc8@corp.supernews.com...
> THIS IS "BIG--AL" CALLING.
> CQ 75 CQ 75 CQ 75
> THIS IS "BIG--AL" CALLING.
> WHERE YOU AT BOY?
> THIS IS "BIG--AL" CALLING.
> CQ 75 CQ 75 CQ 75
> THIS IS "BIG--AL" CALLING.
> WHERE YOU AT BOY?
>
>

2348. Re: Pyramid PS-26K Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 04:09:27 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F7901C0.F134359B@earthlink.net>
Source record: 32265

Ed Williams wrote:
>
> HI All,
>
> I have been given a Pyramid PS-26K power sypply that is non-operational and
> I am looking for a schematic for the unit. If anyone has one that they
> could email me I would be very thankful. If you can assist please email me
> at the below address.
>
> sunset@exis.net
>
> 73 de KN4KL ed

If it uses the common 723 type regulator, you should be able to
figure it out from the data sheet. National, (LM723) On-Semi, (MC1723)
and several other companies made the chip. If it is based on this part
you can find data sheets online with Google, or post the part number and
I can point you to the data sheet.
--

Michael A. Terrell
Central Florida

2349. Re: CQ 75 CQ 75 CQ 75

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 10:58:42 UTC
From: "William E. Sabin" <sabinw@mwci-news>
Message-ID: <vniocvogpaqla6@corp.supernews.com>
Source record: 32266
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Mohawk Brewing wrote:
> LID
>
> "K4-OLD-KING-ALLIGATOR"
> <BIG-AL@ -003894.5-LSB-75-METERS@@@BIG-AL@@@-003894.5-LSB-75-METERS> wrote
> in message news:vn84c75mdd0bc8@corp.supernews.com...
>
>>THIS IS "BIG--AL" CALLING.
>>CQ 75 CQ 75 CQ 75
>>THIS IS "BIG--AL" CALLING.
>>WHERE YOU AT BOY?
>>THIS IS "BIG--AL" CALLING.
>>CQ 75 CQ 75 CQ 75
>>THIS IS "BIG--AL" CALLING.
>>WHERE YOU AT BOY?
>>
>>

Once a LID, always a LID (Rod Newkirk, 1955 QST)

Bill W0IYH

2350. Re: Battery recharger schmatics sought

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 12:12:51 UTC
From: michael <addy_in_gif@in_signature.us>
Message-ID: <pan.2003.09.30.12.15.54.4831@in_signature.us>
Source record: 32267
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Be careful, NiMH batteries are more difficult to charge than this. There exists a charging algorithm for NiMH that is rather complex. You basically charge it as you stated, but when the current draw changes a certain way, you must detect it then charge at a different rate for a predetermined time. There are some IC controllers aware of this algorithm, so your homebrew charger may be best to employ one of these IC's...otherwise I suppose you could roll your own with a PIC or BASIC STAMP and the right monitoring hardware. WARNING: YOU CANNOT TRICKLE-CHARGE NIMH CELLS!

Good Luck.
--
Michael

To combat spam, I've put my address into the following gif. Sorry for any inconvenience. http://mswindustries.us/email.gif

2351. Re: Battery recharger schmatics sought

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 13:39:08 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <_4idnTajSKKBGuSiU-KYhw@comcast.com>
Source record: 32268
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

The best thing to do is check the Texas Instruments (www.ti.com) AND Maxim (www.maxim-ic.com) websites. They have application notes with complete schematics and their chips incorporate the proper charging algorithm.

"michael" <addy_in_gif@in_signature.us> wrote in message news:pan.2003.09.30.12.15.54.4831@in_signature.us...
> Be careful, NiMH batteries are more difficult to charge than this. There
> exists a charging algorithm for NiMH that is rather complex. You
> basically charge it as you stated, but when the current draw
> changes a certain way, you must detect it then charge at a different rate for a
> predetermined time. There are some IC controllers aware of this
> algorithm, so your homebrew charger may be best to employ one of these
> IC's...otherwise I suppose you could roll your own with a PIC or BASIC
> STAMP and the right monitoring hardware. WARNING: YOU CANNOT
> TRICKLE-CHARGE NIMH CELLS!
>
> Good Luck.
> --
> Michael
>
> To combat spam, I've put my address into the following gif. Sorry
> for any inconvenience. http://mswindustries.us/email.gif
>

2352. Re: Pyramid PS-26K Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 14:44:55 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <HFgeb.639593$Ho3.131822@sccrnsc03>
Source record: 32269

> Ed Williams wrote:
>
> HI All,
>
> I have been given a Pyramid PS-26K power sypply that is non-operational
and
> I am looking for a schematic for the unit. If anyone has one that they
> could email me I would be very thankful. If you can assist please email
me
> at the below address.
>
> sunset@exis.net
>
> 73 de KN4KL ed
>
As Mike Terrell has noted, most linear power supplies are based upon the
National LM 723 regulator IC. I would highly suggest that you read.

In my experience, I have avoided Pyramid supplies due to questionable
component quality
and some design issues (adequate heat sink for rating).
Check the bridge rectifier, pass trasnsitors and IC723 regulator.

Dave Metz's WA0AUQ 1996 SEITS article. It provides you all the basic
information
to troubleshoot or rebuild a damaged LM 723 based supply.
http://www.seits.org/features/pwrsup.htm

Schematic of Dave's design
http://www.seits.org/features/pwrsup.gif

Astron Power Supply schematics
http://www.repeater-builder.com/rbtip/astron-index.html

Good Luck

W9GB

2353. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 16:11:02 UTC
From: brianburke@juno.com
Message-ID: <f45722ac.0309300811.49ba2a76@posting.google.com>
Source record: 32270

Dan Richardson <ChangeThisToCallSign@mendolink.com> wrote in message
news:<11akmvoraf41d8rbcevsgjbit3sj9e6qi7@4ax.com>...
> On 18 Sep 2003 08:21:43 -0700, haf47@juno.com (Howard) wrote:
>
> >Hello to all,
> >
> >I have looked with interest at the new Ten-Tec Vee Beam Terminated
> >antenna. Is there a guru on the list who has the knowlege to share on
> >how to duplicate this antenna?
> >
> >It is a vee beam with each leg terminated to ground with a resistor,
> >and there is a balun of sorts at the input.
> >
> >I remember an antenna similar to this years ago, and I think ten-tec
> >will have a winner with this if folks can get away from the supposed
> >"horror" of a terminated antenna.
> >
> >Details at www.tentec.com
> >
> >I wish I could afford it at this time!!
> >
> >Regards, Howard
>
> Running a model with an apex angle of 90ï¿½ as per the illustration on
> page one of their Installation and Operation manual. NEC reports the
> following maximum forward gain:
>
> Using 50 foot arms
>
> Freq. MHz Gain dBi Elevation Angle
>
> 3.5 -13.8 80ï¿½
> 7.0 -5.3 55ï¿½
> 14 -1.8 33ï¿½
> 21 5.63 23ï¿½
> 28 6.51 47ï¿½
>
> Using 100 foot arms
>
> 3.5 -9.4 64ï¿½
> 7.0 -1.06 47ï¿½
> 14 4.51 25ï¿½
> 21 4.35 17ï¿½
> 28 3.24 57ï¿½

>
>
> Danny, K6MHE

Danny, can you give us a match/swr for each band? The antenna is supposed to not need matching.

Brian

2354. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 16:32:23 UTC
From: brianburke@juno.com
Message-ID: <f45722ac.0309300832.569af2f7@posting.google.com>
Source record: 32271

haf47@juno.com (Howard) wrote in message
news:<f03bf94f.0309180721.7c8f96ce@posting.google.com>...
> Hello to all,
>
> I have looked with interest at the new Ten-Tec Vee Beam Terminated
> antenna. Is there a guru on the list who has the knowlege to share on
> how to duplicate this antenna?
>
> It is a vee beam with each leg terminated to ground with a resistor,
> and there is a balun of sorts at the input.
>
> I remember an antenna similar to this years ago, and I think ten-tec
> will have a winner with this if folks can get away from the supposed
> "horror" of a terminated antenna.

Just don't bring it up on the .antenna group - they'll boil you in
oil.

FWIW, the ad says it works 80-10M, w/o a tuner, so I wonder if there
isn't a resistor at the feed point as well.

Brian

2355. University of Tennessee Amateur Science Survey

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 18:03:43 UTC
From: amsci@aztec.lib.utk.edu
Message-ID: <a2ffbc3.0309301003.9a92a5b@posting.google.com>
Source record: 32272

Dear Sir or Madam:

We would like to invite you to participate in the Amateur Science Information Survey (AMSIS). The AMSIS is being conducted by information professionals at the University of Tennessee. This anonymous survey is an attempt to determine where and how amateur scientists find information related to their scientific interests. The online survey takes approximately 10 minutes to fill out. The results of this survey will help libraries provide services and materials to better meet the diverse needs of amateur scientists. To take the survey please go to http://www.lib.utk.edu/cic/amsci/amscisurvey.htm.

Sincerely,

Travis Dolence
Ron Gilmour
University of Tennessee Libraries

2356. Multi Band HF Vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 22:30:02 UTC
From: Lushy <showbag@alphalink.com.au>
Message-ID: <3f7a020d@news.alphalink.com.au>
Source record: 32273

Would like to build a multi band hf vertical can anyone give a tip or two to where I should look.
Ta
Lushy

2357. Re: Multi Band HF Vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-09-30 23:35:33 UTC
From: jgboyles@aol.com
Message-ID: <20030930193533.05767.00000047@mb-m10.aol.com>
Source record: 32274

>Would like to build a multi band hf vertical can anyone give a tip or two to
>where I should look.
>Ta
>Lushy

Lushy, Multi band verticals are described in the ARRL Handbook, ARRL
Antenna Book, and in the various ARRL Antenna Compendiums. Lots of designs.
Or better yet, design your own, not that difficult.
This question should be directed at the antenna group to get lots more
answers.

73 Gary N4AST

2358. NEED - ARRL Handbooks

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 03:43:05 UTC
From: jcplpsm@aol.communicate
Message-ID: <20030930234305.08072.00000053@mb-m11.aol.com>
Source record: 32275

Fellow hams,
This upcoming February we will be holding a technician license preparation class. This class will be available (of course free of charge) to local CAP people, local sea cadetts, and any others wanting to obtain their no code technician class ham license. We held this class last year and helped prepare 16 out of 25 attendees to successfully complete their license test.

We would like to reward those who pass their test with a used copy of the ARRL handbook. If you have an extra copy of the handbook hanging around and would like to donate it, please drop me an e-mail at wn1b@k8uo.com. I will be willing to reimburse you for media rate postage.

Thanks for your consideration and 73. Scott, WN1B

2359. Re: Battery recharger schmatics sought

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 05:07:34 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F7A6151.CB75557A@bellatlantic.net>
Source record: 32276
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

michael wrote:

> WARNING: YOU CANNOT
> TRICKLE-CHARGE NIMH CELLS!
>

Of course you can! I suspect you left off the word
"indefinitely".

I've been trickle charging NiMh's successfully for years.
A properly designed, time limited trickle charger works just
fine on NiMh. What you should not do is leave NiMh's on trickle
charge indefinitely. Some manufacturers claim you can leave NiMh's
on trickle charge for up to a year! See the following quotes:

"Charge your batteries fully, and then leave them in the charger
to maintain a continued full charge condition and your batteries
will always be ready for use. (Nexcell or GP brand NiMH batteries
can be left on trickle charge for up to a year with no damage to
the cells!)"
from: http://www.mahaenergy.com/download/mhc204freview.pdf

"Star Batteries sells only the highest quality NiMH rechargeable
batteries available. All of our batteries:

Meet or exceed their labeled mAh ratings.
Have a "button" top to fit perfectly into your device
Are compatible with "fast" chargers
Will accept a "trickle" charge without damaging your batteries"
from:http://shop.store.yahoo.com/starbattery/ne21mahaanir.html

"Fast Charging: All our NiMH series can be fast charged at rates
from 0.5C to 1C. Fast charge termination measures should be
employed. These include: Temperature Cut-Off (TCO), Rate-of-
temperature rise (dT/dt), negative Delta V (-dV). A timer
control set at 105% of nominal capacity can be used as an
additional protection.
For maximum capacity, a trickle charge can be applied after
fast charging. We recommend top-off trickle charging at 0.1C
for 2 hours or 0.2C for 1 hour."
from: http://www.thomas-distributing.com/nimhbattery-faq.htm

2360. Re: Battery recharger schmatics sought

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 05:21:15 UTC
From: budgie <budgie@nowhere.cantech.net.au>
Message-ID: <3f7a62bf.1857282@news.cantech.net.au>
Source record: 32277
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Tue, 30 Sep 2003 09:39:08 -0400, "John Walton"
<jdwalton@comcast.net> wrote:

>The best thing to do is check the Texas Instruments (www.ti.com) AND Maxim
>(www.maxim-ic.com) websites. They have application notes with complete
>schematics and their chips incorporate the proper charging algorithm.

Indeed they do, but xpyttl's caution about "long" serires trings
remains just as valid a concern with decent controller chips. They
generally have no way to sense the individual cell SOC differences,
and therefore treat the whole string in terms of per-cell-average
voltage etc.

Additionally, any attempt at charge termination using temperature
sensing (absolute temp limit or rate of change) is VERY difficult to
implement on long strings simply because you need to sense at several
points and theses controllers are invariably designed for a single
temp sensing input. Been there, done that in a string >10, and we
gave up. The only other feasible option is to use MULTIPLE charge
controllers, each treating (and sensing) a small part of the total
string. This is often not a cost-effective approach. Sometimes,
redefining/rethinking the requirement leads to alternative approaches,
such as shorter strings feeding switchmode DC-DC boost converters.

>"michael" <addy_in_gif@in_signature.us> wrote in message
>news:pan.2003.09.30.12.15.54.4831@in_signature.us...
>> Be careful, NiMH batteries are more difficult to charge than this. There
>> exists a charging algorithm for NiMH that is rather complex. You
>> basically charge it as you stated, but when the current draw
>> changes a certain way, you must detect it then charge at a different rate
>for a
>> predetermined time. There are some IC controllers aware of this
>> algorithm, so your homebrew charger may be best to employ one of these
>> IC's...otherwise I suppose you could roll your own with a PIC or BASIC
>> STAMP and the right monitoring hardware. WARNING: YOU CANNOT
>> TRICKLE-CHARGE NIMH CELLS!
>>
>> Good Luck.
>> --
>> Michael
>>
>> To combat spam, I've put my address into the following gif. Sorry
>> for any inconvenience. http://mswindustries.us/email.gif
>>

>
>

2361. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 15:17:12 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <qurlnvosrvg7ohlbj7gjj80l32j9fee6f3@4ax.com>
Source record: 32278

On 30 Sep 2003 09:11:02 -0700, brianburke@juno.com (Brian) wrote:

>
>Danny, can you give us a match/swr for each band? The antenna is
>supposed to not need matching.
>
>Brian

Brain,

According to the manual the antenna uses a 50 to 800 Ohm broadband matching transformer at the feed point. Assuming then that the antenna's feed point should be near the 800-Ohm figure I ran a sweep for 3.5, 7, 10.1, 14.2 and 28.5 MHz referencing a 800-Ohm impedance to calculate the SWR. I got the following results:

3.5 1.40:1
7.0 1.88:1
10.1 1.92:1
14.2 1.96:1
21.2 2.37:1
28.5 2.41:1

Those figures appear to be in close agreement with the manufacture's claim.

That said I feel that worrying about the SWR's effects on antenna operation is somewhat like worrying how well a car will run based on the amount of air pressure in the tires.

73
Danny, K6MHE

2362. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 16:28:11 UTC
From: LRod@removethispartpobox.com
Message-ID: <3f7aff13.4626354@newsgroups.bellsouth.net>
Source record: 32279
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

On Sat, 27 Sep 2003 03:02:52 -0500, "LaShaun Ivory"
<NoSpam@NOSpam.com> wrote:

This is hilarious. Hang around a bit to see why.

>Rich is not missed save by a few of his malingerers.

Malingerers? Do you know what a malingerer is? It's someone who goofs
off and does no work. It is not a synonym for "apologist" or
"supporter."

>Yeah, Dan is garrulous, he is known to be a pain in the ass at times,
>but why promulgate it with your inane comments?

Promulgate? Do you know what promulgate means? It is the process of
developing legislation or procedures. It is not a synonym for
"antagonize" or "perpetuate."

>Frankie...ever pull your dictionary off the shelf and read the definition of
>"maturity"?

This is the best part. LaShaun telling Frankie to "pull [the]
dictionary off the shelf." Try it yourself, and while you have it
open, read the definition of "ironic."

>macho Ham geeks

Isn't that oxymorinic?

LRod

Master Woodbutcher and seasoned termite

Shamelessly whoring my website since 1999

http://www.woodbutcher.net

2363. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 19:02:54 UTC
From: Stalker II <BogusEmail@OForNow.com>
Message-ID: <blf8ct$8kk$0@pita.alt.net>
Source record: 32280
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"LRod" <LRod@removethispartpobox.com> wrote in message
news:3f7aff13.4626354@newsgroups.bellsouth.net...
On Sat, 27 Sep 2003 03:02:52 -0500, "LaShaun Ivory"
<NoSpam@NOSpam.com> wrote:

This is hilarious. Hang around a bit to see why.

>Rich is not missed save by a few of his malingerers.

Malingerers? Do you know what a malingerer is? It's someone who goofs
off and does no work. It is not a synonym for "apologist" or
"supporter."

>Yeah, Dan is garrulous, he is known to be a pain in the ass at times,
>but why promulgate it with your inane comments?

Promulgate? Do you know what promulgate means? It is the process of
developing legislation or procedures. It is not a synonym for
"antagonize" or "perpetuate."

>Frankie...ever pull your dictionary off the shelf and read the definition
of
>"maturity"?

This is the best part. LaShaun telling Frankie to "pull [the]
dictionary off the shelf." Try it yourself, and while you have it
open, read the definition of "ironic."

>macho Ham geeks

Isn't that oxymorinic?

LRod

> Oh, please, oh learned one...will you explain to the rest of us what
"oxymorinic" means?
Now, about that dictionary....

2364. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 19:40:55 UTC
From: LRod@removethispartpobox.com
Message-ID: <3f7b2d50.16465273@newsgroups.bellsouth.net>
Source record: 32282
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

On Wed, 1 Oct 2003 14:02:54 -0500, "Stalker II"
<BogusEmail@OForNow.com> wrote:

>Isn't that oxymorinic?
>
>LRod
>
>> Oh, please, oh learned one...will you explain to the rest of us what
>"oxymorinic" means?
>Now, about that dictionary....

Oxymoronic. Simply a typo. Malingerer, and promulgate were not.

LRod

Master Woodbutcher and seasoned termite

Shamelessly whoring my website since 1999

http://www.woodbutcher.net

2365. FA:TR-7800,811A's,Meters...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 19:53:42 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <ahGeb.166084$3o3.11982404@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32281
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

TR-7800
811A tubes x4
Weston meters
100-200w dummy load
RF Switch
Air variable-tramsmitter
Halli type knobs

on Ebay: search under seller: heytubeguy

more coming

2366. Re: LROD, LROD, LROD

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 20:09:06 UTC
From: LRod@removethispartpobox.com
Message-ID: <3f7b2ee8.16873291@newsgroups.bellsouth.net>
Source record: 32283
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

On 1 Oct 2003 18:53:05 GMT, SLee@houston-hunks.com (Stagger Lee)
wrote:

>From http://www.brainydictionary.com:
>
>"Malingerer
>
>"(n.) In the army, a soldier who feigns himself sick, or who induces
>or protracts an illness, in order to avoid doing his duty; hence, in
>general, one who shirks his duty by pretending illness or inability."
>
>Which says to me that the poster is likening the supporters to a bunch
>of military duty shirkers. That's quite a valid use of the word in
>that case.

But that's not what the context is. The intent of the original
statement is clear that he is referring to his (Rich's) supporters.

"Rich is not missed save by a few of his malingerers."

Malingerers is clearly a noun. In the case you try to make, it would
be descriptive of his, what? supporters? apologists? In other words,
more like an adjective. Then what is it modifying? Nothing.

In other words, you are trying to convince us that the original poster
was saying that "Rich is not missed save by a few [people who feign
illness or inability]." Sorry, no sale.

>: >Yeah, Dan is garrulous, he is known to be a pain in the ass at times,
>: >but why promulgate it with your inane comments?
>:
>: Promulgate? Do you know what promulgate means? It is the process of
>: developing legislation or procedures. It is not a synonym for
>: "antagonize" or "perpetuate."
>
>Oh heck: Let's look it up on the web again, since LRod needs all the help
>he can get.
>
>At http://www.hyperdictionary.com/dictionary/promulgate, we find that
>some synonyms for the word are "exclaim" or "proclaim." That source
>also suggests that you look up "announce" and "trumpet" if you are
>trying to get a feeling for the meaning of the word.

I will concede that I've never heard promulgate used in that fashion.
Sue me. I will not concede, however, that given the whole text of the

definition (which refers to publishing laws or proclamations) that the original poster's use was appropriate, particularly in the context of the original post.

>In fact, "perpetuate" is another perfectly good synonym, contrary to the
>erroneous statement by "master language butcher" LRod.

Interesting propaganda technique there; citing a source and using actual material from it, then adding one's own thoughts in the same paragraph to give the impression one's own ideas are also from that source. Please cite any source in which "perpetuate" is a synonym to "promulgate." It's certainly not in the ones you used.

>Perhaps "LRod" would do well to consult a dictionary himself before
>attempting to correct someone else.

Just one? Why, you used at least two, neither of them mainstream, to try and make your point. Something wrong with http://www.m-w.com ?

>Instead of the intended result, LRod, you now have your foot firmly planted
>in your own mouth.

I know you'd like to think so, but, I refer you to Mark Twain's essay "Fenimore Cooper's Literary Offenses" in which he describes, with a musical metaphor, Cooper's misuse of words as "sharping and flatting" his way along. The vocabulary use in the original poster's message fell short in substantially the same way.

LRod

Master Woodbutcher and seasoned termite

Shamelessly whoring my website since 1999

http://www.woodbutcher.net

2367. NYC, NNJ, EPA Radio Octoberfest

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 21:51:15 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20031001175115.10042.00000137@mb-m21.aol.com>
Source record: 32284

Howdy HomeBrewers and regular hams !

Reminder, reservations needed by Oct. 4th to K3BU@aol.com

There will be special Ham tables or you can book your exclusive. The price is paltry $25 per person, if table of 8 or more is reserved $20/person, no need for donations, bribes or taxes. Unbelievable fun fueled by original, direct from Schwartzwald - Spaten Oktoberfest Bier on tap, all you can drink! You can also bring your favorite booze, setups - glasses, ice will be provided. Don't miss it, make your reservations now before we run out of tables.

Directions and poster are at http://www.k3bu.us/octoberfest_2003.htm

See you all there!

Oktoberfest Oberchairman
Yuri Blanarovich

Montville Oktoberfest Dinner - Dance

Saturday, October 11, 2003 7 - 11 p.m.

Dinner includes:
Main course:
Sauerbraten mit gravy, Bratwurst,
Spaetzel, Red Cabbage

Desert:
Applestrudel, Coffee, Soft drinks

Main attraction:
Spaten Oktoberfest Beer on tap

For dancing and listening pleasure:
DJ music by popular European bands

by Knights of Columbus
at Msgr. Meyer Parish Center
St. Pius X RC Church
24 Changebridge Rd., Montville, NJ 07045

Admission $25/person, dinner and drinks included, BYOB setups

Reservations required by 10/4, tables for groups of 8 - 12 available at $20/person

Call Yuri Blanarovich, tel. 973 808-1981, Email K3BU@aol.com
or mail your reservations by Oct. 4th with checks made to
St. Pius X KoC,

Box 282, Pine Brook, NJ 07058

Bring your friends and have a great time!

Ein prosit!

2368. FA: DRAKE TV-1000 LP Low-Pass Filter (Bargain !)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-01 22:38:31 UTC
From: "Roy C. Pollitt" <pollitt1794@sunline.net>
Message-ID: <blfl1a0rfd@enews2.newsguy.com>
Source record: 32285

This is a DRAKE version of the kilowatt low-pass filter,
well-built and heavy!
This low-pass filter was a staple on many, if not most,
of the ham stations of the 1960's and 1970's ---- and
will serve you well now, too!

Check it out !

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3050279901&category=4671&
rd=1

Thanks
Roy KT3TV

2369. Re: University of Tennessee Amateur Science Survey

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 10:13:12 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F7BFA38.6932DD47@ob-wan.com>
Source record: 32286

Amateur Science Survey wrote:
>
> Dear Sir or Madam:
>
> We would like to invite you to participate in the Amateur Science
> Information Survey (AMSIS). The AMSIS is being conducted by
> information professionals at the University of Tennessee. This
> anonymous survey is an attempt to determine where and how amateur
> scientists find information related to their scientific interests. The
> online survey takes approximately 10 minutes to fill out. The results
> of this survey will help libraries provide services and materials to
> better meet the diverse needs of amateur scientists. To take the
> survey please go to http://www.lib.utk.edu/cic/amsci/amscisurvey.htm.

Short answer. Throw away the books and put in a row of PC's connected to
the 'net.

Rob

2370. Feed-thru capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 16:20:51 UTC
From: FY1FV <remove_fy1fv@wanadoo.fr>
Message-ID: <blhj94$r7f$1@news-reader3.wanadoo.fr>
Source record: 32287

Hi,
Has anyone the URL of a dealer who trade overseas (particularly to French Guiana) for to-screw feed-thru capacitors (about 4,7nF for signal and/or power transfer)
Many thanks!
73's
Daniel FY1FV

2371. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 17:24:25 UTC
From: brianburke@juno.com
Message-ID: <f45722ac.0310020924.52691730@posting.google.com>
Source record: 32288

Dan Richardson <ChangeThisToCallSign@mendolink.com> wrote in message
news:<qurlnvosrvg7ohlbj7gjj80l32j9fee6f3@4ax.com>...
> On 30 Sep 2003 09:11:02 -0700, brianburke@juno.com (Brian) wrote:
>
> >
> >Danny, can you give us a match/swr for each band? The antenna is
> >supposed to not need matching.
> >
> >Brian
>
> Brain,
>
> According to the manual the antenna uses a 50 to 800 Ohm broadband
> matching transformer at the feed point. Assuming then that the
> antenna's feed point should be near the 800-Ohm figure I ran a sweep
> for 3.5, 7, 10.1, 14.2 and 28.5 MHz referencing a 800-Ohm impedance to
> calculate the SWR. I got the following results:
>
> 3.5 1.40:1
> 7.0 1.88:1
> 10.1 1.92:1
> 14.2 1.96:1
> 21.2 2.37:1
> 28.5 2.41:1
>
> Those figures appear to be in close agreement with the manufacture's
> claim.
>
> That said I feel that worrying about the SWR's effects on antenna
> operation is somewhat like worrying how well a car will run based on
> the amount of air pressure in the tires.
>
> 73
> Danny, K6MHE

Danny, thanks for running the numbers. I appreciate it.

And feel free to drive your car w/o air pressure in your tires. Maybe
you've got the Presedential and Armored Car series tires. Since I
don't, I prefer air in my tires, and in my antennas, I prefer an SWR
somewhat below my transmitter's SWR protection circuit's limit.

73, BrIan/N0IMD

2372. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 19:49:13 UTC
From: OZ1EQC <per@oz1eqc.dk>
Message-ID: <blhvgcqqd1@news.cybercity.dk>
Source record: 32289

These figures are very close to these antennas, coming from Italy. We are using them in RDAF with great succes, espacially fot the communication between OZ and OX, but also to our troops in Afghanistan and Iraq

http://www.antenna.it/military/broad-band%201.8-30%20mhz.htm

And the sloping Vee
http://www.antenna.it/military/broad-band%201.8-30%20mhz.htm

73 Per OZ1EQC

www.oz1eqc.dk

"Dan Richardson" <ChangeThisToCallSign@mendolink.com> skrev i en meddelelse news:11akmvoraf41d8rbcevsgjbit3sj9e6qi7@4ax.com...
> On 18 Sep 2003 08:21:43 -0700, haf47@juno.com (Howard) wrote:
>
> >Hello to all,
> >
> >I have looked with interest at the new Ten-Tec Vee Beam Terminated
> >antenna. Is there a guru on the list who has the knowlege to share on
> >how to duplicate this antenna?
> >
> >It is a vee beam with each leg terminated to ground with a resistor,
> >and there is a balun of sorts at the input.
> >
> >I remember an antenna similar to this years ago, and I think ten-tec
> >will have a winner with this if folks can get away from the supposed
> >"horror" of a terminated antenna.
> >
> >Details at www.tentec.com
> >
> >I wish I could afford it at this time!!
> >
> >Regards, Howard
>
> Running a model with an apex angle of 90° as per the illustration on
> page one of their Installation and Operation manual. NEC reports the
> following maximum forward gain:
>
> Using 50 foot arms
>
> Freq. MHz Gain dBi Elevation Angle
>
> 3.5 -13.8 80°

> 7.0 -5.3 55&#65533;
> 14 -1.8 33&#65533;
> 21 5.63 23&#65533;
> 28 6.51 47&#65533;
>
> Using 100 foot arms
>
> 3.5 -9.4 64&#65533;
> 7.0 -1.06 47&#65533;
> 14 4.51 25&#65533;
> 21 4.35 17&#65533;
> 28 3.24 57&#65533;
>
>
> Danny, K6MHE
>

2373. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 19:52:28 UTC
From: OZ1EQC <per@oz1eqc.dk>
Message-ID: <blhvmk$r0o$1@news.cybercity.dk>
Source record: 32290

Sorry
Here are the correct URL for the Sloping Vee
http://www.antenna.it/military/vr%2023-f.htm

73 Per OZ1EQC

"OZ1EQC" <per@oz1eqc.dk> skrev i en meddelelse
news:blhvgcqqd1@news.cybercity.dk...
> These figures are very close to these antennas, coming from Italy. We are
> using them in RDAF with great succes, espacially fot the communication
> between OZ and OX, but also to our troops in Afghanistan and Iraq
>
>
> http://www.antenna.it/military/broad-band%201.8-30%20mhz.htm
>
> And the sloping Vee
> http://www.antenna.it/military/broad-band%201.8-30%20mhz.htm
>
> 73 Per OZ1EQC
>
> www.oz1eqc.dk
>
>
>
>
> "Dan Richardson" <ChangeThisToCallSign@mendolink.com> skrev i en
meddelelse
> news:11akmvoraf41d8rbcevsgjbit3sj9e6qi7@4ax.com...
> > On 18 Sep 2003 08:21:43 -0700, haf47@juno.com (Howard) wrote:
> >
> > >Hello to all,
> > >
> > >I have looked with interest at the new Ten-Tec Vee Beam Terminated
> > >antenna. Is there a guru on the list who has the knowlege to share on
> > >how to duplicate this antenna?
> > >
> > >It is a vee beam with each leg terminated to ground with a resistor,
> > >and there is a balun of sorts at the input.
> > >
> > >I remember an antenna similar to this years ago, and I think ten-tec
> > >will have a winner with this if folks can get away from the supposed
> > >"horror" of a terminated antenna.
> > >
> > >Details at www.tentec.com

> > >
> > >I wish I could afford it at this time!!
> > >
> > >Regards, Howard
> >
> > Running a model with an apex angle of 90° as per the illustration on
> > page one of their Installation and Operation manual. NEC reports the
> > following maximum forward gain:
> >
> > Using 50 foot arms
> >
> > Freq. MHz Gain dBi Elevation Angle
> >
> > 3.5 -13.8 80°
> > 7.0 -5.3 55°
> > 14 -1.8 33°
> > 21 5.63 23°
> > 28 6.51 47°
> >
> > Using 100 foot arms
> >
> > 3.5 -9.4 64°
> > 7.0 -1.06 47°
> > 14 4.51 25°
> > 21 4.35 17°
> > 28 3.24 57°
> >
> >
> > Danny, K6MHE
> >
>
>

2374. Re: PLL filter problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 21:08:09 UTC
From: Marc Denis <marc@denis-rf.com>
Message-ID: <Mi0fb.72$F4.23448@feed2.centurytel.net>
Source record: 32291

Well, you're not locked. Did you measure the gain of theVCO? In other words, did you disconnect the tuning diode from the PLL and then plot the VCO's output frequency versus tuning voltage? You need this data to accurately calculate the loop components. Another item to look for is the Vcc supplu rails to the PLL and VCO. These need to be clean. Did you do a good job of de-coupling the supply to the PLL?

Regards,

KD0QO

"Damien Teney" <damien.teney@sobelairva.net> wrote in message news:biqr9edbv1@reader08.wxs.nl...
> Hello all,
> I 've built PLL in order to command the VCO of a VHF receiver. Unfortunately
> it doesn't work very well: the VCO output is on average equal the same as
> the frequency programmed in the PLL, but it is constantly varying a bit
> around it. I guess the problem comes from the output filter, but I've
> re-calculated it and it should be okay. Where could the problem come from ??
>
> FYI, the PLL is build from a schematic of the Motorola application note 980
>
(http://www.mcarsweb.com/_divers/schematic_from_motorola_application-note_98
> 0.gif).
>
> Thank you in advance for your answers ;-)
>
>
>
>

2375. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 23:29:59 UTC
From: Dan Richardson <ChangeThisToCallSign@mendolink.com>
Message-ID: <q6dpnv0tk2dlll4tgfs39ru1dnv07cg9dr@4ax.com>
Source record: 32293

On 2 Oct 2003 10:24:25 -0700, brianburke@juno.com (Brian) wrote:

>Dan Richardson <ChangeThisToCallSign@mendolink.com> wrote in message
news:<qurlnvosrvg7ohlbj7gjj80l32j9fee6f3@4ax.com>...
>> On 30 Sep 2003 09:11:02 -0700, brianburke@juno.com (Brian) wrote:
>>
>> >
>> >Danny, can you give us a match/swr for each band? The antenna is
>> >supposed to not need matching.
>> >
>> >Brian
>>
>> Brain,
>>
>> According to the manual the antenna uses a 50 to 800 Ohm broadband
>> matching transformer at the feed point. Assuming then that the
>> antenna's feed point should be near the 800-Ohm figure I ran a sweep
>> for 3.5, 7, 10.1, 14.2 and 28.5 MHz referencing a 800-Ohm impedance to
>> calculate the SWR. I got the following results:
>>
>> 3.5 1.40:1
>> 7.0 1.88:1
>> 10.1 1.92:1
>> 14.2 1.96:1
>> 21.2 2.37:1
>> 28.5 2.41:1
>>
>> Those figures appear to be in close agreement with the manufacture's
>> claim.
>>
>> That said I feel that worrying about the SWR's effects on antenna
>> operation is somewhat like worrying how well a car will run based on
>> the amount of air pressure in the tires.
>>
>> 73
>> Danny, K6MHE
>
>Danny, thanks for running the numbers. I appreciate it.
>
>And feel free to drive your car w/o air pressure in your tires. Maybe
>you've got the Presedential and Armored Car series tires. Since I
>don't, I prefer air in my tires, and in my antennas, I prefer an SWR
>somewhat below my transmitter's SWR protection circuit's limit.
>

>73, BrIan/N0IMD

I guess I choose a poor analogy regarding SWR. On my list SWR is the least of my worries as it is one of the easiest to fix. I would be much more interested in the antenna's pattern (launching the signal in a direction and angle I wish), what amount of gain it has at that direction/angle and what efficiency it operated at.

Back to the analogy of a car. I would be more interested in how the engine ran, transmission worked and so forth. A flat tire (read excessive SWR) is easy to fix but rebuilding an engine is another matter.

73 Danny

2376. Re: New Ten-Tec antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 23:36:04 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <blicp4$3d8$1@titan.btinternet.com>
Source record: 32292

- - - - - but also to our troops in Afghanistan and Iraq
==========

Only the best equipment is used to ensure a cheap supply of atmospheric-poluuting gasoline for the Western World's motorists and airlines Obviously, radio antennas must have the highest possible gain relative to istropic regardless of expense.

Ultimate objective is that square in Beijing.

2377. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-02 23:58:24 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <blie2v$5bs$1@titan.btinternet.com>
Source record: 32294
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

> > The death toll in France from August's
> > blistering heat wave was nearly 15,000 . . . .

==========

It must not be forgotten the health of French nation has considerable improved since August. The undoubted evidence for this is a much reduced death rate amongst the elderly which will last for several years.

The same sort of statistics apply to other countries which suffered from the heatwave but didn't bother to publish them, ie., for political reasons they kept it secret.

The French government should be congratulated on its honesty as it should be on other matters of international interest and importance.

Vive la France ! Vive l'Europe !

Reg, G4FGQ

2378. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 03:24:13 UTC
From: Jim Hampton <aa2qa@frontiernet.net>
Message-ID: <xZ5fb.9698$n73.4287@news01.roc.ny>
Source record: 32295
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Hello, Reg

Well, I'm sure you'll get some flames on that comment, but it sure is nice to hear some honesty once in a while. I've read comments carried in news organizations some years ago. A number of Europeans were appalled by the number of homeless in the United States. Oh, some of the "conservatives" have broadcast a lot of hot air and some folks will call anyone disagreeing with their position "card - carrying - liberals", but the fact is there has to be some reasonable compromise to keep as many folks happy as possible. Also, it is necessary for any civilized nation to provide some level of support for those citizens unable to take care of themselves. Mind me, I am not saying that we are or are not doing that toady. However, it is fortunate that we have a very powerful weapon here. It is called the vote. If enough folks get upset, it will show despite the 30 second sound bites and handshaking LOL :)

73 from Rochester, NY
Jim AA2QA

"Reg Edwards" <g4fgq.regp@btinternet.com> wrote in message
news:blie2v$5bs$1@titan.btinternet.com...
>
> > > The death toll in France from August's
> > > blistering heat wave was nearly 15,000 . . . .
>
> ============================
>
> It must not be forgotten the health of French nation has considerable
> improved since August. The undoubted evidence for this is a much reduced
> death rate amongst the elderly which will last for several years.
>
> The same sort of statistics apply to other countries which suffered from
the
> heatwave but didn't bother to publish them, ie., for political reasons
they
> kept it secret.
>
> The French government should be congratulated on its honesty as it should
be
> on other matters of international interest and importance.
>
> Vive la France ! Vive l'Europe !
> ----

> Reg, G4FGQ
>
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.522 / Virus Database: 320 - Release Date: 9/29/03

2379. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 03:26:07 UTC
From: Jim Hampton <aa2qa@frontiernet.net>
Message-ID: <j%5fb.9699$_a3.9456@news01.roc.ny>
Source record: 32296
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

I might inquire if you believe that the administration has been totally honest in its' appraisal of Iraq's weapons of mass destruction. Hmmm ... it may indeed be honest; it may not. All of the information is not in and I doubt it ever will be.

73 from Rochester, NY
Jim AA2QA

"helmsman" <helmsmandelete@mindspring.com> wrote in message news:5rfpnv41be011u842rkv6f1iv9lgfjt4pk@4ax.com...
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote:
>
>
> >The French government should be congratulated on its honesty as it should be
> >on other matters of international interest and importance.
> >
> >Vive la France ! Vive l'Europe !
> >----
> >Reg, G4FGQ
> >
> >
> BWHAAAAAAAAAAAHAAAAAAAAAAAAAHAAAAAAAAAAAAAAAAAAAAAAAA
> .
>
>
> .
> Don't buy goods made in France or Germany and vacation somewhere else!

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.522 / Virus Database: 320 - Release Date: 9/29/03

2380. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 09:18:58 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <anfqnvocgatmkqkrj89lbn41uobga6nvlh@4ax.com>
Source record: 32097
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Thu, 2 Oct 2003 23:58:24 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@btinternet.com> wrote:

>
>> > The death toll in France from August's
>> > blistering heat wave was nearly 15,000 . . . .
>
>============================
>
>It must not be forgotten the health of French nation has considerable
>improved since August. The undoubted evidence for this is a much reduced
>death rate amongst the elderly which will last for several years.
>
>The same sort of statistics apply to other countries which suffered from the
>heatwave but didn't bother to publish them, ie., for political reasons they
>kept it secret.
>
>The French government should be congratulated on its honesty as it should be
>on other matters of international interest and importance.
>
>Vive la France ! Vive l'Europe !

To Hell with France and EUrope!
Reg, you have finally flipped your wig. If you think it's so great on
the continent why don't you just piss off and live over there?
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2381. Re: Feed-thru capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 10:03:05 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <tPbfb.5573$Hd6.3559891@newssvr28.news.prodigy.com>
Source record: 32098

Ocean State Electronics (http://www.oselectronics.com/index.htm) lists
1 nF/500 volt feed-thru capacitors and includes overseas shipping options.
Hope this helps.

Bruce Raymond/ND8I

"FY1FV" <remove_fy1fv@wanadoo.fr> wrote in message
news:blhj94$r7f$1@news-reader3.wanadoo.fr...
> Hi,
> Has anyone the URL of a dealer who trade overseas (particularly to French
> Guiana) for to-screw feed-thru capacitors (about 4,7nF for signal and/or
> power transfer)
> Many thanks!
> 73's
> Daniel FY1FV
>
>

2382. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 10:06:44 UTC
From: Frank <frank@127.0.0.1>
Message-ID: <USbfb.206328$mp.128872@rwcrnsc51.ops.asp.att.net>
Source record: 32099
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Paul Burridge wrote:
> On Thu, 2 Oct 2003 23:58:24 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@btinternet.com> wrote:
>
>
>>>>The death toll in France from August's
>>>>blistering heat wave was nearly 15,000 . . . .
>>
>>============================
>>
>>It must not be forgotten the health of French nation has considerable
>>improved since August. The undoubted evidence for this is a much reduced
>>death rate amongst the elderly which will last for several years.
>>
>>The same sort of statistics apply to other countries which suffered from the
>>heatwave but didn't bother to publish them, ie., for political reasons they
>>kept it secret.
>>
>>The French government should be congratulated on its honesty as it should be
>>on other matters of international interest and importance.
>>
>>Vive la France ! Vive l'Europe !
>
>
> To Hell with France and EUrope!
> Reg, you have finally flipped your wig. If you think it's so great on
> the continent why don't you just piss off and live over there?

Not all of Europe is our enemy, just France who wants to see us fail.

-Frank

2383. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 10:19:51 UTC
From: SLee@houston-hunks.com
Message-ID: <3f82590e.1206130794@pita.alt.net>
Source record: 32100
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

On Fri, 03 Oct 2003 09:07:43 +0100, Walt Davidson <g3nyy@despammed.com> wrote:

>On Fri, 03 Oct 2003 03:26:07 GMT, "Jim Hampton"
><aa2qa@frontiernet.net> wrote:
>
>>I might inquire if you believe that the administration has been totally
>>honest in its' appraisal of Iraq's weapons of mass destruction. Hmmm ... it
>>may indeed be honest; it may not.
>
>Which administration are you referring to? The USA one, or the British
>one?
>
>73 de G3NYY

What's the difference? They both lied to their people so their invasion of Iraq would seem just.

2384. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 10:24:40 UTC
From: OZ1EQC <per@oz1eqc.dk>
Message-ID: <bljipv$2v37$1@news.cybercity.dk>
Source record: 32101
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Thanks Frank

Per OZ1EQC

"Frank" <frank@127.0.0.1> skrev i en meddelelse
news:USbfb.206328$mp.128872@rwcrnsc51.ops.asp.att.net...
> Paul Burridge wrote:
> > On Thu, 2 Oct 2003 23:58:24 +0000 (UTC), "Reg Edwards"
> > <g4fgq.regp@btinternet.com> wrote:
> >
> >
> >>>>The death toll in France from August's
> >>>>blistering heat wave was nearly 15,000 . . . .
> >>
> >>============================
> >>
> >>It must not be forgotten the health of French nation has considerable
> >>improved since August. The undoubted evidence for this is a much reduced
> >>death rate amongst the elderly which will last for several years.
> >>
> >>The same sort of statistics apply to other countries which suffered from
> the
> >>heatwave but didn't bother to publish them, ie., for political reasons
> they
> >>kept it secret.
> >>
> >>The French government should be congratulated on its honesty as it
> should be
> >>on other matters of international interest and importance.
> >>
> >>Vive la France ! Vive l'Europe !
> >
> >
> > To Hell with France and EUrope!
> > Reg, you have finally flipped your wig. If you think it's so great on
> > the continent why don't you just piss off and live over there?
>
> Not all of Europe is our enemy, just France who wants to see us fail.
>
> -Frank
>

2385. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 10:26:05 UTC
From: OZ1EQC <per@oz1eqc.dk>
Message-ID: <bljisi$2v57$1@news.cybercity.dk>
Source record: 32102
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

BTW we wont fail

Per

"OZ1EQC" <per@oz1eqc.dk> skrev i en meddelelse
news:bljipv$2v37$1@news.cybercity.dk...
> Thanks Frank
>
> Per OZ1EQC
>
>
> "Frank" <frank@127.0.0.1> skrev i en meddelelse
> news:USbfb.206328$mp.128872@rwcrnsc51.ops.asp.att.net...
> > Paul Burridge wrote:
> > > On Thu, 2 Oct 2003 23:58:24 +0000 (UTC), "Reg Edwards"
> > > <g4fgq.regp@btinternet.com> wrote:
> > >
> > >
> > > >>>>The death toll in France from August's
> > > >>>>blistering heat wave was nearly 15,000 . . . .
> > > >>
> > > >>============================
> > > >>
> > > >>It must not be forgotten the health of French nation has considerable
> > > >>improved since August. The undoubted evidence for this is a much
reduced
> > > >>death rate amongst the elderly which will last for several years.
> > > >>
> > > >>The same sort of statistics apply to other countries which suffered
from
> the
> > > >>heatwave but didn't bother to publish them, ie., for political reasons
> they
> > > >>kept it secret.
> > > >>
> > > >>The French government should be congratulated on its honesty as it
> should be
> > > >>on other matters of international interest and importance.
> > > >>
> > > >>Vive la France ! Vive l'Europe !
> > > >
> > > >
> > > > To Hell with France and EUrope!
> > > > Reg, you have finally flipped your wig. If you think it's so great on

> > > the continent why don't you just piss off and live over there?
> >
> > Not all of Europe is our enemy, just France who wants to see us fail.
> >
> > -Frank
> >
>
>

2386. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 10:37:49 UTC
From: Frank <frank@127.0.0.1>
Message-ID: <1kcfb.668356$Ho3.140830@sccrnsc03>
Source record: 32103
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
OZ1EQC wrote:
> Thanks Frank
>
> Per OZ1EQC
>
>
> "Frank" <frank@127.0.0.1> skrev i en meddelelse
> news:USbfb.206328$mp.128872@rwcrnsc51.ops.asp.att.net...
>
>>Paul Burridge wrote:
>>
>>>On Thu, 2 Oct 2003 23:58:24 +0000 (UTC), "Reg Edwards"
>>><g4fgq.regp@btinternet.com> wrote:
>>>
>>>
>>>
>>>>>>The death toll in France from August's
>>>>>>blistering heat wave was nearly 15,000 . . . .
>>>>
>>>>============================
>>>>
>>>>It must not be forgotten the health of French nation has considerable
>>>>improved since August. The undoubted evidence for this is a much reduced
>>>>death rate amongst the elderly which will last for several years.
>>>>
>>>>The same sort of statistics apply to other countries which suffered from
>
> the
>
>>>>heatwave but didn't bother to publish them, ie., for political reasons
>
> they
>
>>>>kept it secret.
>>>>
>>>>The French government should be congratulated on its honesty as it
>
> should be
>
>>>>on other matters of international interest and importance.
>>>>
>>>>Vive la France ! Vive l'Europe !
>>>
```

>>>
>>>To Hell with France and EUrope!
>>>Reg, you have finally flipped your wig. If you think it's so great on
>>>the continent why don't you just piss off and live over there?
>>
>>Not all of Europe is our enemy, just France who wants to see us fail.
>>
>>-Frank
>>
>
>
>

You're quite welcome!

73

Frank K3EKO

2387. WANTED! Schematic for Ameritron QSK-5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 11:59:50 UTC
From: Igor Sobrokhotov <un7gm@qsl.net>
Message-ID: <bljs30$l7v$2@stat.nursat.net>
Source record: 32105

Hi All,

If anybody can help me, let me know by E-mail, please.

Thank you in advance,
Best regards,
Igor UN7GM

2388. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 12:13:31 UTC
From: Jeroen Vriesman <joenix@the-djs.com>
Message-ID: <oprwguwtg5fn6ec4@news.demon.nl>
Source record: 32104
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

>> To Hell with France and EUrope!
>> Reg, you have finally flipped your wig. If you think it's so great on
>> the continent why don't you just piss off and live over there?
>
> Not all of Europe is our enemy, just France who wants to see us fail.
>
> -Frank
>

What worries me is that in almost every country people are getting more and more anti-american.
Only 15 years ago most there was a normal mixture of positive and negative opinions, but it has become more and more negative, and since Bush 1 and 2 mentioning the word america to a non-US person generates a flood of negativity.
For most people that is, exeptions here and there, but what would be the reasons for that?
Personally I don't have such a primitive opinion, which is usualy just based on black and white thinking, but the situation as a whole worries me, I cannot see anything good coming out of it.

-Jeroen.

2389. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 14:50:41 UTC
From: SNIPrf_man_frTHIS@yahoo.com
Message-ID: <2c8119eb.0310030650.5cd9f227@posting.google.com>
Source record: 32106
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@ BIG-AL -003894.5-LSB-75-METERS> wrote in message news:<vn6lk3dd6nrg62@corp.supernews.com>...
> PARIS, France (AP) -- The death toll in France from August's blistering heat
> wave was nearly 15,000, according to a government report released Thursday
> that exceeded prior official estimates by 3,000 victims.

Ne soyez pas une bï¿½te. Vive la France.

2390. Re: WANTED! Schematic for Ameritron QSK-5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 14:55:19 UTC
From: Spurious Noise <HDA@zilch.com>
Message-ID: <r5gfb.48625$Ms2.27509@fed1read03>
Source record: 32107

Manual is on-line at URL:
http://www.ameritron.com/ameritron/manuals.php

--
73 From the Spurious Noise ';';;';x":.,";"'

"Igor Sobrokhotov" <un7gm@qsl.net> wrote in message
news:bljs30$l7v$2@stat.nursat.net...
> Hi All,
>
> If anybody can help me, let me know by E-mail, please.
>
> Thank you in advance,
> Best regards,
> Igor UN7GM

2391. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 15:24:15 UTC
From: Ken Finney <kenneth.c.finney@boeing.com>
Message-ID: <HM6tGD.83x@news.boeing.com>
Source record: 32109
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Jeroen Vriesman" <joenix@the-djs.com> wrote in message
news:oprwguwtg5fn6ec4@news.demon.nl...
>
> >> To Hell with France and EUrope!
> >> Reg, you have finally flipped your wig. If you think it's so great on
> >> the continent why don't you just piss off and live over there?
> >
> > Not all of Europe is our enemy, just France who wants to see us fail.
> >
> > -Frank
> >
>
> What worries me is that in almost every country people are getting more
and
> more anti-american.
> Only 15 years ago most there was a normal mixture of positive and negative
> opinions, but it has become more and more negative, and since Bush 1 and 2
> mentioning the word america to a non-US person generates a flood of
> negativity.
> For most people that is, exeptions here and there, but what would be the
> reasons for that?
> Personally I don't have such a primitive opinion, which is usualy just
> based on black and white thinking, but the situation as a whole worries
me,
> I cannot see anything good coming out of it.
>
> -Jeroen.
>
>

We are pretty bad at marketing ourselves. One of the other problems
is that in many areas of the world, people expect their politicians to
never be truthful, and to always have a secret agenda, where for the
most part, we consider this to be the abnormal state. Then end
result being, we tend to look at situations from a "best case scenario"
and the peoples of other countries tend to look at us from a "worst
case scenario".

2392. Re: RCA 5KW AM Broadcast Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 15:29:59 UTC
From: la8ak.xnd@online.no
Message-ID: <3f7d90e8.78968601@news.online.no>
Source record: 32108
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On Fri, 03 Oct 2003 11:33:48 GMT, "patgkz" <patgkz@new.rr.com> wrote:

>The one on eBay closed out at just under $500.....guess that's about all one
>is worth!
>
>Pat.
>
Over there in USA, the hobby seems to be all about money, while here
the value is not neccessary the same as what you pay. If few persons
bits on it you may get it for much less than it is worth

I receive a lot of nuissance offers for items on my site, it seems
needless to say that it is a hobby, not a business

73
LA8AK

>"Paul Vanasse" <NOpvanasse@cox.netSPAM> wrote in message
>news:2oUeb.2937$4T.2835@news1.central.cox.net...
>> Very good overall condition. Recently removed from service by the original
>> owner. This unit was being used as a back up transmitter for the past 20+
>> years. Extra tubes, Manual, Coils, Power Transformer etc. Cabinet and
>paint
>> in excellent condition. Located in Rhode Island. Perfect for a museum or
>> 160/80 Amateur meter use. $3900.00, U-Pick-Up.
>>
>> For a complete description and detailed info visit this site:
>> http://www.vobbe.net/articles/bta5/index.html
>>
>> email: pvanasse@cox.net or remove NO SPAM from email address.
>>
>> Thanks and 73
>>
>>
>> --
>> NOTE: This message and the documents accompanying this transmission may
>> contain information which is confidential or privileged information. The
>> information is intended to be for the use of the individual or entity
>named
>> on this transmission. If you are not the intended recipient, be aware
>that
>> any disclosure, copying, distribution or use of the contents of this
>> information is prohibited. If you have received this e-mail in error,
>> please notify us by telephone immediately and kindly delete the messages

>and
>> attachments.
>>
>>
>>
>
>

--
remove ,xnd to reply (Spam precaution!)

2393. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 16:22:57 UTC
From: someone@somewhere.com
Message-ID: <n0ci9tpa.fsf@zyan.org>
Source record: 32110
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

good news of people dying, shame on whoever wrote the heading. Think outside the borders and its humans for god sake....how does that make you happy.......cha....

"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@ BIG-AL -003894.5-LSB-75-METERS> writes:

> PARIS, France (AP) -- The death toll in France from August's blistering heat
> wave was nearly 15,000, according to a government report released Thursday
> that exceeded prior official estimates by 3,000 victims.
>
>
>

--

2394. WTB:SX-71 PS XFMR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 17:54:16 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <cJifb.162852$0v4.12266546@bgtnsc04-news.ops.worldnet.att.net>
Source record: 32111

Desperately need power xfmr for SX-71. Cash or have many parts and tubes to trade. Advise, Joe WS0E

2395. Re: WANTED! Schematic for Ameritron QSK-5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 18:06:57 UTC
From: Skipp says try sonic <spamyourself@yahoo.com>
Message-ID: <blkds1sbf2@woodrow.ucdavis.edu>
Source record: 32112

Igor,

I believe the Heathkit SB-1000 QSK board is similar and I have stored
copies of it over on http://sonic.ucdavis.edu

Look on the amateur radio page.

cheers
skipp

: Igor Sobrokhotov <un7gm@qsl.net> wrote:
: Hi All,

: If anybody can help me, let me know by E-mail, please.

: Thank you in advance,
: Best regards,
: Igor UN7GM

2396. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 18:45:41 UTC
From: Ben Pope <spam@hotmail.com>
Message-ID: <blkg4n$d665c$1@ID-191149.news.uni-berlin.de>
Source record: 32113
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jeroen Vriesman wrote:
> What worries me is that in almost every country people are getting more
> and more anti-american.
> Only 15 years ago most there was a normal mixture of positive and negative
> opinions, but it has become more and more negative, and since Bush 1 and 2
> mentioning the word america to a non-US person generates a flood of
> negativity.
> For most people that is, exeptions here and there, but what would be the
> reasons for that?
> Personally I don't have such a primitive opinion, which is usualy just
> based on black and white thinking, but the situation as a whole worries
> me, I cannot see anything good coming out of it.

Maybe it's something to do with posts like the original in this thread, congratulating the death of 14000 non-Americans. I assume the post was by an American?

Many if not all of the agreements are from Americans.

The thread has a very "We and them" nature to it.

Is this typical of American feeling?

I think the general view of America and Americans by many non-Americans is that of a nation full of (or least run by) selfish, arrogant people. I wonder why?

(I am not the type of person to cast judgement on an entire nation by my experiences of a few from that nation - this is the general feeling I have picked up from others)

Ben
--
I'm not just a number. To many, I'm known as a String...

2397. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 20:18:58 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20031003161858.13226.00000164@mb-m24.aol.com>
Source record: 32114

>>I think the general view of America and Americans by many non-Americans is that of a nation full of (or least run by) selfish, arrogant people. I wonder why?
<<

Maybe because - they are more like hard working, sacrificing, individualists, taking charge because (still) government limiting power or dictator doesn't punish them for succeesing (it does with taxes)?
Sure, the lazy ba$tards envy those who work, achieve and have.

What other country has helped so many in case of disasters and wars? Selfish, arrogant people?

Why there are so many people trying to immigrate to US? To learn to be selfish?

What do you expect Americans to do after their prime city was attacked by their own planes and 3000 people killed? Sit in the White House and be served by intern?

Looks like too much BS distorted propaganda is out there. Come over here and see with own eyes!

Yuri

2398. Re: 3894.5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 20:36:00 UTC
From: Rene PE1RA / ON6ALD <REMOVErene.altena@gmx.net>
Message-ID: <blkmjg$dh51l$1@ID-153362.news.uni-berlin.de>
Source record: 32115
Cross-posted to: alt.ham-radio.mods,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"^^^I Am Fileo - I Am Fileo^^^" <fileo@hotmail.cc> wrote in message
news:innanv8hp6e8hlavjeult6942o9ud9fj61@4ax.com...
> On Wed, 24 Sep 2003 14:17:56 +0200, "Rene PE1RA / ON6ALD"
> <REMOVErene.altena@gmx.net> wrote:
>
> >No!
> >
> >Where the Subject line contains '3.894' or '3894' or 'bigal'
> >send the email back
> >
> >
> >73 de Rene PE1RA
>
> E-MAIL???
>
> You are on Usenet, Rene - not E-MAIL!
>
> You CAN'T send it back! LOL!

I know that! I was just going along with the joke, with errors and all...

--
73 de Rene PE1RA / ON6ALD

Cuius testiculos habes, habeas cardeo et cerebellum
>

2399. Re: Motorola OCXO Spec's?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 21:10:14 UTC
From: ddwyer <dd@ddwyer.demon.co.uk>
Message-ID: <CzgAULA2Wef$Ewe2@ddwyer.demon.co.uk>
Source record: 32116
Cross-posted to:
rec.radio.amateur.homebrew,sci.electronics.components,sci.electronics.equipment,sci.electronics.misc,sci.electronics.repair

```
In article <BqGcnSVlp56LI-WiXTWJiw@comcast.com>, Leland C. Scott <no-
spam@junk-mail.net> writes
>I have a Motorola "High Stability Oscillator"
>module. It is marked model K1052A ASP06, and S/N
>401033. There are three terminals on the top face
>of the case marked E1, E2, and E3. The module is
>about 4.5 inches long by 1.5 inches wide by 2
>inches tall. The crystal in side the oven chamber,
>in a glass envelope, is marked 3.0000 MHz.
>
>
>|-----------------------------------------------
>--------------|
>| (M) MOTOROLA
>| <- Coarse freq adjust on side
>| High Stability Oscillator
>|
>|
>E1 E2 E3 |
>| Model K1052A ASP06 () ()
>() |
>|
>| <- Fine freq adjust on side
>| Serial 401033
>|
>|-----------------------------------------------
>--------------|
>
>The "()" are feed-through wire connectors.
>
>So far all I have figured out is that E1 is the 3
>MHz output, E2 is the oscillator supply, and E3 is
>the oven controller supply. The module when I
>found it at the flea-market had E2 and E3
>connected together.
>
>When I powered up the module I get a 3 MHz sine
>wave output on E1 and the module does not draw any
>significant current until the voltage supply to E2
>and E3 exceeds 15 VDC. At 18 VDC on E2 and E3 the
>module draws about 125 to 150 ma and I can the see
>the frequency of the oscillator start to drop as
```

>the module heats up. The power in to the module at
>this point would be about 2 watts which is similar
>to what the HP-10811 OXCO draws, which I do have
>data on. I get about 1.5 Vpk sinewave output on E1
>at 3 MHz at the above supply voltage open circuit.
>The course and fine frequency adjustments seem to
>work once the module heats up for a while too.
>
>Right now I have no idea if the module is working
>correctly or not. Without any specifications or
>other data I can't tell if the oven controller is
>working right, what voltages should I be running
>the module at etc. I'm assuming it came out of an
>old Motorola radio test set or some kind of
>Motorola two-way radio system that required high
>frequency stability. There is a small chance it
>came out of some old Motorola manufactured
>military equipment judging by the gay paint on the
>Aluminum two part case. When I contacted Motorola
>they couldn't identify the module, it wasn't in
>their database! Does anybody have any data on this
>module they would like to share?
>
>
>--
>Leland C. Scott
>KC8LDO
>
>ARRL Member
>NCI Member
>
>Charter member of the
>Lawrence Technological University
>Wireless Society W8LTU
>
>
>
Probably working ok did u have to unsolder lid to find crystal?
Generally for better than 1ppe7 stability the crystal and maintaining
circuit must be temperature controlled.
Will the gay paint make me cheerful for alter my life style?
--
ddwyer

2400. Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 21:39:10 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <blkq9agbt1@news.oregonstate.edu>
Source record: 32117

I've been thinking about building a WWVB (time code on 60kHz) receiver, and wanted to get some suggestions for the architecture. Poking around the web some, I did find one receiver where the guy built a synchronous detector using a PLL and VCXO to phase-lock to the 60kHz carrier. Nice idea -- especially since he wanted the 60kHz carrier as a synchronization signal. However, I just want the time data... so... wouldn't it be easier to build a mixer at, e.g., 59kHz and then use an envelope detector to get a loud/quiet audible (1kHz) tone (WWVB reduces power by 10dB to signify 0 bits in its time code)? It seems to me that this approach avoids the need for the PLL and VCXO, which is a nice 'reduction' in complexity. Also, since I'll have a microcontroller around to decode the time code anyway, it can easily generate the 59kHz signal.

Thanks,
---Joel Kolstad

2401. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 22:02:25 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <kqornv8u4jl6bjups4b99f0fkju5hj2ek8@4ax.com>
Source record: 32118
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Fri, 03 Oct 2003 14:13:31 +0200, Jeroen Vriesman
<joenix@the-djs.com> wrote:

>What worries me is that in almost every country people are getting more and
>more anti-american.
>Only 15 years ago most there was a normal mixture of positive and negative
>opinions, but it has become more and more negative, and since Bush 1 and 2
>mentioning the word america to a non-US person generates a flood of
>negativity.

Entirely predictable, I'm afraid. It's the same here in England.
People tend to ascribe the national character of the people to that of
their leader. Most unfortunate. I personally think the American people
are great, but there's no doubt that W's foreign policy stance has
been outstandingly disastrous in all manner of areas, virtually right
from day 1. From a personal PoV., I'm sick of years of being
associated with Thatcher, Bliar etc. This may be a democracy, but that
only results in the least-worst choice of candidate being chosen to
'serve' (themselves, usually). Even Churchill admitted this.

>For most people that is, exeptions here and there, but what would be the
>reasons for that?
>Personally I don't have such a primitive opinion, which is usualy just
>based on black and white thinking, but the situation as a whole worries me,
>I cannot see anything good coming out of it.

Certainly British people at any rate are at greater risk from
terrorist attack than we ever were before this recent debacle. And
what was it for? A war fought on an entirely false premise. Our
so-called security services need shooting for their incompetence.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2402. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-03 23:16:22 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F7E06B4.9FB71477@ieee.org>
Source record: 32119

Joel Kolstad wrote:

> I've been thinking about building a WWVB (time code on 60kHz) receiver, and
> wanted to get some suggestions for the architecture. Poking around the web
> some, I did find one receiver where the guy built a synchronous detector
> using a PLL and VCXO to phase-lock to the 60kHz carrier. Nice idea --
> especially since he wanted the 60kHz carrier as a synchronization signal.
> However, I just want the time data... so... wouldn't it be easier to build a
> mixer at, e.g., 59kHz and then use an envelope detector to get a loud/quiet
> audible (1kHz) tone (WWVB reduces power by 10dB to signify 0 bits in its
> time code)? It seems to me that this approach avoids the need for the PLL
> and VCXO, which is a nice 'reduction' in complexity. Also, since I'll have
> a microcontroller around to decode the time code anyway, it can easily
> generate the 59kHz signal.
>
> Thanks,
> ---Joel Kolstad

I think you will need a receiver with a narrow band pass. The phase locked scheme can help you get a very narrow band pass.

Another arrangement is use the 1 Khz as you planned and use a FFT program to get the signal out of the noise..

And maybe, at your location, the signal is strong enough that my concerns do not apply.

Bill K7NOM

2403. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 00:29:36 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310031629.441a2f1a@posting.google.com>
Source record: 32120
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"OZ1EQC" <per@oz1eqc.dk> wrote in message news:<bljisi$2v57$1@news.cybercity.dk>...
> BTW we wont fail

You've certainly failed to find any weapons of mass destruction.

It sounds as if you were suckered by the anti-Saddam exiles - the same crowd that you are now assembling into an unelected government, so that you can hand over to them the fruits of an expensive invasion that you were frightened into paying for by their misinformation.

Who is going to nominate Dubbya for this year's Nobel Prize for Gullibility?

Bill Sloman, Nijmegen

2404. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 00:37:30 UTC
From: toor@iquest.net
Message-ID: <bll4oa$1fo$1@news.iquest.net>
Source record: 32121
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <7c584d27.0310031629.441a2f1a@posting.google.com>,
bill.sloman@ieee.org (Bill Sloman) writes:
> "OZ1EQC" <per@oz1eqc.dk> wrote in message news:<bljisi$2v57$1@news.cybercity.dk>...
>> BTW we wont fail
>
> You've certainly failed to find any weapons of mass destruction.
>
Ongoing programs had been found, active weaponized botulism
cultures and allegations (from the Iraqi scientists) that
some weapons had been moved to Syria, Iran, and even Jordan.

The sluggish and reticient behavior of the UN (caused by
the lack of real back-up for the 12yrs of UN edicts) gave
Saddam the opportunity to hide his programs. There is
even some indication that Saddam's people was even misleading
Saddam himself (alas, you probably don't get all of the
information about the weapons search.)

The entire world believed in the WMD issue (including even
the evil French regime), but didn't see the WMDs as a threat
(because they would be directed towards the US and Israel.)
The Islamist constitutency in France (and Germany), the
stronger and stronger anti-Jewish attitudes and the fear
from old Europe due to their own impotency has indeed caused
serious problems.

Just because Saddam didn't like America doesn't make him
your friend. You seem to assume that anything anti-america
is good. Remember: it is Europe who had drifted far far
left, while IKE/JFK arent' that policy-wise very different
from Clinton/GWB. It is leftist, socialist Europe that
has lost its way.

John

2405. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 00:57:12 UTC
From: J Oat <bd13580@yahoo.com>
Message-ID: <vns6qfimu49p36@corp.supernews.com>
Source record: 32123
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> Entirely predictable, I'm afraid. It's the same here in England.
> People tend to ascribe the national character of the people to that of
> their leader. Most unfortunate. I personally think the American people
> are great, but there's no doubt that W's foreign policy stance has
> been outstandingly disastrous in all manner of areas, virtually right
> from day 1. From a personal PoV., I'm sick of years of being
> associated with Thatcher, Bliar etc. This may be a democracy, but that
> only results in the least-worst choice of candidate being chosen to
> 'serve' (themselves, usually). Even Churchill admitted this.

I think the world view of Britain and US will change if the people replace the current gov in their next election to show the world that it is not the view of most people in those countries.

Otherwise, it is hard to blame the world for beleiving the people of the two country are reflected by their leaders.

2406. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 00:57:54 UTC
From: J Oat <bd13580@yahoo.com>
Message-ID: <vns6qfmtoksb37@corp.supernews.com>
Source record: 32122
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> Entirely predictable, I'm afraid. It's the same here in England.
> People tend to ascribe the national character of the people to that of
> their leader. Most unfortunate. I personally think the American people
> are great, but there's no doubt that W's foreign policy stance has
> been outstandingly disastrous in all manner of areas, virtually right
> from day 1. From a personal PoV., I'm sick of years of being
> associated with Thatcher, Bliar etc. This may be a democracy, but that
> only results in the least-worst choice of candidate being chosen to
> 'serve' (themselves, usually). Even Churchill admitted this.

I think the world view of Britain and US will change if the people replace the current gov in their next election to show the world that it is not the view of most people in those countries.

Otherwise, it is hard to blame the world for believing the people of the two country are reflected by their leaders.

2407. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 01:08:29 UTC
From: toor@iquest.net
Message-ID: <bll6ic$25b$1@news.iquest.net>
Source record: 32129
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <vns6qfmtoksb37@corp.supernews.com>,
"J Oat" <bd13580@yahoo.com> writes:
>> Entirely predictable, I'm afraid. It's the same here in England.
>> People tend to ascribe the national character of the people to that of
>> their leader. Most unfortunate. I personally think the American people
>> are great, but there's no doubt that W's foreign policy stance has
>> been outstandingly disastrous in all manner of areas, virtually right
>> from day 1. From a personal PoV., I'm sick of years of being
>> associated with Thatcher, Bliar etc. This may be a democracy, but that
>> only results in the least-worst choice of candidate being chosen to
>> 'serve' (themselves, usually). Even Churchill admitted this.
>
> I think the world view of Britain and US will change if the people replace
> the current gov in their next election to show the world that it is not the
> view of most people in those countries.
>
Actually, it would be good to see a change in government in France
to show that it isn't so anti-America. The slowdown of commerce
with France has been partially indicative of the American attitude.

Most of the truly egregious things that are ascribed to the
American government are either untrue or very dishonestly biased.

John

2408. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 01:29:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vns8jeai393a10@corp.supernews.com>
Source record: 32124

I played with that many, many moons ago. The bugaboo is local noise -- QRM from all kinds of devices running from mains power, switching, arcing, and sparking. The noise was lower late at night when more gadgets were off, which I'm sure is why the automatic clocks you can get now do their synchronizing late at night. So I suggest looking at each architechture for its noise immunity and how it responds when it does get a burst of noise. Absolute minimum bandwidth is an advantage from a noise standpoint, as long as it's not so narrow that it rings for too long when hit with an impulse. A PLL with long loop time constant might be a good idea, since it should maintain synchronization through a noise burst. Other than those generalities, I don't have much to offer. I built up a simple receiver long ago that allowed me to see the binary code on a scope, but only late at night. I never pursued perfecting it to the point where it would be reliable. WWVB increased its power between then and now, but it's probably still not a piece of cake.

Roy Lewallen, W7EL

Joel Kolstad wrote:
> I've been thinking about building a WWVB (time code on 60kHz) receiver, and
> wanted to get some suggestions for the architecture. Poking around the web
> some, I did find one receiver where the guy built a synchronous detector
> using a PLL and VCXO to phase-lock to the 60kHz carrier. Nice idea --
> especially since he wanted the 60kHz carrier as a synchronization signal.
> However, I just want the time data... so... wouldn't it be easier to build a
> mixer at, e.g., 59kHz and then use an envelope detector to get a loud/quiet
> audible (1kHz) tone (WWVB reduces power by 10dB to signify 0 bits in its
> time code)? It seems to me that this approach avoids the need for the PLL
> and VCXO, which is a nice 'reduction' in complexity. Also, since I'll have
> a microcontroller around to decode the time code anyway, it can easily
> generate the 59kHz signal.
>
> Thanks,
> ---Joel Kolstad
>
>

2409. Nedd power connecter BC-1306

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 01:29:59 UTC
From: Sparks <sparksw4eas@mindspring.com>
Message-ID: <3F7E4CCB.1196@mindspring.com>
Source record: 32125

Need a power connector for a BC-1306 Transmitter/Receiver. Connecter only or with cable. Sparks W4EAS

2410. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 01:56:00 UTC
From: Dwight Stewart <stewartx@STOPearthlinkSPAM.net>
Message-ID: <QMpfb.22747$3S.18237@newsread2.news.atl.earthlink.net>
Source record: 32126
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"helmsman" <helmsmandelete@mindspring.com> wrote:
>
> Don't buy goods made in France or Germany and vacation
> somewhere else!

Nonsense. If someone offered me a vacation in either of those countries, I'd be packed and ready to go in an hour. You criticize Germany, yet we're the ones (the United States & Allies, after WWII) that put constitutional restrictions on that country's military and its participation in foreign conflicts. France, when it dropped out of NATO decades ago, also swore off any participation in NATO and U.S. foreign conflicts. Both of those countries now have a several decade tradition of this, yet you seem surprised, even outraged, when they maintained that same tradition during our invasion of Iraq. Unlike some countries, they mean what they say. If you now want to punish them for that, go right ahead. But don't expect everyone else to be a party to it. I, for one, will never punish a country for choosing peace over war.

Dwight Stewart (W5NET)

http://www.qsl.net/w5net/

2411. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 04:45:25 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F7E5029.87AAB7C0@earthlink.net>
Source record: 32127

Roy Lewallen wrote:
>
> I played with that many, many moons ago. The bugaboo is local noise --
> QRM from all kinds of devices running from mains power, switching,
> arcing, and sparking. The noise was lower late at night when more
> gadgets were off, which I'm sure is why the automatic clocks you can get
> now do their synchronizing late at night. So I suggest looking at each
> architechture for its noise immunity and how it responds when it does
> get a burst of noise. Absolute minimum bandwidth is an advantage from a
> noise standpoint, as long as it's not so narrow that it rings for too
> long when hit with an impulse. A PLL with long loop time constant might
> be a good idea, since it should maintain synchronization through a noise
> burst. Other than those generalities, I don't have much to offer. I
> built up a simple receiver long ago that allowed me to see the binary
> code on a scope, but only late at night. I never pursued perfecting it
> to the point where it would be reliable. WWVB increased its power
> between then and now, but it's probably still not a piece of cake.
>
> Roy Lewallen, W7EL
>
> Joel Kolstad wrote:
> > I've been thinking about building a WWVB (time code on 60kHz) receiver, and
> > wanted to get some suggestions for the architecture. Poking around the web
> > some, I did find one receiver where the guy built a synchronous detector
> > using a PLL and VCXO to phase-lock to the 60kHz carrier. Nice idea --
> > especially since he wanted the 60kHz carrier as a synchronization signal.
> > However, I just want the time data... so... wouldn't it be easier to build a
> > mixer at, e.g., 59kHz and then use an envelope detector to get a loud/quiet
> > audible (1kHz) tone (WWVB reduces power by 10dB to signify 0 bits in its
> > time code)? It seems to me that this approach avoids the need for the PLL
> > and VCXO, which is a nice 'reduction' in complexity. Also, since I'll have
> > a microcontroller around to decode the time code anyway, it can easily
> > generate the 59kHz signal.
> >
> > Thanks,
> > ---Joel Kolstad
> >
> >

I get a good signal into central Florida these days. I could barely
pick them up before they replaced their antennas and upgraded the
transmitters. I could pick up the harmonics of the horizontal sweep of a
TV set over a half mile away, but WWVB was so weak it was wiped out by
power line noise and other VLF noise. Temic makes a single chip

reciever/decoder, but I don't know if it is available in small
quantities. I have the data sheets, but I have to look for them.
--

Michael A. Terrell
Central Florida

2412. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 04:49:20 UTC
From: cfoley1064@aol.com
Message-ID: <87980da2.0310032049.43f8f4f5@posting.google.com>
Source record: 32128
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@ BIG-AL -003894.5-LSB-75-METERS> wrote in message news:<vn6lk3dd6nrg62@corp.supernews.com>...
> PARIS, France (AP) -- The death toll in France from August's blistering heat
> wave was nearly 15,000, according to a government report released Thursday
> that exceeded prior official estimates by 3,000 victims.

On September 12, 2001, after 3000 Americans were butchered by religious fanatics, thousands of French spontaneously, with heartfelt tears in their eyes, marched with American flags in sympathy. At France's urging, NATO immediately invoked, for the first time in its history, the clause of common defense.

Almost two years later, over 14,000 French, mostly aged and infirm, are felled by one of the worst extended summer heat waves of the last hundred years. Our glorious right wingnuts laughed and said it served 'em right.

I know this is off-topic, folks (my first, I think), but there was a time when you could be a conservative and a patriotic American without spouting dittohead trash or playing Newtball with foreign policy. The country would be better off if the real conservative, patriotic Americans left the John Bircher wingnuts in the gutter where they belong, and take their rightful place running the country and guiding America through some difficult times. If nothing else, after we're done alienating every potential customer in the world, who will we design for or sell to?

2413. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 06:20:41 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310032220.20cb7daf@posting.google.com>
Source record: 32130
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

toor@iquest.net (John S. Dyson) wrote in message news:<bll4oa$1fo$1@news.iquest.net>...
> In article <7c584d27.0310031629.441a2f1a@posting.google.com>,
> bill.sloman@ieee.org (Bill Sloman) writes:
> > "OZ1EQC" <per@oz1eqc.dk> wrote in message news:<bljisi$2v57$1@news.cybercity.dk>...
> >> BTW we wont fail
> >
> > You've certainly failed to find any weapons of mass destruction.
> >
> Ongoing programs had been found, active weaponized botulism
> cultures and allegations (from the Iraqi scientists) that
> some weapons had been moved to Syria, Iran, and even Jordan.

But no weapons.

> The sluggish and reticient behavior of the UN (caused by
> the lack of real back-up for the 12yrs of UN edicts) gave
> Saddam the opportunity to hide his programs. There is
> even some indication that Saddam's people was even misleading
> Saddam himself (alas, you probably don't get all of the
> information about the weapons search.)
>
> The entire world believed in the WMD issue (including even
> the evil French regime), but didn't see the WMDs as a threat
> (because they would be directed towards the US and Israel.)

The entire world believed that the UN inspectors hadn't found any weapons of mass destruction, and didn't believe that an invasion would be justified until somebody found hard evidence of such weapons. Saddam was seen as a threat not just to Israel and the U.S. - Kuwait and Iran had every reason to be nervous on the basis of their experience, and there was a wide-spread feeling that the man was something of a bull in a china shop - but an invasion based on mere suspicion was felt to be much too dangerous a precedent to be sactioned.

> The Islamist constitutency in France (and Germany), the
> stronger and stronger anti-Jewish attitudes and the fear
> from old Europe due to their own impotency has indeed caused
> serious problems.

Deep dark suspicions about American neo-colonialist behaviour also seems to have played a part.

> Just because Saddam didn't like America doesn't make him
> your friend.

Just because Saddam didn't like the Iranians, you adopted him as your friend, back in the 1980's. Bad move. Saddam didn't like any non-Arabs, and even with in the Arab world nobody seems to have regarded him as an attractive ally. His oil did have some fans though.

> You seem to assume that anything anti-american is good.

Why on earth do you think that?
Being against the ill-justified and premature invasion of Irak is not an anti-American attitude, nor a pro-Saddam attitude, no matter how much Dubbya would like to make these false associations.

Trotting around saying that those who aren't for us are against us is the tactic of a simple-minded bully. The real world is a little more complex - not that you seem to be equipped to appreciate this.

> Remember: it is Europe who had drifted far far
> left, while IKE/JFK arent' that policy-wise very different
> from Clinton/GWB. It is leftist, socialist Europe that
> has lost its way.

Yes, John - anything you say, John. Since your ideas of what constitutes leftist and socialist seem to be drawn from the texts of the John Birch Society, your opinions on the subject are difficult to relate to other people's.

Bill Sloman, Nijmegen

2414. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 12:26:25 UTC
From: brokebob@aol.com
Message-ID: <20031004082625.11947.00000203@mb-m03.aol.com>
Source record: 32131

The population of the USA is approximately 5 times the population of France.
The 14,000 deaths there would be equivalent of approximately 70,000 in the USA.
Makes one wonder about the capabilities of the government to aid its people in
times of distress.
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

2415. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 13:51:04 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <o0ktnv4v4l6ibkgomiruiedtoakmkete4o@4ax.com>
Source record: 32132
Cross-posted to: alt.radio.amateur,sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Sat, 04 Oct 2003 12:36:04 GMT, helmsman
<helmsmandelete@mindspring.com> wrote:

>Even while our own troops die,
> you are a real patriot.....NOT!!!!

The problem as I see it is that our troops are dying for *nothing.*
Sure it's always nice to see an evil dictator get his arse kicked, but
that wasn't the stated reason for this war and there are plenty of
other evil dictators around the world who won't be dealt with at all.
Our people have been killed and continue to be killed over an
outrageous *lie* - that's the really unforgivable thing about this
whole disastrous affair.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2416. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 13:51:34 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <d2ktnvkhkgsa89f6ftrnfhfasdfcmn2aol@4ax.com>
Source record: 32133
Cross-posted to:
alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.design

On Sat, 04 Oct 2003 12:37:22 GMT, helmsman
<helmsmandelete@mindspring.com> wrote:

>Don't buy goods made in France or Germany and vacation somewhere else!

I don't think it's fair to lump the Germans in the same bracket as the
French. I believe the Germans' objections were genuinely held. As for
France, OTOH, they have a long history of back-stabbing and
rug-pulling against Britain and the US in particular. I certainly
avoid buying French stuff wherever possible, I'm sorry to have to say.

--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2417. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 13:53:49 UTC
From: Ben Pope <spam@hotmail.com>
Message-ID: <blmjde$durej$1@ID-191149.news.uni-berlin.de>
Source record: 32134
Cross-posted to: alt.radio.amateur,sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Paul Burridge wrote:
"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit
patch
to an eight bit operating system originally coded for a four
bit
microprocessor and produced by a two bit company."

...without a single bit of integrity.

:-)

Ben
--
I'm not just a number. To many, I'm known as a String...

2418. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 13:59:00 UTC
From: toor@iquest.net
Message-ID: <blmjn4ins1@news.iquest.net>
Source record: 32135
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <7c584d27.0310032220.20cb7daf@posting.google.com>,
bill.sloman@ieee.org (Bill Sloman) writes:
> toor@iquest.net (John S. Dyson) wrote in message news:<bll4oa$1fo$1@news.iquest.net>...
>> In article <7c584d27.0310031629.441a2f1a@posting.google.com>,
>> bill.sloman@ieee.org (Bill Sloman) writes:
>> > "OZ1EQC" <per@oz1eqc.dk> wrote in message news:<bljisi$2v57$1@news.cybercity.dk>...
>> >> BTW we wont fail
>> >
>> > You've certainly failed to find any weapons of mass destruction.
>> >
>> Ongoing programs had been found, active weaponized botulism
>> cultures and allegations (from the Iraqi scientists) that
>> some weapons had been moved to Syria, Iran, and even Jordan.
>
> But no weapons.
>
There is still LOTS of indication that weapons are on other
sovereign territory. They might even be hiding in the
Saddamite countries of France or Germany!!! You make
the claim of 'no weapons', but you make that claim without
enough information. Your own media is well known to be anti
US biased and incomplete regarding the US and the Iraq issues.

This says that the US AND THE REST OF THE WORLD intelligence
agencies MIGHT have had erroneous conclusions. In the US, the CIA is
led by a Clinton appointee (for example.) There are SEVERAL
anecdotes of the CIA director RECENTLY being asked by BOTH
Gopers and Dems that Saddam has the weapons, and he said yes.
These acks had been made in PUBLIC. In the US, the CIA isn't
directly controlled or managed by the president, and is
well known to be center-leftist. This is a GOOD EXAMPLE of
incompetency on the left (and in numerous other intelligence
agencies in the world) that might have led us astray. Perhaps
we were having to rely on the intelligence assets from other
countries... (The current furor about the mistaken leak of the
name of an operative is obviously a smoke screen to hide the
possibility of additional CIA incompetency.)

Here in the US, it is our LEFTISTS who have weakened the human
intelligence assets, trying to rely almost 100% on electronic
means. It was the GOP-types who had preferred to keep a
traditional and more reliable intelligence establishment. (Refer
to the actions of the Church commission, Jimmuh Cartuh and
BJ Clinton.)

If we didn't find weapons, it is possible that France had helped Saddam hide them (either directly or indirectly.) Just like Usama residing in Pakistan, we cannot intrude far into Iran, Syria, France or Germany to find Saddam's assets. (There were significant indications prior to the war that France had been complicit in helping Saddam.) The ongoing supply of such assets from Germany, France and Russia shows a lack of honesty and consistency with diplomatic position. At least, the US had eventually learned that Saddam wasn't a good guy, but France selling highly enriched Uranium to Saddam was STUPID. (Yes, Chiraq and Saddam were REALLY good friends. This isn't the same as the diplomatic relationship that US had with Saddam.)

There is OBVIOUSLY a case of old, worn-out Europe choosing Saddam over the US, and the US populace is well aware of that matter.

>
> The entire world believed that the UN inspectors hadn't found any
> weapons of mass destruction, and didn't believe that an invasion would
> be justified until somebody found hard evidence of such weapons.
>
Most of the entire world had believed that there were WMDs in Iraq. Perhaps France knows that Iraq had WMDs, because they are still probably storing them :-).

The difference is that France/Germany didn't believe that they would be targeted by Iraq (or its assets.) There is also a history in old Europe of tolerating terror attacks instead of considering them to be against human rights and freedom. Those old Europe countries have showed NO real concern about the US, and are NOT consistent with its values associated with the rights of the citizenry to be free from terror attacks, and the world shouldn't be free of Saddamist tyrants. It is clear that old Europe has divorced itself from the west, and is more interested in the countries (and emmigrants) who will soon force more and more women to be veiled... (The problem already exists in France.) NATO with old Europe is truly dead, and it is time for the unrealistic countries of old Europe to grow up :-).

John

2419. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 13:59:29 UTC
From: Pappy127@usa.net
Message-ID: <3F7ED241.F928D518@usa.net>
Source record: 32136
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Who really cares. This is a ham radio group.

To hell with the French.

someone@somewhere.com wrote:
>
> good news of people dying, shame on whoever wrote the heading. Think
> outside the borders and its humans for god sake....how does that make
> you happy.......cha....
>
> "BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@ BIG-AL
-003894.5-LSB-75-METERS> writes:
>
> > PARIS, France (AP) -- The death toll in France from August's blistering heat
> > wave was nearly 15,000, according to a government report released Thursday
> > that exceeded prior official estimates by 3,000 victims.
> >
> >
> >
>
> --

2420. Re: PORKBUTT PORKBUTT PORKBUTT

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 14:31:06 UTC
From: Unclaimed Mysteries <k4doh@mindspring.com>
Message-ID: <KQAfb.22518$f11.5811@newsread1.news.atl.earthlink.net>
Source record: 32137
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

LRod wrote in part:

> On Sat, 27 Sep 2003 03:02:52 -0500, "LaShaun Ivory"
> <NoSpam@NOSpam.com> wrote in part:
>

>
>>Frankie...ever pull your dictionary off the shelf and read the definition of
>>"maturity"?
>
>
> This is the best part. LaShaun telling Frankie to "pull [the]
> dictionary off the shelf." Try it yourself, and while you have it
> open, read the definition of "ironic."
>

Cue Alanis. ($1)

--

It Came From C. L. Smith's Unclaimed Mysteries.
http://www.unclaimedmysteries.net

"Free nations don't develop weapons of mass destruction." - US President
George W. Bush, Milwaukee, Wisconsin, October 2003

2421. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 15:04:57 UTC
From: bigcat@meeow.co.uk
Message-ID: <a7076635.0310040704.33039ef4@posting.google.com>
Source record: 32138
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi

As a Brit I hear people's comments on the question of why is America unpopular. I think its important to appreciate that every country has its strengths and weaknesses. One of America's great strengths is its vigorous defence of democracy. Compare that with here where democracy is being dismantled and replaced by the EU, and people's basic rights to repair their own homes is being criminalised, yet very few seem sufficiently concerned to do anything about it.

This is what I hear from people re the US:

America is widely criticised for its failure to address energy efficiency /pollution issues, which is something European countries have put a great amount of work into. America is very rich materially, yet appears very wasteful.

There is also antisocialness in US society which seems to run across the board, and rules US penal, medical, and welfare policy, which are generally considered really backward here.

Finally there is the thug image that comes from the various wars. Vietnam was one, and the latest war is another. Rightly or wrongly, the war response to 911 is widely condemned as thuggery.

Now, I'm not going to stand here personally and say these views are right or wrong, I'm not even getting into it. And yes there are as many criticisms about Britain too, in various areas. I'm solely saying this is the common perception, these are the problem areas.

Regards, NT

2422. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 15:17:35 UTC
From: Jim Thompson <invalid@invalid.invalid>
Message-ID: <qnotnv4a5sga9tbq5h73ju9pmj7qinkab6@4ax.com>
Source record: 32139
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On 4 Oct 2003 08:04:57 -0700, bigcat@meeow.co.uk (N. Thornton) wrote:

>Hi
>
[snip]
>
>This is what I hear from people re the US:
>
>America is widely criticised for its failure to address energy
>efficiency /pollution issues, which is something European countries
>have put a great amount of work into. America is very rich materially,
>yet appears very wasteful.

That extraordinary pollution I see over France while standing atop a
German hill is US pollution? I don't think so.

For US industry we are requiring lots of pollution control systems,
but we move slowly and carefully for two reasons: (1) avoiding
economic damage as we proceed, and (2) carefully examining the
side-effects... some *theories* about global warming are pure
socialist BS!

>
>There is also antisocialness in US society which seems to run across
>the board, and rules US penal, medical, and welfare policy, which are
>generally considered really backward here.

Hell, we give away the world in welfare. Penal, yep we have some
backward ideas about punishment rather than rehabilitation. Medical
is the best in the world, but costs are screwed up by the insurance
system.

>
>Finally there is the thug image that comes from the various wars.
>Vietnam was one, and the latest war is another. Rightly or wrongly,
>the war response to 911 is widely condemned as thuggery.

Wanna fight ?:-)

>
>Now, I'm not going to stand here personally and say these views are
>right or wrong, I'm not even getting into it. And yes there are as
>many criticisms about Britain too, in various areas. I'm solely saying
>this is the common perception, these are the problem areas.
>
>Regards, NT

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona Voice:(480)460-2350	
E-mail Address at Website Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

2423. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 17:18:39 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <86zngg6hw0.fsf@duchess.twilley.org>
Source record: 32140

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Roy" == Roy Lewallen <w7el@eznec.com> writes:

Roy> The noise was lower late at night when more gadgets were off,
Roy> which I'm sure is why the automatic clocks you can get now do
Roy> their synchronizing late at night.

I thought the reason they sync'ed at night was because of propagation.

Interesting.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.3 (FreeBSD)

iD8DBQE/fwD0GPFSfAB/ezgRAs6KAKDl0S2jpSp3c2dj3t3oTrBWE0Cu1ACfdAdd
+727zTdcOuw33tvjSsP/6rE=
=LHM4
-----END PGP SIGNATURE-----
```

2424. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 18:01:40 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <3F7F0E77.6B1A6B5@ieee.org>
Source record: 32141

Roy Lewallen wrote:

> I played with that many, many moons ago. The bugaboo is local noise --
> QRM from all kinds of devices running from mains power, switching,
> arcing, and sparking. The noise was lower late at night when more
> gadgets were off, which I'm sure is why the automatic clocks you can get
> now do their synchronizing late at night. So I suggest looking at each
> architechture for its noise immunity and how it responds when it does
> get a burst of noise. Absolute minimum bandwidth is an advantage from a
> noise standpoint, as long as it's not so narrow that it rings for too
> long when hit with an impulse. A PLL with long loop time constant might
> be a good idea, since it should maintain synchronization through a noise
> burst. Other than those generalities, I don't have much to offer. I
> built up a simple receiver long ago that allowed me to see the binary
> code on a scope, but only late at night. I never pursued perfecting it
> to the point where it would be reliable. WWVB increased its power
> between then and now, but it's probably still not a piece of cake.
>
> Roy Lewallen, W7EL
>
> Joel Kolstad wrote:
> > I've been thinking about building a WWVB (time code on 60kHz) receiver, and
> > wanted to get some suggestions for the architecture. Poking around the web
> > some, I did find one receiver where the guy built a synchronous detector
> > using a PLL and VCXO to phase-lock to the 60kHz carrier. Nice idea --
> > especially since he wanted the 60kHz carrier as a synchronization signal.
> > However, I just want the time data... so... wouldn't it be easier to build a
> > mixer at, e.g., 59kHz and then use an envelope detector to get a loud/quiet
> > audible (1kHz) tone (WWVB reduces power by 10dB to signify 0 bits in its
> > time code)? It seems to me that this approach avoids the need for the PLL
> > and VCXO, which is a nice 'reduction' in complexity. Also, since I'll have
> > a microcontroller around to decode the time code anyway, it can easily
> > generate the 59kHz signal.
> >
> > Thanks,
> > ---Joel Kolstad
> >
> >

I would suggest using a shielded loop antenna to help with the local noise problem.
The loop is directional so it could be oriented to reduce at least one source of noise.

Bill K7NOM

2425. Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 19:01:08 UTC
From: Bill Hennessy <hennessy@281.com>
Message-ID: <3f7f1833$0$36967$9a6e19ea@news.newshosting.com>
Source record: 32142

Are their any dual tubes that are made for batterys? I would relly like a screen grid and triode in the same tube. However two triodes will work if I can't get what I want.

2426. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 19:21:59 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bln6kn$m40$1@freenet9.carleton.ca>
Source record: 32143

Jack Twilley (jmt+usenet@twilley.org) writes:
> =2D----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
>>>>>> "Roy" =3D=3D Roy Lewallen <w7el@eznec.com> writes:
>
> Roy> The noise was lower late at night when more gadgets were off,
> Roy> which I'm sure is why the automatic clocks you can get now do
> Roy> their synchronizing late at night.
>
> I thought the reason they sync'ed at night was because of propagation.
>
> Interesting.
>
> Jack.

I thought the reason WWVB was so low down in the spectrum was so propagation was fairly constant.

Michael VE2BVW

2427. Re: Motorola OCXO Spec's?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 19:38:29 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <SO-dnRA4G8MqvOKiU-KYhw@comcast.com>
Source record: 32144
Cross-posted to:
rec.radio.amateur.homebrew,sci.electronics.components,sci.electronics.equipment,sci.electronics.misc,sci.electronics.repair

"ddwyer" <dd@ddwyer.demon.co.uk> wrote in message
news:CzgAULA2Wef$Ewe2@ddwyer.demon.co.uk...
> Probably working ok did u have to unsolder lid
to find crystal?
> Generally for better than 1ppe7 stability the
crystal and maintaining
> circuit must be temperature controlled.
> Will the gay paint make me cheerful for alter my
life style?

In fact no I didn't have to unsolder anything. The
whole oscillator is built
in a two part cast Aluminum case held together
with a bunch of screws. The two case sections have
a rubber gasket to seal out liquids. The section
where the crystal is located is made out of copper
surrounded by a stiff foam filling. The top half
of the case also has a section made out of copper
that "just" fits inside of the bottom section like
two pieces of telescoping pipe.

--
Leland C. Scott
KC8LDO

ARRL Member
NCI Member

Charter member of the
Lawrence Technological University
Wireless Society W8LTU

2428. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-04 22:36:01 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310041436.3ee7f734@posting.google.com>
Source record: 32145
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

toor@iquest.net (John S. Dyson) wrote in message news:<blmjn4ins1@news.iquest.net>...
> In article <7c584d27.0310032220.20cb7daf@posting.google.com>,
> bill.sloman@ieee.org (Bill Sloman) writes:
> > toor@iquest.net (John S. Dyson) wrote in message
news:<bll4oa$1fo$1@news.iquest.net>...
> >> In article <7c584d27.0310031629.441a2f1a@posting.google.com>,
> >> bill.sloman@ieee.org (Bill Sloman) writes:
> >> > "OZ1EQC" <per@oz1eqc.dk> wrote in message news:<bljisi$2v57$1@news.cybercity.dk>...
> >> >> BTW we wont fail
> >> >
> >> > You've certainly failed to find any weapons of mass destruction.
> >> >
> >> Ongoing programs had been found, active weaponized botulism
> >> cultures and allegations (from the Iraqi scientists) that
> >> some weapons had been moved to Syria, Iran, and even Jordan.
> >
> > But no weapons.
> >
> There is still LOTS of indication that weapons are on other
> sovereign territory. They might even be hiding in the
> Saddamite countries of France or Germany!!!

Dream on.

> You make the claim of 'no weapons', but you make that claim without
> enough information.

The claim was merely "no weapons yet" - I'm not in any position to
predict that you won't find weapons eventually. But six months is
quite a while to be searching for weapons that Blair claimed could be
brought to bear in less than an hour.

> Your own media is well known to be anti-US biased and incomplete regarding the US and the
Iraq issues.

Only "anti-US biased" when compared with your hyper-patriotic
collection of yes-men.

Have you any evidence to support the claim about "incomplete"
reporting? Your ignorance of the anti-Shah component of the support
for Khomeni's revolution suggests some incompleteness in the
information that *you* have to work with.

<snipped party partisan rant>

> If we didn't find weapons, it is possible that France had helped
> Saddam hide them (either directly or indirectly.)

All things are possible, but this is pretty unlikely. Have you any
evidence for this, over and above the recent US anti-French paranoia?

> Just like Usama residing in Pakistan, we cannot intrude far into Iran,
> Syria, France or Germany to find Saddam's assets.

Nor could Saddam, to get them back if he needed them. This is a pretty
improbable scenario - you really are scraping the bottom of the barrel
here.

> (There were significant indications prior to the war that France had been
> complicit in helping Saddam.) The ongoing supply of such
> assets from Germany, France and Russia shows a lack of honesty
> and consistency with diplomatic position. At least, the US had
> eventually learned that Saddam wasn't a good guy, but France
> selling highly enriched Uranium to Saddam was STUPID. (Yes,
> Chiraq and Saddam were REALLY good friends. This isn't the same
> as the diplomatic relationship that US had with Saddam.)

The difference was minimal until Saddam invaded Kuwait, which is a
US/UK puppet state, and not a French one.

> There is OBVIOUSLY a case of old, worn-out Europe choosing Saddam
> over the US, and the US populace is well aware of that matter.

Old, worn-out Europe - as I've mentioned before - didn't think that
intelligence agency fantasies about weapons of mass destruction in
Irak were an adequate justification for an invasion, mainly because
any land-hungry government can set their secret service to producing
such fanatasies as an ostensible justification for an invasion
actually motivated by - for instance - a thirst for oil.

> > The entire world believed that the UN inspectors hadn't found any
> > weapons of mass destruction, and didn't believe that an invasion would
> > be justified until somebody found hard evidence of such weapons.
>
> Most of the entire world had believed that there were WMDs in Iraq.

The evidence availabe at the moment says that those who did believe
this were wrong, and that the UN weapons inspectors were right.

> Perhaps France knows that Iraq had WMDs, because they are still
> probably storing them :-).

And your evidence for this claim is?

> The difference is that France/Germany didn't believe that they
> would be targeted by Iraq (or its assets.)

They didn't believe that either the US or Israel would be targeted
either, since they seem to have been of the opinion that the weapons
didn't actually exist.

> There is also a history in old Europe of tolerating terror attacks instead of
> considering them to be against human rights and freedom.

And your evidence for this absurd claim is?

> Those old Europe countries have showed NO real concern about the US, and
> are NOT consistent with its values associated with the rights
> of the citizenry to be free from terror attacks, and the world
> shouldn't be free of Saddamist tyrants.

There is no evidence that Saddam had the means to set up a terrorist attack anywhere more than about 150km away from Irak, and no evidence that he was planning to acquire such means in the immediate future - before the UN weapons inspectors had had a chance to go through the country with a fine tooth comb.

Your concern about terrorist attacks originated by Saddam Hussein is a paranoid fancy. Dubbya's claims about the threat he posed were simply wrong - old Europe didn't believe them, and a lot of your intelligence community seem to have been pretty skeptical as well.

> It is clear that old Europe
> has divorced itself from the west, and is more interested in
> the countries (and emmigrants) who will soon force more and more
> women to be veiled... (The problem already exists in France.)
> NATO with old Europe is truly dead, and it is time for the
> unrealistic countries of old Europe to grow up :-).

As opposed to the "realistic" US who have spent tens of billions of dollars on an invasion to protect themselves from a non-threat.

The - irrelevant - point about Muslim women wearing head-scarves and veils in Europe is yet another example of your capacity to grasp the wrong end of the stick.

Quite a few orthodox Muslim women do wear head-scarves in public in Europe - it isn't an uncommon sight on the street in Nijmegen. Some throttle-bottom educators and employers have objected to the wearing of the head-scarf indoors, and have been given short lessons in religious tolerance.

A few hyper-orthodox women go around fully veiled, in the burqa. This is usually tolerated, in jobs not involving person-to-person communication, but educators and employers do have the right to ban it where hiding the face compromises essential communication, as has been established in the courts.

There are social and family pressures on Muslim women, and women who are members of Muslim families, to conform to Muslim practice. If this gets to the point of daughter-bashing, it is dealt with, like any other form of intra-family violence - none too well.

There are more serious problems with female circumcision - amongst Muslims from some African countries - and with female education and emmancipation. Several Turkish and Morrocan fathers have murdered

their daughters "to save the family honour".

The US has to deal with similar sorts of problems within its own minority populations.

Quite what point you thought you were making about Europe escapes me.

Bill Sloman, Nijmegen

2429. Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 00:10:25 UTC
From: Peter <peterlmiles@hotmail.com>
Message-ID: <3f7f6175$0$6523$afc38c87@news.optusnet.com.au>
Source record: 32047
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi all.

This may seem like a fairly basic question. But here we go!

I want to performance test a 436MHz high gain antenna. My plan is to construct a simple dipole with a 1:1 balun for 436MHz as a reference antenna and construct another dipole with a 1:1 balun to receive the test signal, measure it with a diode detector and a milli-amp meter (field strength meter) at the shack. Do the calculation and have the antenna gain.
This seems to me to be fairly straight forward, but has anyone carried out similar measurements and concur with the approach or are there are there traps and pit falls that I need to be aware of. Or is their simply a better way?

Cheers

--
Peter Miles VK3YSF
Melbourne, Australia

2430. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 01:06:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vnuo48r1tcmgf9@corp.supernews.com>
Source record: 32146

At 60 kHz, there shouldn't be any difference between daytime and
nighttime propagation. Certainly the ionosphere isn't involved.

Roy Lewallen, W7EL

Jack Twilley wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
>
>>>>>>"Roy" == Roy Lewallen <w7el@eznec.com> writes:
>
>
> Roy> The noise was lower late at night when more gadgets were off,
> Roy> which I'm sure is why the automatic clocks you can get now do
> Roy> their synchronizing late at night.
>
> I thought the reason they sync'ed at night was because of propagation.
>
> Interesting.
>
> Jack.

2431. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 02:10:34 UTC
From: toor@iquest.net
Message-ID: <blnuiq$vl8$3@news.iquest.net>
Source record: 32048
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <7c584d27.0310041436.3ee7f734@posting.google.com>,
bill.sloman@ieee.org (Bill Sloman) writes:
> toor@iquest.net (John S. Dyson) wrote in message news:<blmjn4ins1@news.iquest.net>...
>> In article <7c584d27.0310032220.20cb7daf@posting.google.com>,
>> bill.sloman@ieee.org (Bill Sloman) writes:
>> > toor@iquest.net (John S. Dyson) wrote in message
news:<bll4oa$1fo$1@news.iquest.net>...
>> >> In article <7c584d27.0310031629.441a2f1a@posting.google.com>,
>> >> bill.sloman@ieee.org (Bill Sloman) writes:
>> >> > "OZ1EQC" <per@oz1eqc.dk> wrote in message
news:<bljisi$2v57$1@news.cybercity.dk>...
>> >> >> BTW we wont fail
>> >> >
>> >> > You've certainly failed to find any weapons of mass destruction.
>> >> >
>> >> Ongoing programs had been found, active weaponized botulism
>> >> cultures and allegations (from the Iraqi scientists) that
>> >> some weapons had been moved to Syria, Iran, and even Jordan.
>> >
>> > But no weapons.
>> >
>> There is still LOTS of indication that weapons are on other
>> sovereign territory. They might even be hiding in the
>> Saddamite countries of France or Germany!!!
>
> Dream on.
>
There is enough indications of ongoing support (but denied by
the often dishonest/unethical French/German diplomats.)

>
>> You make the claim of 'no weapons', but you make that claim without
>> enough information.
>
> The claim was merely "no weapons yet"
>
Nope, your claim was 'No Weapons.' Read your message again.

Would you just quit being so dishonest (the habit so common
from the left?)

John

2432. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 02:31:24 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <yoSdnVhxr7iSGuKiU-KYvg@ctc.net>
Source record: 32050
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

>
> This may seem like a fairly basic question. But here we go!
>
> I want to performance test a 436MHz high gain antenna. My plan is to
> construct a simple dipole with a 1:1 balun for 436MHz as a reference
antenna
> and construct another dipole with a 1:1 balun to receive the test signal,
> measure it with a diode detector and a milli-amp meter (field strength
> meter) at the shack. Do the calculation and have the antenna gain.
> This seems to me to be fairly straight forward, but has anyone carried out
> similar measurements and concur with the approach or are there are there
> traps and pit falls that I need to be aware of. Or is their simply a
better
> way?
>
You may want to use a small directional antenna on both ends. The ARRL
handbook gives a standard refferance gain antenna that you can use on the
end that you are going to replace with the antenna you are building. The
antenna is suspose to have a certain ammount of gain if constructed
exectally as given.
The directiona antennas will help eliminate some reflections. Also make
sure they are far enough apart to be out of the near field.

2433. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 02:41:05 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F7F857A.543@armory.com>
Source record: 32049
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Bill Sloman wrote:
>
> toor@iquest.net (John S. Dyson) wrote in message news:<bll4oa$1fo$1@news.iquest.net>...
> > In article <7c584d27.0310031629.441a2f1a@posting.google.com>,
> > bill.sloman@ieee.org (Bill Sloman) writes:
> > > "OZ1EQC" <per@oz1eqc.dk> wrote in message news:<bljisi$2v57$1@news.cybercity.dk>...
> > >> BTW we wont fail
> > >
> > > You've certainly failed to find any weapons of mass destruction.
> > >
> > Ongoing programs had been found, active weaponized botulism
> > cultures and allegations (from the Iraqi scientists) that
> > some weapons had been moved to Syria, Iran, and even Jordan.
>
> But no weapons.

In 1991 we found nuclear separators, weaponized botulism and anthrax,
so how were we to imagine that Saddam had decided to go pure Plutocrat
after '91 and just do nothing but build himself more palaces and leave
off wasting his oil wealth on anything we would bomb?? He didn't
foresee 9/11 or he might have done otherwise! There was no good way
to know after he ejected the inspectors, it was a totally legitimate
expectation.

> > The sluggish and reticient behavior of the UN (caused by
> > the lack of real back-up for the 12yrs of UN edicts) gave
> > Saddam the opportunity to hide his programs. There is
> > even some indication that Saddam's people was even misleading
> > Saddam himself (alas, you probably don't get all of the
> > information about the weapons search.)
> >
> > The entire world believed in the WMD issue (including even
> > the evil French regime), but didn't see the WMDs as a threat
> > (because they would be directed towards the US and Israel.)
>
> The entire world believed that the UN inspectors hadn't found any
> weapons of mass destruction, and didn't believe that an invasion would
> be justified until somebody found hard evidence of such weapons.

The reasonable assumption, given his history, was that he would do the
same as he had previously, but simply hide it better.

> Saddam was seen as a threat not just to Israel and the U.S. - Kuwait
> and Iran had every reason to be nervous on the basis of their

> experience, and there was a wide-spread feeling that the man was
> something of a bull in a china shop - but an invasion based on mere
> suspicion was felt to be much too dangerous a precedent to be
> sactioned.

That was only among Islamics who felt magically dirtied by infidels
on their real estate. Irrelevant. The 9/11 episode gave us the right
to go turn the Islamic world upside down and shake it till everything
falls out. Tough shit if Europe imagines downtown Frankfurt wouldn't
be next if they didn't suck up to the Islamic squeamishness. The next
thing if we hadn't done it would have been the Taliban in 6 nations,
not just one, and trying to tell Europe what not to export to them!

> > The Islamist constitutency in France (and Germany), the
> > stronger and stronger anti-Jewish attitudes and the fear
> > from old Europe due to their own impotency has indeed caused
> > serious problems.
>
> Deep dark suspicions about American neo-colonialist behaviour also
> seems to have played a part.

We like oil, but if we had wanted it for free now, instead of having
to pay for it, we'd have had it by now after the collapse of Russia,
and we'd have split it with them!

> > Just because Saddam didn't like America doesn't make him
> > your friend.
>
> Just because Saddam didn't like the Iranians, you adopted him as your
> friend, back in the 1980's. Bad move. Saddam didn't like any
> non-Arabs, and even with in the Arab world nobody seems to have
> regarded him as an attractive ally. His oil did have some fans though.

He was just a pLutocratic fascist.

> > You seem to assume that anything anti-american is good.
>
> Why on earth do you think that?
> Being against the ill-justified and premature invasion of Irak is not
> an anti-American attitude, nor a pro-Saddam attitude, no matter how
> much Dubbya would like to make these false associations.

Dubya is stupid, but you're ignoring the fact that any COMPETENT
president would have rolled over Afghanistan AND Saudi Arabia and
THEN IRAQ and Iran!!

> Trotting around saying that those who aren't for us are against us is
> the tactic of a simple-minded bully. The real world is a little more
> complex - not that you seem to be equipped to appreciate this.

It's a patent fact.

That the world is complex is irrelevant, when people we hadn't invaded
decide to bomb us with airliners. We SHOULD have nuked several nations,
or at least blackmailed them into turning over everyone we could think
of for trial, or else!

> > Remember: it is Europe who had drifted far far
> > left, while IKE/JFK arent' that policy-wise very different
> > from Clinton/GWB. It is leftist, socialist Europe that
> > has lost its way.
>
> Yes, John - anything you say, John. Since your ideas of what
> constitutes leftist and socialist seem to be drawn from the texts of
> the John Birch Society, your opinions on the subject are difficult to
> relate to other people's.
>
> ------
> Bill Sloman, Nijmegen

It doesn't even matter if he's Rightist nut, it's a matter of what
ANY US president would have had to do or get tossed out of office
in historical disgrace.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2434. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 02:55:28 UTC
From: toor@iquest.net
Message-ID: <blo170$10bd$1@news.iquest.net>
Source record: 32051
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <3F7F857A.543@armory.com>,
"R. Steve Walz" <rstevew@armory.com> writes:
> Bill Sloman wrote:
>>
>> toor@iquest.net (John S. Dyson) wrote in message news:<bll4oa$1fo$1@news.iquest.net>...
>>
>> Yes, John - anything you say, John. Since your ideas of what
>> constitutes leftist and socialist seem to be drawn from the texts of
>> the John Birch Society, your opinions on the subject are difficult to
>> relate to other people's.
>>
> It doesn't even matter if he's Rightist nut, it's a matter of what
> ANY US president would have had to do or get tossed out of office
> in historical disgrace.
>
It is very, very obvious that namecalling without any factual
basis (e.g. forgetting to realize that the US has stayed relatively
centrist since the 1950's), my own views are quite centrist.

Given the fact that if you look at the politics of JFK and compare
with GWB, you'll find that they are relatively similar when
compared with the far-left of the screwed up far-leftist European
parties who incredibly have some influence there!!!

There has DEFINITELY been a far-leftist drift in EU, and an ongoing
anti-America and American sentiment in Europe, only recently
becoming extremely obvious from the US standpoint. Frankly,
the anti-America bias has been strong since the 1950's. It
is rather dishonest (or ignorant) to claim that GWB had caused it.

John

2435. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 03:03:01 UTC
From: **THE-RFI-EMI-GUY** <NoSpamBogus@NoSpamBogus.com>
Message-ID: <3F7F89E5.7040705@NoSpamBogus.com>
Source record: 32053
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

We just made a range dipole for 900 MHz. The balun we ordered from
Minicircuits (pay careful attention to pinouts) was a 1:1. It resonated
well once we took into account that the polyethelene mounting block
imparted a velocity factor which shortened the rods slightly.

Peter wrote:

>Hi all.
>
>This may seem like a fairly basic question. But here we go!
>
>I want to performance test a 436MHz high gain antenna. My plan is to
>construct a simple dipole with a 1:1 balun for 436MHz as a reference antenna
>and construct another dipole with a 1:1 balun to receive the test signal,
>measure it with a diode detector and a milli-amp meter (field strength
>meter) at the shack. Do the calculation and have the antenna gain.
>This seems to me to be fairly straight forward, but has anyone carried out
>similar measurements and concur with the approach or are there are there
>traps and pit falls that I need to be aware of. Or is their simply a better
>way?
>
>
>Cheers
>
>--
>Peter Miles VK3YSF
>Melbourne, Australia
>
>
>
>
>
>

--
Joe Leikhim K4SAT

"Jazz is not dead. It just smells funny." -F.Z.

2436. Re: Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 03:11:48 UTC
From: "Geoffrey G. Rochat" <777geoff777@777pkworks777.777com777>
Message-ID: <blo1g5kkj1@news.utelfla.com>
Source record: 32052

> Are their any dual tubes that are made for batterys? I would relly like a
> screen grid and triode in the same tube. However two triodes will work if
I
> can't get what I want.

Take a look at the 3A8GT. It's a filamentary diode, triode and pentode on
an octal base, with a grid cap for the pentode. Data may be found at these
links:

http://www.mif.pg.gda.pl/homepages/frank/sheets/049/3/3A8GT.pdf

http://hereford.ampr.org/cgi-bin/tube?tube=3A8GT

2437. manual

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 03:31:49 UTC
From: irvingf <irvingf@optonline.net>
Message-ID: <FgMfb.39358$E95.16343605@news4.srv.hcvlny.cv.net>
Source record: 32054

hi
where can i find a manual for a 2 k amp sb220 made by heathkit
thanks irv ka2zje

2438. Re: Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 03:38:31 UTC
From: novatech@eskimo.com
Message-ID: <blo3nn$pi4$1@eskinews.eskimo.com>
Source record: 32055

"Geoffrey G. Rochat" <777geoff777@777pkworks777.777com777> writes:

>> Are their any dual tubes that are made for batterys? I would relly like a
>> screen grid and triode in the same tube. However two triodes will work if
>I
>> can't get what I want.

>Take a look at the 3A8GT. It's a filamentary diode, triode and pentode on
>an octal base, with a grid cap for the pentode. Data may be found at these
>links:

Also,

1D8GT for modest power output and the 1V6 for really tiny needs.

>http://www.mif.pg.gda.pl/homepages/frank/sheets/049/3/3A8GT.pdf

>http://hereford.ampr.org/cgi-bin/tube?tube=3A8GT

--
Steven D. Swift, novatech@eskimo.com, http://www.novatech-instr.com
NOVATECH INSTRUMENTS, INC. P.O. Box 55997
206.301.8986, fax 206.363.4367 Seattle, Washington 98155 USA

2439. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 03:46:48 UTC
From: GPE <See_my_website_for_email@cox.net>
Message-ID: <IuMfb.2090$%o6.826@news1.central.cox.net>
Source record: 32056
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Bill Sloman" <bill.sloman@ieee.org> wrote in message
news:7c584d27.0310041436.3ee7f734@posting.google.com...
...

>
> The claim was merely "no weapons yet" - I'm not in any position to
> predict that you won't find weapons eventually. But six months is
> quite a while to be searching for weapons that Blair claimed could be
> brought to bear in less than an hour.
>

Didn't it take nearly four months just to find the bulk of the Iraqi Air
Force buried in the desert?!?!
I would think items far smaller in size and number will be much harder to
find.

But 'brought to bear in less than an hour' was obviously wrong.

> > Your own media is well known to be anti-US biased and incomplete
regarding the US and the Iraq issues.
>
> Only "anti-US biased" when compared with your hyper-patriotic
> collection of yes-men.

hyper-patriotic collection of yes-men? Doesn't exactly describe the
anti-Bush CNN.

Something interesting -- I watched the same article on both Fox News and
France 2. It was about a couple weeks after completion of the main fighting
when Fellujah first started becoming a problem point. Both Fox and France 2
had the exact same video and audio feed. The article started by discussing
how many Iraqi's were killed (of course - death and destruction always start
an article). The feed then started talking to soldiers to explain how this
situation came about - the soldiers explained how they returned fire toward
where an RPG attack came from and they actually nailed the instigators. The
France 2 news broke off just before this point and instead of the
explaination - the France 2 news just adlibed how this was "just another
example of another unprovoked attack by the occupiers".

Now doesn't this sound just a little like anti-US biased reporting? Maybe
just a little?

>
> Have you any evidence to support the claim about "incomplete"
> reporting?

To me - that was definitely "incomplete" reporting on the part of France 2. And that report was watched - and believed - by how many French citizens?

...

>
> There is no evidence that Saddam had the means to set up a terrorist
> attack anywhere more than about 150km away from Irak, and no evidence
> that he was planning to acquire such means in the immediate future -
> before the UN weapons inspectors had had a chance to go through the
> country with a fine tooth comb.

Fine tooth comb?!?! The Iraqi's knew every move the inspectors were making - in advance. And when the inspectors did try to surprise them - the Iraqis always had a means to block or thwart the surprise inspection. Such as staged traffic accidents blocking roads, etc. Many of the inspectors were commenting on the choice of hotel the UN was using after the war. They were talking about the staff of that hotel being entirely employed by Saddam's secret police... even the maids.

Actually, now NK is admitting that Saddam was trying to acquire long range missles from them. NK and Sadam reached an agreement in 1999 for long range missles but NK never delivered saying they were being too closely watched by the Americans and that it would be too difficult to smuggle them into Iraq.

Different story for the French, though. How about the interesting item from the Polish military this week. They found several anti-aircraft missles in Iraq this week. Not just any anti-aircraft missles - these were made by France and had 2003 date codes on them!

Regardless -- the subject line of this conversation is simply awful. How can anybody possibly be rejoiceful with a subject such as that?

2440. Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 04:42:11 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f7f9c6f.2726998@news.kcnet.com>
Source record: 32057

I am a new technician with code privileges. I built the following CW transmitter for 40 meters:

http://cs.okanagan.bc.ca/ve7ouc/eng/kc6wdk-mirror/transmitter2.html

It's a solid state 3-watter, based on an article in QST in June 1967. I used a printed circuit board instead of wiring everything together directly, as the QST article suggests. So, there are many wires running from various parts mounted on the chassis to the circuit board.

I'm getting very little output. After tuning the transmitter, per the specs, and measuring the output using the method suggested by the author of the web page, I figure I'm getting 1 watt or less. I am running this into a dipole cut for 40 meters, which is 7 feet off the ground. I'm using fundamental frequency HC6/U crystals for 7110 and 7125 kHz. I've been trying for 2 weeks, at all hours of the day and night, and have had no indication that anyone hears me. I've called CQ, and I've attempted to answer CQ's. Nothing, after about 100 tries.

I know it's impossible for any of you to know exactly what's wrong, but I'd like to see what opinions I can glean here.

Is there any reason why I should use FT-243 crystals, as specified in the article and on the website? I used HC6/U crystals because they were easy to get.

One of the transistors (Q2) is supposed to be heat sinked. I have put a large homemeade heat sink on this, using plenty of heat sink grease, and it gets so hot I can barely touch it.

Also, the transmitter chirps a bit at the beginning of each transmission, but settles down after a few strokes of the key.

Many thanks for any help you can give.

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

2441. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 04:45:37 UTC
From: Dwight Stewart <stewartx@NOSPAMearthlink.net>
Message-ID: <RINfb.29248$3S.1817@newsread2.news.atl.earthlink.net>
Source record: 32058
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"helmsman" <helmsmandelete@mindspring.com> wrote:
>
> Even while our own troops die, you are a real
> patriot.....NOT!!!!

We invaded another country. We're now occupying that country. There are risks associated with both of those. How in the heck could you possibly blame France and Germany for the normal risks associated with our own actions?

> 9.11.2001
> Never Forget.

I won't, my friend. However, I also won't try to *use* that in an attempt to blackmail countries into supporting our military actions around the world - especially military actions that have little, if anything, to do with that incident.

Dwight Stewart (W5NET)

http://www.qsl.net/w5net/

2442. Re: manual

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 04:49:20 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <blo7sg$882$0@208.206.142.109>
Source record: 32059

irvingf wrote:

> hi
> where can i find a manual for a 2 k amp sb220 made by heathkit
> thanks irv ka2zje
>
>

Get a copy at <www.d8apro.com> He has lots of Heath manuals, is a former Heath engineer.

Dick

2443. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 05:07:18 UTC
From: "R. Steve Walz" <rstevew@armory.com>
Message-ID: <3F7FA7C0.6FDA@armory.com>
Source record: 32060
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

John S. Dyson wrote:
>
> In article <3F7F857A.543@armory.com>,
> "R. Steve Walz" <rstevew@armory.com> writes:
> > Bill Sloman wrote:
> > It doesn't even matter if he's Rightist nut, it's a matter of what
> > ANY US president would have had to do or get tossed out of office
> > in historical disgrace.
> >
> It is very, very obvious that namecalling without any factual
> basis (e.g. forgetting to realize that the US has stayed relatively
> centrist since the 1950's), my own views are quite centrist.

We're headed more and more Democratic, and more and more Socialist,
we just don't have a history of calling it that. Your so-called
"centrism" and your imagination surrounding that, is merely rightwing
delusion that tries to ignore change.

> Given the fact that if you look at the politics of JFK and compare
> with GWB, you'll find that they are relatively similar when
> compared with the far-left of the screwed up far-leftist European
> parties who incredibly have some influence there!!!
>
> There has DEFINITELY been a far-leftist drift in EU, and an ongoing
> anti-America and American sentiment in Europe, only recently
> becoming extremely obvious from the US standpoint. Frankly,
> the anti-America bias has been strong since the 1950's. It
> is rather dishonest (or ignorant) to claim that GWB had caused it.
>
> John

Since I didn't claim that, you should post your ridiculous assertion
someplace else. Europe has been socialist since after the war, when
they decided we couldn't REALLY rebuild what we destroyed, and that
they could either own their own industries, or let us buy them out
with excessive aid.

-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
Electronics Site!! 1000's of Files and Dirs!! With Schematics Galore!!
http://www.armory.com/~rstevew or http://www.armory.com/~rstevew/Public

2444. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 05:33:05 UTC
From: mcalhoun@ksu.edu
Message-ID: <bloaeh$55h@unix2.cc.ksu.edu>
Source record: 32061

>> The noise was lower late at night when more gadgets were off,
>> which I'm sure is why the automatic clocks you can get now do
>> their synchronizing late at night.

>I thought the reason they sync'ed at night was because of propagation.

I've occasionally "played" with an "atomic clock" by setting it INcorrectly,
and each has always sync'ed within 10 minutes at ANY time of the day, except
for one which was inside a metal building; it finally sync'ed about noon.

I'm near Topeka, KS, some 400+ miles east and a little south of Boulder, CO.

--Myron, W0PBV.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

2445. Ongoing Saddam support from devolving French/German societies

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 06:13:38 UTC
From: toor@iquest.net
Message-ID: <blocqi$13r1$1@news.iquest.net>
Source record: 32062
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <IuMfb.2090$%o6.826@news1.central.cox.net>,
"GPE" <See_my_website_for_email@cox.net> writes:
>
> "Bill Sloman" <bill.sloman@ieee.org> wrote in message
> news:7c584d27.0310041436.3ee7f734@posting.google.com...
> ...
> where an RPG attack came from and they actually nailed the instigators. The
> France 2 news broke off just before this point and instead of the
> explaination - the France 2 news just adlibed how this was "just another
> example of another unprovoked attack by the occupiers".
>
> Now doesn't this sound just a little like anti-US biased reporting? Maybe
> just a little?
>

(Before reading further -- note the following:
1) Chiraq personally committed the French government to the sale of
weapons grade Uranium. There was NO non-military purpose for the
sale of that specific material.
2) Chiraq and Saddam were personal friends, and had intermingled their
finances to help some of Chiraq's elections.)

The above are only a few of the public reasons why we couldn't trust
sanctions, because the French were complicit in support Saddam,
even after the beginning of operation Iraqi Freedom!!! The motivation
of the French government to support it's ex-friend (the US) was
nil.

It is very clear that much of the European media is hopelessly biased
and is likely to cause an unnecessary and inapropriate rift between
the US and the dysinformed populace of some of Europe. Alot of the
anti-Bush bias results from a self-fufilling mechanism in the European
press, which is stirring up hatred with occult hate-speech. (The
coinage of the term 'dysinformed' is meant to portray the horribly
corrupt and hopelessly distorted morass of molded propaganda that
passes for 'journalism' in France, Germany, lesser extent Britain,
and their co-horts Al Jazeera with too much AlQueda influence along
with simple dishonesty.)

" Given the dishonesty 'in-extremis' from some of the European press
" against the US, it really does create an impression of deep, committed
" visceral evil growing in Europe. I am NOT religious, but the
" notion that the 'devil' is known as a 'great deceiver', it is

" clear that this level of deception is being perpetrated in Europe
" by obvious advocates of chaos and destruction of the Jews. (again,
" I am NOT religious, but there is too much incorrect/dishonest nonsense
" being told to the European public.)
"
There is maybe a religious war, instigated by Islamists and their
friends in the European governments and press, against the US and
Israel. For anyone who looks at the entire picture, with ANY
biblical religious sentiment, unless this situation normalizes,
it is very plausible that some of Europe is participating in the
ultimately wrong-headed cause.

It is incredible, but true, that much of the US/European rift
is artificially created by a press that is DEFINITELY misinforming
the European public about the US and about the situation in Iraq,
and even much of the information about Israel the so-called
Palestinians. (Without the anti-Jew terror attacks, the populace
within the boundaries of Israel -- however you define them) would
have been MUCH MUCH more comfortable, and the health of those
living under the Israeli state would be much better. The reason
for the current Arafat controlled attacks against Israel is the
ongoing intent to exterminate Israel and the Jews. France and
Germany seem to support this too strongly.

If Arafat (France and Germany) got their way, and Israel was
destroyed (or magically disappeared), then the standard of living
for their successors wouldn't be alot different from the current
non-Israelis. The best hope for the non-Israeli population is
for them to make peace with Israel, but the instigation of
hatred by Arafat, his friends, enabled by his supporters (France,
Germany) only let the situation fester. The problem is that
the people like Arafat tend to consider non-Islamic people to
almost be vermin, and they'd like to see the world be exclusive
to the Islamists (like in Mecca.)

It is clear that in this case, France is especially on the side
of anti-US exclusionism and a form of racism. They tend to
governmentally continue support people like Arafat, Saddam, etc.
The relationship between Chiraq and Saddam persisted long after
it was clear that he undeniably was quite evil. Also disgustingly,
some of the attacks and planning of the WTC attacks occurred
in Germany!!!

Alot of people forget that it was Chiraq himself who sold the
highly enriched weapons-grade Uranium to his true friend, Saddam.
Some parties in the French government tried to stop the sale, but
Chiraq had committed the French government. Saddam had absolutely
NO NON-MILITARY need to purchase the weapons grade material.

>
> To me - that was definitely "incomplete" reporting on the part of France 2.
> And that report was watched - and believed - by how many French citizens?

>
Such incedents of telling lies by incomplete reporting are quite common
in European press. Even the BBC has been loosing credibility. The
best way to extract information from the BBC materials is to try to
divine the raw facts, and understand that the editorial content is
seamlessly merged with the hard news.

IMO, the best way to get a completely accurate picture of the news
is to subscribe to at least one research site (perhaps more), and
study both the American and non-US press. The biggest fault with
the American press is that it tends to avoid depth, and we do have
some newspapers that have the European kind of bias (but to a lesser
degree of dishonesty.) The biggest fault with much (not all) of
the European press is that news about the US is now almost complete
negative propaganda against the US.

>
> Different story for the French, though. How about the interesting item from
> the Polish military this week. They found several anti-aircraft missles in
> Iraq this week. Not just any anti-aircraft missles - these were made by
> France and had 2003 date codes on them!
>
The issue of VERY RECENT French shipments of military gear to Iraq has
been reported in the American press in the last year. The reports
weren't 'front page' material, and required careful reading of the
news. It is quite true that France has been supporting Saddam,
EVEN AFTER THE BEGINNING OF THE IRAQI FREEDOM MISSION, and it is
also de-emphasized EVEN in the US media that Chiraq and Saddam
financially intermingled their funds to help Chiraq's election
funding. Some of this info has even been de-emphasized in the US
so as to avoid even stronger anti-French sentiment.

The judgement that France (and Germany) had been disloyal is actually
overly kind, but it is more accurate that they were acting as
enemy powers. It is much more reasonable for Russia to have had
continuing dealings with Iraq (even though they also violated
the Iraq sanctions), but it is astounding that France had been
so very incredibly (secularly) evil. The disgusting ongoing support
by France/Germany of the murderous Saddam has absolutely no
excuse.

>
> Regardless -- the subject line of this conversation is simply awful. How
> can anybody possibly be rejoiceful with a subject such as that?
>
I agree that the subject line is awful, but it should be a wakeup
call for France that they have some serious problems. Subject line
changed to be more factually correct and better describe the
discussion.

At least, when/if there would be a large US immigrant community
in France, (little real reason to join a regressing, devolving society

and culture -- so a middle class US immigrant community would be miniscule) in France, we wouldn't essentially
force French women in 'our' ghetto to wear a veil. The French obviously prefer the style of living as provided by Islamists and anti-American socialist (Vichy/Nazi derivative) dictator (Baathist) style of living. This does follow from the extremely strong anti-Semitism strengthening in those devolving societies.

In reality, most of the 'fear' that has been genned up in France/Germany against the US is a dangerously far-left wing scheme to try to discredit the centrist (non far left wing) US government. (Arguments about the US being far-right are specious, because our government is little different, actually more left-wing than the government during the John F Kennedy presidency.)

The governments who had diverged from centrism are DEFINITELY the Europeans.

John

2446. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 06:19:49 UTC
From: toor@iquest.net
Message-ID: <blod65$13r1$2@news.iquest.net>
Source record: 32063
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <3F7FA7C0.6FDA@armory.com>,
"R. Steve Walz" <rstevew@armory.com> writes:
> John S. Dyson wrote:
>>
>> In article <3F7F857A.543@armory.com>,
>> "R. Steve Walz" <rstevew@armory.com> writes:
>> > Bill Sloman wrote:
>> > It doesn't even matter if he's Rightist nut, it's a matter of what
>> > ANY US president would have had to do or get tossed out of office
>> > in historical disgrace.
>> >
>> It is very, very obvious that namecalling without any factual
>> basis (e.g. forgetting to realize that the US has stayed relatively
>> centrist since the 1950's), my own views are quite centrist.
> ----------------------------
> We're headed more and more Democratic, and more and more Socialist,
> we just don't have a history of calling it that. Your so-called
> "centrism" and your imagination surrounding that, is merely rightwing
> delusion that tries to ignore change.
>
Remember, you just admitted that there are changes towards leftism
and socialism. You don't disagree with my position that it is Europe
that is moving farther left (into the abyss.) Maybe you miss my
statement (perhaps in another message) that the US has drifted a
LITTLE leftwards, but not nearly as far cockeyed left as Europe.

Moving further socialist and creating command economies is
frought with silly situations like a lack of Doctors when they
are needed most -- because they are all on vacation at the same
time!!! :-).

You seem to have a habit of 'namecalling' while essentially
agreeing with me. It seems to hurt you that I am correct,
quite centrist, and disgusted by both the far right and
the far left.

There seems to be a serious fear on the far-far left that
their dirty secret of wrong headedness will be found out :-).

John

2447. Re: Disturb noisy neighbours

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 07:08:43 UTC
From: matt wilson <mwilson2@nospam.bigpond.net.au>
Message-ID: <%rPfb.137139$bo1.125193@news-server.bigpond.net.au>
Source record: 32065

Try asking for a "soloution" over on alt.sci.explosives !

"D & B Rude" <brewman@merr.com> wrote in message
news:Joa7b.7689$cQ1.2119815@kent.svc.tds.net...
> GeryD.,
> I read your posting with interest and sympathy. I have to same damn
problem
> here. I too am looking for a way to zap the stereo. Sometimes they just
have
> FM radio cranked up. I was thinking an FM broadcast band xmitter with a
beam
> and some extra help from a "brick" amp would be a good thing. Find
approiate
> music (music they hate) and broadcast it their way. Just a thought. If you
> could figure out a way to zap their noise in the microwave range that
would
> really be cool. Good luck and I will check for further postings, as the
> "law" has laws on the books they won't enforce, and it's getting to be a
> joke (the law(s)
> dave
> "G�ry Duyck" <gery@duyck-co.be> wrote in message
> news:3f5233ff$0$8542$ba620e4c@reader0.news.skynet.be...
> > We have a little problem in our neighborhood.
> >
> > Recently some *vulgar* people moved in a couple of houses away from
mines.
> > There 2 family's of them in 2 different houses.
> >
> > Every evening and night the whole street get to hear some very loud
music.
> > It's hard to get some sleep over here !
> >
> > We went several times to them to talk, and ask to put the volume down,
but
> > they
> > don't wanna listen to us. (with us I mean me and the rest of the
> > neighborhood ...)
> > As a matter of fact they only turned it louder...
> >
> > Calling the police won't help much too, the only thing they said is "go
to
> > ask if they wanna
> > set there volume down" when I say we already done this they say "go ask

> > again"
> >
> > It's really frustrating, and it's driving me bananas !!!
> >
> > So now I'm looking for some good circuit to disturb there hi-fi
equipment!
> >
> > Maybe somewhere in the low HF (eg 3.5Mhz) so I can "push" the diodes in
> the
> > power
> > supply in conduction, so he won't hear anything and shut his device off.
> > This will of course only work if he hasn't got a filter installed.
> >
> > I also saw some thinges about transmitting static to disturb there
> devices.
> >
> > Anyone who got's hint's and tip's for helping me to teach them a lesson
> are
> > greatly
> > appreciated.
> > I know this is maybe not the right way to do this but with some people
you
> > don't have any other choise ...
> >
> > 73 --... ...--
> > Gery D.
> >
> >
> >
>
>

2448. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 07:37:33 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <jfivnvoug9n71v1dilhfns5i4p9nen2644@4ax.com>
Source record: 32066

On Sat, 04 Oct 2003 18:06:23 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>At 60 kHz, there shouldn't be any difference between daytime and
>nighttime propagation. Certainly the ionosphere isn't involved.
>
>Roy Lewallen, W7EL

Don't forget the daytime LF/MF attenuation in the D-layer, by
preventing it from reaching the E-layer, which sets the LUF (Lowest
Usable Frequency). At night, the D-layer disappears, thus, the signal
can reflect from the E or F layer.

At least the 77,5 kHz Maiflingen standard time transmitter in Germany
is usable to about 2000 .. 2500 km from the transmitter during the
night at least in the winter. However, during the summer nights, the D
layer is in constant sunlight all night nearly 1000 km south of the
arctic circle, which may explain the worse conditions during summer
night, but of course the number of lightnings is also higher during
the summer, increasing the band noise.

Paul OH3LWR

2449. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 07:40:04 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <nDc5tHCUr8f$EwYu@b-howie.demon.co.uk>
Source record: 32067
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In message <3f7f6175$0$6523$afc38c87@news.optusnet.com.au>, Peter
<peterlmiles@hotmail.com> writes
>Hi all.
>
>This may seem like a fairly basic question. But here we go!
>
>I want to performance test a 436MHz high gain antenna. My plan is to
>construct a simple dipole with a 1:1 balun for 436MHz as a reference antenna
>and construct another dipole with a 1:1 balun to receive the test signal,
>measure it with a diode detector and a milli-amp meter (field strength
>meter) at the shack. Do the calculation and have the antenna gain.
>This seems to me to be fairly straight forward, but has anyone carried out
>similar measurements and concur with the approach or are there are there
>traps and pit falls that I need to be aware of. Or is their simply a better
>way?

I've done it on 1296MHz in a similar way. However I borrowed a
calibrated step attenuator and took the difference in readings between
the reference dipole and the antenna under test as the gain for the same
detector reading to avoid nonlinearities. You can also measure antenna
gain using sun noise on 70cm, but that's a bit trickier.

Brian GM4DIJ

--
Brian Howie

2450. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 07:44:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vnvffcgsrubqdd@corp.supernews.com>
Source record: 32064
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

There are a lot of factors that can potentially affect measurements. The first and most obvious is impedance matching, which has to be done to extract the maximum possible power from the antennas (assuming that this is what you'll be doing when actually using the antenna) and delivering a known amount of power to each. Another is to make sure the feedlines aren't radiating or picking up signals, by using proper baluns, which you've mentioned. Move the feedlines around and change their lengths, making sure the results don't change. If they do, your baluns aren't adequate. If you want quantitative measurements, you'll have to carefully calibrate your signal strength meter at the power level involved. Don't make assumptions about its linearity. Better yet would be to carefully match the antennas to 50 ohms, then insert a step attenuator in series with the Yagi in the 50 ohm environment and increase the attenuation until it reads the same as the dipole. That way, the FS meter linearity is immaterial (although the attenuator accuracy is important). Then there's the possibility of signals radiated off the back of the dipole being reflected from near or distant objects which would affect the dipole's measured field strength more than it would the Yagi's. The different widths of the forward lobes can also cause unequal reflections. Although reflections can affect the forward gain up to several dB, their impact on nulls or front/back measurements is likely to be greater.

I'd do a couple of things. One is to build an NBS reference Yagi which is easy to construct and has a well known and documented gain. It's also easy to model. Modern modeling programs do very well with full size Yagis. Measure this on your range and verify that the measurements agree with its known properties. Another check would be to rotate the dipole and see if its pattern is what it should be. And rotate the NBS Yagi and verify that its pattern matches modeled results. Only after doing those tests would I have reasonable confidence in other measurements made with similar types of antennas.

Roy Lewallen, W7EL

Peter wrote:
> Hi all.
>
> This may seem like a fairly basic question. But here we go!
>
> I want to performance test a 436MHz high gain antenna. My plan is to
> construct a simple dipole with a 1:1 balun for 436MHz as a reference antenna
> and construct another dipole with a 1:1 balun to receive the test signal,
> measure it with a diode detector and a milli-amp meter (field strength

> meter) at the shack. Do the calculation and have the antenna gain.
> This seems to me to be fairly straight forward, but has anyone carried out
> similar measurements and concur with the approach or are there are there
> traps and pit falls that I need to be aware of. Or is their simply a better
> way?
>
>
> Cheers
>
> --
> Peter Miles VK3YSF
> Melbourne, Australia
>
>
>
>

2451. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 10:52:27 UTC
From: "Alexander S. Wood" <alec_wood@NO.SPAM.PLEASE.ntlworld.com>
Message-ID: <2KSfb.7165$QH3.603@newsfep4-winn.server.ntli.net>
Source record: 32069
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"John S. Dyson" <toor@iquest.net> wrote in message
news:bll4oa$1fo$1@news.iquest.net...
> >
> Ongoing programs had been found, active weaponized botulism

One sample vial. You could find that in any cosmetic surgeons practise. They use it as a sort of non-surguical facelift don't you know. Unlikely that's what the Iraqui had it for, but no more unlikely than some clandestine plot to erase Israel from existance.

You hoping to steal Bubbya's nomination for Nobel prize for gullibility?

What happened to the America that believed in EVERYONE's right to freedom, and freedom of speech!

We caught our government lying to us, admitting yours has (again!) makes you no less patriotic, perhaps the opposite.

Alec Wood M1BNK

2452. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 10:53:32 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vnvuqhncsrt98e@corp.supernews.com>
Source record: 32071

Several comments ....

When your output is a LOT different than you expect, likely there is something wrong. Worse, there's a good chance that a lot of your energy is being transmitted where you don't expect.

One thing that I found helpful on my first homebrew adventure was to model any circuits that didn't seem to be quite right in PSpice. It's tedious, but it helped me immensely in understanding what's going on.

Secondly, a 40 meter antenna 7 feet off the ground is going to radiate pretty much straight up. That means that the only time any of your energy will get back to the ground is when the flux is very high, something that is happening less and less often. Worse, 40 meters is pretty noisy, and the old novice segments really not all that heavily occupied, so not getting a response right away isn't all that surprising.

If your output transistor is getting really hot you probably want to revisit your heat sink. If you have, or can borrow, a scope, take a look around and make sure that circuit is doing what you want. The heat could be telling you that a lot of your energy is being spent in parasitics. Presuming you have filtering after this transistor, that could be related to your low output, as well.

If you have, or can borrow, a general coverage receiver, listen for your transmitter on your fundamental, and on the harmonic frequencies, especially the odd harmonics. You probably will be able to hear your transmitter on 21.330, but it should be a LOT weaker. If it isn't, you have a problem.

Finally, I would try to find someone local (line of sight, say 10-20 miles if it's reasonably flat) and arrange a schedule. This won't take any propagation and it will give you some idea that your transmitter is working. Recognize that locals are often a lot weaker on 40 than stations more distant, but if there are huge issues then perhaps this will uncover them.

Finally the chirp - get a fat wire from your power supply to the radio. Also, make sure that the power path to the oscillator is very low resistance. It doesn't take much voltage change to shift the oscillator frequency, and there is a huge inrush of current on key down, so good old E=IR tells you that with a big I it doesn't take much R!

Hope this helps...

..

"John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message news:3f7f9c6f.2726998@news.kcnet.com...

> I'm getting very little output. After tuning the transmitter, per the
> specs, and measuring the output using the method suggested by the
> author of the web page, I figure I'm getting 1 watt or less. I am
> running this into a dipole cut for 40 meters, which is 7 feet off the
> ground. I'm using fundamental frequency HC6/U crystals for 7110 and
> 7125 kHz. I've been trying for 2 weeks, at all hours of the day and
> night, and have had no indication that anyone hears me. I've called
> CQ, and I've attempted to answer CQ's. Nothing, after about 100
> tries.
>
> I know it's impossible for any of you to know exactly what's wrong,
> but I'd like to see what opinions I can glean here.
>
> Is there any reason why I should use FT-243 crystals, as specified in
> the article and on the website? I used HC6/U crystals because they
> were easy to get.
>
> One of the transistors (Q2) is supposed to be heat sinked. I have put
> a large homemeade heat sink on this, using plenty of heat sink grease,
> and it gets so hot I can barely touch it.
>
> Also, the transmitter chirps a bit at the beginning of each
> transmission, but settles down after a few strokes of the key.
>
> Many thanks for any help you can give.
>
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

2453. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 11:00:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vnvqv8ckv95g60@corp.supernews.com>
Source record: 32068

I'm not at all an expert on propagation. So are you saying that propagation of 60 kHz signals is via ionospheric skip? E or F layer? I didn't think the LUF ever got anywhere near 60 kHz at any time.

Roy Lewallen, W7EL

Paul Keinanen wrote:
> On Sat, 04 Oct 2003 18:06:23 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>
>>At 60 kHz, there shouldn't be any difference between daytime and
>>nighttime propagation. Certainly the ionosphere isn't involved.
>>
>>Roy Lewallen, W7EL
>
>
> Don't forget the daytime LF/MF attenuation in the D-layer, by
> preventing it from reaching the E-layer, which sets the LUF (Lowest
> Usable Frequency). At night, the D-layer disappears, thus, the signal
> can reflect from the E or F layer.
>
> At least the 77,5 kHz Maiflingen standard time transmitter in Germany
> is usable to about 2000 .. 2500 km from the transmitter during the
> night at least in the winter. However, during the summer nights, the D
> layer is in constant sunlight all night nearly 1000 km south of the
> arctic circle, which may explain the worse conditions during summer
> night, but of course the number of lightnings is also higher during
> the summer, increasing the band noise.
>
> Paul OH3LWR
>

2454. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 11:04:24 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <OUSfb.8691$La.4503@fed1read02>
Source record: 32070
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vnvffcgsrubqdd@corp.supernews.com...
> There are a lot of factors that can potentially affect measurements. The
> first and most obvious is impedance matching, which has to be done to
> extract the maximum possible power from the antennas (assuming that this
> is what you'll be doing when actually using the antenna) and delivering
> a known amount of power to each. Another is to make sure the feedlines
> aren't radiating or picking up signals, by using proper baluns, which
> you've mentioned. Move the feedlines around and change their lengths,
> making sure the results don't change. If they do, your baluns aren't
> adequate. If you want quantitative measurements, you'll have to
> carefully calibrate your signal strength meter at the power level
> involved. Don't make assumptions about its linearity. Better yet would
> be to carefully match the antennas to 50 ohms, then insert a step
> attenuator in series with the Yagi in the 50 ohm environment and
> increase the attenuation until it reads the same as the dipole. That
> way, the FS meter linearity is immaterial (although the attenuator
> accuracy is important). Then there's the possibility of signals radiated
> off the back of the dipole being reflected from near or distant objects
> which would affect the dipole's measured field strength more than it
> would the Yagi's. The different widths of the forward lobes can also
> cause unequal reflections. Although reflections can affect the forward
> gain up to several dB, their impact on nulls or front/back measurements
> is likely to be greater.
>
> I'd do a couple of things. One is to build an NBS reference Yagi which
> is easy to construct and has a well known and documented gain. It's also
> easy to model. Modern modeling programs do very well with full size
> Yagis. Measure this on your range and verify that the measurements agree
> with its known properties. Another check would be to rotate the dipole
> and see if its pattern is what it should be. And rotate the NBS Yagi and
> verify that its pattern matches modeled results. Only after doing those
> tests would I have reasonable confidence in other measurements made with
> similar types of antennas.
>
> Roy Lewallen, W7EL

I thought that NIST prefers a dipole antenna up to 1 GHz, and then a
waveguide-fed horn beyond that. I would think that a pyramidal horn would be
more predictable that a Yagi, and not unreasonably large, even for 400 MHz.
Plus, the construction is simpler, and the design is more robust over time
(i.e., it's easy to bend a Yagi element slightly, not enough to notice it,
but enough to shift performance).

Ed
WB6WSN

2455. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 12:09:51 UTC
From: charlesb <n5pvl@sbcglobal.net>
Message-ID: <jSTfb.7640$0q2.7326@newssvr29.news.prodigy.com>
Source record: 32072
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

<Pappy127@usa.net> wrote in message news:3F7ED241.F928D518@usa.net...
>
> To hell with the French.
>

Yes, that seems to be what they have arrainged for themselves. Ask the surviving adult children of any of these elderly victims of the heat wave, and they will be happy to lecture you about how uncivilized and irresponsible the Americans are with their widespread use of the dreaded *air-conditionining* process.

I would not be surprised to find myself being lectured to on this point while standing with one of them before the open coffin containing their deceased mother or father.

The French "government", which has painted itself into a corner by promising more entitlements than the French economy can possibly support, saw these deaths at least to some extent as a relief of their disability. Over 10,000 no longer productive French citizens would no longer be demanding the entitlements that had been so generously promised to them in their productive years by the compassionate, caring socialism that is so widely accepted and implemented there in Europe.

Charles Brabham, N5PVL

2456. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 12:50:42 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <n310ovca6u2tpo1pbrmt5e93dhfatraqe8@4ax.com>
Source record: 32073
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Sun, 05 Oct 2003 03:46:48 GMT, "GPE"
<See_my_website_for_email@cox.net> wrote:

>Different story for the French, though. How about the interesting item from
>the Polish military this week. They found several anti-aircraft missles in
>Iraq this week. Not just any anti-aircraft missles - these were made by
>France and had 2003 date codes on them!

Yes, and since confirmed by ITN and the Daily Mail's most respected
war correspondent. All of which perfectly illustrates my earlier point
about the french being back-stabbing rug-pullers. But whereas their
treachery is normally confined to the political arena, their supply of
such weapons to a hostile country in time of war is a very much more
serious matter. Further proof - as if any were required - of their
long-standing resentment and hatred of the US and Britain.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2457. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 12:50:43 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <hu10ovojcc34m07jhbajgdtku37b4bvdco@4ax.com>
Source record: 32074

On Sun, 05 Oct 2003 04:42:11 GMT, XJohn_S_Sandin@osca.state.mo.us
(John Sandin) wrote:

>I am a new technician with code privileges. I built the following CW
>transmitter for 40 meters:
>
>http://cs.okanagan.bc.ca/ve7ouc/eng/kc6wdk-mirror/transmitter2.html
>
>It's a solid state 3-watter, based on an article in QST in June 1967.
>I used a printed circuit board instead of wiring everything together
>directly, as the QST article suggests. So, there are many wires
>running from various parts mounted on the chassis to the circuit
>board.
>
>I'm getting very little output. After tuning the transmitter, per the
>specs, and measuring the output using the method suggested by the
>author of the web page, I figure I'm getting 1 watt or less.

How is this figure arrived at? How are you measuring it? 1W doesn't
sound much, but it can go a long way on 40M., given an efficient
antenna system with short, low-loss feeder and matched radiation
resistance.

> I am
>running this into a dipole cut for 40 meters, which is 7 feet off the
>ground.

That's *way* too low! As you must know for any ariel, you gotta get
that thing up as high off the ground as you can and that's even more
important at low frequencies like 7Mhz.

> I'm using fundamental frequency HC6/U crystals for 7110 and
>7125 kHz. I've been trying for 2 weeks, at all hours of the day and
>night, and have had no indication that anyone hears me. I've called
>CQ, and I've attempted to answer CQ's. Nothing, after about 100
>tries.
>
>I know it's impossible for any of you to know exactly what's wrong,
>but I'd like to see what opinions I can glean here.
>
>Is there any reason why I should use FT-243 crystals, as specified in
>the article and on the website? I used HC6/U crystals because they
>were easy to get.
>
>One of the transistors (Q2) is supposed to be heat sinked. I have put
>a large homemeade heat sink on this, using plenty of heat sink grease,

>and it gets so hot I can barely touch it.

Something's wrong, then. The heat dissipated in your final transistor
should equate to the output power at the antenna if the system is
matched properly. Sounds like your tranny's trying to dissipate rather
more than a Watt. Are you sure you don't have a feeder/matching
problem somewhere? Have you cut the ariel to the right length? Are you
using a balun? Have you tried a substitute balun?

>Also, the transmitter chirps a bit at the beginning of each
>transmission, but settles down after a few strokes of the key.
>
>Many thanks for any help you can give.

Get another ham a couple of miles away from you to give you a signal
report. It might show up something useful.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2458. Alinco DX-701

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 13:20:29 UTC
From: "Alexander S. Wood" <alec_wood@NO.SPAM.PLEASE.ntlworld.com>
Message-ID: <xVUfb.6114$RU4.59789@newsfep4-glfd.server.ntli.net>
Source record: 32075
Cross-posted to: alt.ham-radio.hf,free.uk.amateur-radio,rec.radio.amateur.homebrew,uk.radio.amateur

Hi All

A member of my local club has recently acquired an Alinco DX-701 and is finding it to be of little use as a main station radio.

Can anyone tell me if this set, which is the HF only channelised version of the DX-70 (100W), can be converted to a more usual VFO type set.

There are various solder pads on the PCB which can be joined or not to enable various options. Unfortunately the manual I have does not detail the function of these.

Failing that has anyone got any ideas for making this a more useful set than it currently is, e.g. computer controlled scanning or such like.

Thanks

Alec Wood M1BNK

--
Interested in Amateur Radio?
Take a look at www.ukradioamateur.org

2459. WTB: BC-348 knobs and cabinet

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 13:22:32 UTC
From: k9sqg@aol.com
Message-ID: <20031005092232.10366.00000291@mb-m14.aol.com>
Source record: 32076

I'm trying to help out a gentleman locate a cabinet and knobs for a BC-348.
Any leads?

Thanks,

Evan

2460. Re: WANTED! Schematic for Ameritron QSK-5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 13:22:42 UTC
From: Igor Dobrokhotov <un7gm@qsl.net>
Message-ID: <blp9j2$gv7$1@stat.nursat.net>
Source record: 32082

Hello Skipp,
Thank you for reply.
You wrote on Fri, 3 Oct 2003 18:06:57 +0000 (UTC):

Sst> I believe the Heathkit SB-1000 QSK board is similar and I have stored
Sst> copies of it over on http://sonic.ucdavis.edu
Sst> Look on the amateur radio page.

Yes, I know and already download sch of Heathkit SBA-2001-1, but it seems to me QSK-5 is not a full copy of Heathkit. PIN diodes is not similar, Heathkit has LM324, Ameritron - no. I would like to get exact copy of Ameritron sch.

Best regards,
Igor UN7GM

2461. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 13:27:34 UTC
From: Bill <brianspam86@iquest.net>
Message-ID: <a%Ufb.29408$3S.14899@newsread2.news.atl.earthlink.net>
Source record: 32077

John,

I can't get your URL to bring anything up in my browser.

If your final Q is getting REAL hot upon keydown in a very short period of time, I'm guessing you have some circuit issues there.

I had a similar problem with a little Tuna Tin transmitter I built a couple years ago, my problem was my antenna was broken. It was not resonant on 7040, which was the crystal I had in the transmitter. It was way off. After I replaced the final a couple of times, I broke out a SWR meter and noticed the mismatch. A new dipole 15 minutes later did the trick.

I run a 40m 1/2 wave dipoe in the very top of my attic peak, so it's about 30 feet off the ground...which is pretty low for 40m anyway but I get out pretty well.

If you do not subscribe to QRP-L I suggest you try there for some answers. Some of the brightest low power folks in the world are there.

See: http://qrp.lehigh.edu/lists/qrp-l/

73

"John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message news:3f7f9c6f.2726998@news.kcnet.com...
> I am a new technician with code privileges. I built the following CW
> transmitter for 40 meters:
>
> http://cs.okanagan.bc.ca/ve7ouc/eng/kc6wdk-mirror/transmitter2.html
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> It's a solid state 3-watter, based on an article in QST in June 1967.
> I used a printed circuit board instead of wiring everything together
> directly, as the QST article suggests. So, there are many wires
> running from various parts mounted on the chassis to the circuit
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> author of the web page, I figure I'm getting 1 watt or less. I am
> running this into a dipole cut for 40 meters, which is 7 feet off the
> ground. I'm using fundamental frequency HC6/U crystals for 7110 and
> 7125 kHz. I've been trying for 2 weeks, at all hours of the day and
> night, and have had no indication that anyone hears me. I've called
> CQ, and I've attempted to answer CQ's. Nothing, after about 100
> tries.
>

> I know it's impossible for any of you to know exactly what's wrong,
> but I'd like to see what opinions I can glean here.
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> the article and on the website? I used HC6/U crystals because they
> were easy to get.
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> One of the transistors (Q2) is supposed to be heat sinked. I have put
> a large homemeade heat sink on this, using plenty of heat sink grease,
> and it gets so hot I can barely touch it.
>
> Also, the transmitter chirps a bit at the beginning of each
> transmission, but settles down after a few strokes of the key.
>
> Many thanks for any help you can give.
>
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

2462. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 13:27:59 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <z%Ufb.26787$541.9693@nwrdny02.gnilink.net>
Source record: 32078

John,
Can you post a picture of your unit somewhere(top and bottom views) so we can see what the PCB & wiring layout looks like? Many times an improper layout can lead to parasitic oscillations that will raise DC power consumption without delivering RF on the proper frequency.

Joe
W3JDR

"John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message news:3f7f9c6f.2726998@news.kcnet.com...
> I am a new technician with code privileges. I built the following CW
> transmitter for 40 meters:
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> http://cs.okanagan.bc.ca/ve7ouc/eng/kc6wdk-mirror/transmitter2.html
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> CQ, and I've attempted to answer CQ's. Nothing, after about 100
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> but I'd like to see what opinions I can glean here.
>
> Is there any reason why I should use FT-243 crystals, as specified in
> the article and on the website? I used HC6/U crystals because they
> were easy to get.
>
> One of the transistors (Q2) is supposed to be heat sinked. I have put
> a large homemeade heat sink on this, using plenty of heat sink grease,
> and it gets so hot I can barely touch it.
>
> Also, the transmitter chirps a bit at the beginning of each
> transmission, but settles down after a few strokes of the key.

>
> Many thanks for any help you can give.
>
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

2463. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 14:06:36 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Zs-dnbyiK-nmuB2iXTWJig@comcast.com>
Source record: 32079
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Mike,

Here is something to watch out for. I tried to measure the pattern for a 432 antenna. I had coax going from the shack to the transmit antenna, and another coax going to the receive antenna. I measured complete garbage for the pattern, until I realized that the receive antenna was picking up a signal any time it was aimed at the transmitter COAX. I fixed the problem by moving the signal source to be collocated with the transmit antenna.

One way to get accurate gain readings is to use the receive S meter and a calibrated attenuator. For instance, if with the reference antenna you need 15db of attenuation to get an S9 reading, and with the target antenna you need 27 db of attenuation to get S9, the gain of the target antenna is 27 - 15 = 12 db. Some S meters are more accurate for low signals; so, you might want to use something like S3 for a reference.

Tam/WB2TT
"Peter" <peterlmiles@hotmail.com> wrote in message
news:3f7f6175$0$6523$afc38c87@news.optusnet.com.au...
> Hi all.
>
> This may seem like a fairly basic question. But here we go!
>
> I want to performance test a 436MHz high gain antenna. My plan is to
> construct a simple dipole with a 1:1 balun for 436MHz as a reference
antenna
> and construct another dipole with a 1:1 balun to receive the test signal,
> measure it with a diode detector and a milli-amp meter (field strength
> meter) at the shack. Do the calculation and have the antenna gain.
> This seems to me to be fairly straight forward, but has anyone carried out
> similar measurements and concur with the approach or are there are there
> traps and pit falls that I need to be aware of. Or is their simply a
better
> way?
>
>
> Cheers
>
> --
> Peter Miles VK3YSF
> Melbourne, Australia
>
>
>

>

2464. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 14:08:31 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <5m70ov8nebda4evuelpq4bj0pcs9rk1930@4ax.com>
Source record: 32080

On Sun, 05 Oct 2003 13:27:59 GMT, "W3JDR" <joe@roccis.com> wrote:

>John,
>Can you post a picture of your unit somewhere(top and bottom views) so we
>can see what the PCB & wiring layout looks like? Many times an improper
>layout can lead to parasitic oscillations that will raise DC power
>consumption without delivering RF on the proper frequency.

It's worth a try, John. But 7Mhz is practically DC these days so
strays and paracitics shouldn't be too much of a problem. One thing I
meant to suggest in my earlier post was that the OP should try
transmitting into a known good 50 ohm dummy load and seeing if his
final tranny still gets as hot. That ought to be a real good clue as
to whether he does have some probem with his matching/antenna/feedline
etc..
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2465. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 14:20:58 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo0a6ben6kco43@corp.supernews.com>
Source record: 32081
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Wouldn't it be just a hoot if the truth that was uncovered was that
the deaths were due to the fact that they didn't have any freon thanks
to thier pet the UN having pushed it out existence for airconditioning,
and thier economy was too weak to support the purchasing of the
more expensive, politically correct refrigerants?

Clint

--

Reasons why it sucks to be a liberal....
<file overrun error>

--
"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@
BIG-AL -003894.5-LSB-75-METERS> wrote in message
news:vn6lk3dd6nrg62@corp.supernews.com...
> PARIS, France (AP) -- The death toll in France from August's blistering
heat
> wave was nearly 15,000, according to a government report released Thursday
> that exceeded prior official estimates by 3,000 victims.
>
>
>

2466. Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 14:29:01 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo0ale1t5og683@corp.supernews.com>
Source record: 32083
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

I think the french people must have weak blood
or something.. I just read another artical about the
heat wave and have found that for 2 weeks the
temperature exceeded 104 degrees F, and the
health minister says that his prolonged length
of time accounts for the deaths.. whether you accept
the figure of 3,000 or 14,000, that's STILL a lot
of deaths. I live here in Texas where we've had
summers exceeding 104 for over a month at a time;
if you include the heat index due to humidity close
to the coast, we've had weeks where the temperature
exceeded 115 degrees for several weeks at a time
(this summer was an exceptionally cool one; we didn't get
over 101 for more than a few days). Yet here we
haven't had 3,000 deaths from it and ESPECIALLY
we haven't had 14,000 deaths.

Clint

--

Reasons why it sucks to be a liberal....
<file overrun error>

--
"helmsman" <helmsmandelete@mindspring.com> wrote in message
news:5rfpnv41be011u842rkv6f1iv9lgfjt4pk@4ax.com...
> "Reg Edwards" <g4fgq.regp@btinternet.com> wrote:
>
>
> >The French government should be congratulated on its honesty as it should
be
> >on other matters of international interest and importance.
> >
> >Vive la France ! Vive l'Europe !
> >----
> >Reg, G4FGQ
> >
> >
> BWHAAAAAAAAAAAHAAAAAAAAAAAAAAHAAAAAAAAAAAAAAAAAAAAAAAAA
> .
>
>
> .

> Don't buy goods made in France or Germany and vacation somewhere else!

2467. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 14:50:51 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <fdWfb.26808$541.18359@nwrdny02.gnilink.net>
Source record: 32084

It really doesn't matter what frequency the application is, modern
transistors have good gain well into the UHF range and VHF parasitic
oscillations can occur even in an audio application

Joe
W3JDR

"Paul Burridge" <pb@osiris.notthisbit.co.uk> wrote in message
news:5m70ov8nebda4evuelpq4bj0pcs9rk1930@4ax.com...
> On Sun, 05 Oct 2003 13:27:59 GMT, "W3JDR" <joe@roccis.com> wrote:
>
> >John,
> >Can you post a picture of your unit somewhere(top and bottom views) so we
> >can see what the PCB & wiring layout looks like? Many times an improper
> >layout can lead to parasitic oscillations that will raise DC power
> >consumption without delivering RF on the proper frequency.
>
> It's worth a try, John. But 7Mhz is practically DC these days so
> strays and paracitics shouldn't be too much of a problem. One thing I
> meant to suggest in my earlier post was that the OP should try
> transmitting into a known good 50 ohm dummy load and seeing if his
> final tranny still gets as hot. That ought to be a real good clue as
> to whether he does have some probem with his matching/antenna/feedline
> etc..
> --
>
> "Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit
patch
> to an eight bit operating system originally coded for a
four bit
> microprocessor and produced by a two bit company."

2468. Re: Heathkit SB-220 manual

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 15:00:07 UTC
From: Spurious Noise <HDA@zilch.com>
Message-ID: <XIWfb.53961$Ms2.22257@fed1read03>
Source record: 32085

There is a downloadable manual at BAMA
http://bama.sbc.edu/heath.htm

More manuals -- freebees and vendors at URL:
http://ac6v.com/manuals.htm

--
73 From the Spurious Noise ';';;';x":.,";"'

"irvingf" <irvingf@optonline.net> wrote in message
news:FgMfb.39358$E95.16343605@news4.srv.hcvlny.cv.net...
> hi
> where can i find a manual for a 2 k amp sb220 made by heathkit
> thanks irv ka2zje
>
>

2469. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 16:04:53 UTC
From: bigcat@meeow.co.uk
Message-ID: <a7076635.0310050804.7f6f87ca@posting.google.com>
Source record: 32086
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"J Oat" <bd13580@yahoo.com> wrote in message news:<vns6qfmtoksb37@corp.supernews.com>...

> > People tend to ascribe the national character of the people to that of
> > their leader. Most unfortunate. I personally think the American people
> > are great, but there's no doubt that W's foreign policy stance has
> > been outstandingly disastrous in all manner of areas, virtually right
> > from day 1. From a personal PoV., I'm sick of years of being
> > associated with Thatcher, Bliar etc. This may be a democracy, but that
> > only results in the least-worst choice of candidate being chosen to
> > 'serve' (themselves, usually). Even Churchill admitted this.

> I think the world view of Britain and US will change if the people replace
> the current gov in their next election to show the world that it is not the
> view of most people in those countries.
>
> Otherwise, it is hard to blame the world for believing the people of the two
> country are reflected by their leaders.

It doesnt quite work like that, unfortunately. We have 2 viable
political parties, and a lot of the people dont want either of them.
The landslide vote that put this present government into power was not
a vote of great support for them, as many seem to fondly imagine, it
was a vote _strongly against_ the previous lot. This is why there is
so much apathy among the people re politics today. When you dont like
either of them, what do you do?

Regards, NT

2470. Re: Alinco DX-701

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 17:14:48 UTC
From: Harry Bloomfield <harry.m1bytNOSPAM@tiscali.co.uk>
Message-ID: <MPG.19ea61e23c2a2421989a22@news.individual.net>
Source record: 32088
Cross-posted to: alt.ham-radio.hf,free.uk.amateur-radio,rec.radio.amateur.homebrew,uk.radio.amateur

In article <xVUfb.6114$RU4.59789@newsfep4-glfd.server.ntli.net>,
alec_wood@NO.SPAM.PLEASE.ntlworld.com says...
| There are various solder pads on the PCB which can be joined or not
to
| enable various options. Unfortunately the manual I have does not detail the
| function of these.
|
| Failing that has anyone got any ideas for making this a more useful set than
| it currently is, e.g. computer controlled scanning or such like.

Hi Alec,

A manual download is available at
http://www.geocities.com/hfvhf/esquema.htm
if that would be of any help? (2.9Mb)

--
Regards,
Harry (M1BYT)...

Remove the 'NOSPAM' in my email address to reply.

Free Amateur Radio Courses:-
http://www.ukradioamateur.org

2471. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 17:16:09 UTC
From: toor@iquest.net
Message-ID: <blpjkp$1esu$3@news.iquest.net>
Source record: 32087
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <2KSfb.7165$QH3.603@newsfep4-winn.server.ntli.net>,
"Alexander S. Wood" <alec_wood@NO.SPAM.PLEASE.ntlworld.com> writes:
> "John S. Dyson" <toor@iquest.net> wrote in message
> news:bll4oa$1fo$1@news.iquest.net...
>> >
>> Ongoing programs had been found, active weaponized botulism
>
> One sample vial. You could find that in any cosmetic surgeons practise.
>
Of course, the alleged transfer of 'biological weapons' in the 1980's
from the US to Iraq were also not in the quantity to be weapon from.
In the 1980's, even I could have purchased the 'biological materials.'

>
> You hoping to steal Bubbya's nomination for Nobel prize for gullibility?
>
Nope, but the US CIA (and the other world's intelligence agencies) need
to invest in more 'boots on the ground.' Our wakko leftists (e.g. Clinton,
Church, Carter) had essentially destroyed the CIA.

John

2472. Re: Alinco DX-701

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 17:17:12 UTC
From: Harry Bloomfield <harry.m1bytNOSPAM@tiscali.co.uk>
Message-ID: <MPG.19ea6272b97db838989a23@news.individual.net>
Source record: 32089
Cross-posted to: alt.ham-radio.hf,free.uk.amateur-radio,rec.radio.amateur.homebrew,uk.radio.amateur

In article <xVUfb.6114$RU4.59789@newsfep4-glfd.server.ntli.net>,
alec_wood@NO.SPAM.PLEASE.ntlworld.com says...

Schematic from :-

http://www.electronica.ro/cgi-bin/scheme.pl?
categorie=Statii_radio&marca=Alinco

--
Regards,
Harry (M1BYT)...

Remove the 'NOSPAM' in my email address to reply.

Free Amateur Radio Courses:-
http://www.ukradioamateur.org

2473. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 18:50:58 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f8062b6.783044@news.kcnet.com>
Source record: 32091

On Sun, 05 Oct 2003 13:50:43 +0100, Paul Burridge
<pb@osiris.notthisbit.co.uk> wrote:

snip
>>
>>I'm getting very little output. After tuning the transmitter, per the
>>specs, and measuring the output using the method suggested by the
>>author of the web page, I figure I'm getting 1 watt or less.
>
>How is this figure arrived at? How are you measuring it? 1W doesn't
>sound much, but it can go a long way on 40M., given an efficient
>antenna system with short, low-loss feeder and matched radiation
>resistance.

Voltage is measured across my 50 ohm dummy load and rectified using a
.05 mfd ceramic disc cap and a 1N34A diode. Then I'm calculating
thusly:

Power = (Voltage x Voltage) / 50

I'm taking the author's word that this works for a ballpark estimate.
I'm measuring 7 volts across the load, maximum, which works out to 1
watt or less. I've verified that my meter is accurate.

>
>> I am
>>running this into a dipole cut for 40 meters, which is 7 feet off the
>>ground.
>
>That's *way* too low! As you must know for any ariel, you gotta get
>that thing up as high off the ground as you can and that's even more
>important at low frequencies like 7Mhz.

We have a mess of power lines around the house, so it's hard to find a
spot to even get it 7 feet high in a straight line. I'm thinking
about trying it on the roof, which is about 20 feet high at the
highest point, and mabye angling it in the center.

>>One of the transistors (Q2) is supposed to be heat sinked. I have put
>>a large homemeade heat sink on this, using plenty of heat sink grease,
>>and it gets so hot I can barely touch it.
>
>Something's wrong, then. The heat dissipated in your final transistor
>should equate to the output power at the antenna if the system is
>matched properly. Sounds like your tranny's trying to dissipate rather
>more than a Watt. Are you sure you don't have a feeder/matching

>problem somewhere? Have you cut the ariel to the right length? Are you
>using a balun? Have you tried a substitute balun?

The length of each element is 32' 11", which I calculated for use at
7110 kHz. There's no balun; I'm using coax, the shield is connected
to one element and the center conductor is connected to the other.
The coax might be 75 ohm. Pretty soon I'll have RG-58 for the entire
run, but right now it's a mix of RG-6/U and RG-59/U.

>
>Get another ham a couple of miles away from you to give you a signal
>report. It might show up something useful.

I will do that. Thanks.
>--

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

2474. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 18:59:16 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f8068a5.2302294@news.kcnet.com>
Source record: 32094

I will try to do that sometime during the next day or so. The author
of the website says that the layout isn't critical, and his version of
the project works great. But when I look at the original QST article
and the photos of how they did it (all direct-wired), I'm amazed at
how simple they were able to keep the assembly. So now I'm wondering
why I bothered to use a printed circuit board in the first place.

On Sun, 05 Oct 2003 13:27:59 GMT, "W3JDR" <joe@roccis.com> wrote:

>John,
>Can you post a picture of your unit somewhere(top and bottom views) so we
>can see what the PCB & wiring layout looks like? Many times an improper
>layout can lead to parasitic oscillations that will raise DC power
>consumption without delivering RF on the proper frequency.
>
>Joe
>W3JDR
>
>

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

2475. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 19:16:14 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vo0s9dko671qae@corp.supernews.com>
Source record: 32095

The fact that the connection between the top of L2 and the base of Q2 is
marked as coax is probably a clue that layout is critical.

..

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vo0q6hlo9j6qe5@corp.supernews.com...
>
> A hot transistor combined with low output power makes me suspect that
> the transistor is either parasitically oscillating or trying to produce
> a lot of harmonic energy.

2476. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 19:39:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vo0pamh7eqls2b@corp.supernews.com>
Source record: 32090
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Perhaps. If I were going to measure a Yagi against a dipole, I'd first try measuring a Yagi with known gain against a dipole. You might prefer to measure a dipole relative to a dipole. I can't see what you'd learn from it, but each to his own.

Roy Lewallen, W7EL

Ed Price wrote:
>
> I thought that NIST prefers a dipole antenna up to 1 GHz, and then a
> waveguide-fed horn beyond that. I would think that a pyramidal horn would be
> more predictable that a Yagi, and not unreasonably large, even for 400 MHz.
> Plus, the construction is simpler, and the design is more robust over time
> (i.e., it's easy to bend a Yagi element slightly, not enough to notice it,
> but enough to shift performance).
>
> Ed
> WB6WSN
>
>

2477. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 19:41:08 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns940BD352CEDDEkierenmail@195.129.110.200>
Source record: 32096
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Clint" <rattlehead at computron dot net> wrote in news:vo0ale1t5og683
@corp.supernews.com:

> I think the french people must have weak blood
> or something.. I just read another artical about the
> heat wave and have found that for 2 weeks the
> temperature exceeded 104 degrees F, and the
> health minister says that his prolonged length
> of time accounts for the deaths.. whether you accept
> the figure of 3,000 or 14,000, that's STILL a lot
> of deaths. I live here in Texas where we've had
> summers exceeding 104 for over a month at a time;
> if you include the heat index due to humidity close
> to the coast, we've had weeks where the temperature
> exceeded 115 degrees for several weeks at a time
> (this summer was an exceptionally cool one; we didn't get
> over 101 for more than a few days). Yet here we
> haven't had 3,000 deaths from it and ESPECIALLY
> we haven't had 14,000 deaths.
>
> Clint
>

Don't quite understand what this has to do with ANY of the groups this was
posted to. Please stick to alt.ego.biggots or whatever group's
appropriate for thoughtless comments like this.

2478. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 19:54:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vo0q6hlo9j6qe5@corp.supernews.com>
Source record: 32092

Working people with one watt can be challenging, but certainly not impossible. In the course of a few years, I worked (and confirmed) all 50 states and 33 countries on 40 meters with about 1.5 watts output.

Your antenna height is a big handicap. 7 feet is severely low for a 40 meter antenna. While you'll still be able to hear stations just fine, it'll produce a very weak signal from an already weak transmitter. If there's any way possible, make the antenna higher. I'd strive for at least 30 feet if possible; higher than that is better yet. Another option is to use a vertical. With even a poor to moderate ground system -- even a couple of ground radials (more would be better) -- it'll do much better than the very low dipole.

A hot transistor combined with low output power makes me suspect that the transistor is either parasitically oscillating or trying to produce a lot of harmonic energy. That means that you could be producing only a tiny amount of power on the desired frequency -- much less than even a watt. Pull the antenna off your receiver and tune around. Does the signal from your rig sound hissy or hashy? Are the signals at harmonic frequencies as strong as or stronger than the signal at the desired frequency? Set up a sked with a ham that's a few miles away (whom you can locate through a local club), and have him tell you what your signal sounds like. Have him listen for harmonics, birdies, or other signs of instability.

Finally, you need to be aware that a crystal-controlled transmitter can be a big handicap these days. People don't often tune off their own frequency to listen, and they're likely to have a pretty narrow filter, so you're not likely to get a response unless you're lucky enough to be very close to their frequency. That said, your success rate should be higher when calling someone than when calling CQ, since people are more prone to respond to a weak signal calling them than to one calling CQ. But only if you're on their frequency so they can hear you. I couldn't get the link to the URL to work, so couldn't look at the transmitter schematic. However, after you get the other problems fixed, consider modifying the rig to VXO operation (where you're able to move the frequency a bit) if it's not already VXO.

There's no reason you can't substitute HC-6 crystals for FT-243 in a rig like this.

Roy Lewallen, W7EL

John Sandin wrote:
> I am a new technician with code privileges. I built the following CW
> transmitter for 40 meters:

>
> http://cs.okanagan.bc.ca/ve7ouc/eng/kc6wdk-mirror/transmitter2.html
>
> It's a solid state 3-watter, based on an article in QST in June 1967.
> I used a printed circuit board instead of wiring everything together
> directly, as the QST article suggests. So, there are many wires
> running from various parts mounted on the chassis to the circuit
> board.
>
> I'm getting very little output. After tuning the transmitter, per the
> specs, and measuring the output using the method suggested by the
> author of the web page, I figure I'm getting 1 watt or less. I am
> running this into a dipole cut for 40 meters, which is 7 feet off the
> ground. I'm using fundamental frequency HC6/U crystals for 7110 and
> 7125 kHz. I've been trying for 2 weeks, at all hours of the day and
> night, and have had no indication that anyone hears me. I've called
> CQ, and I've attempted to answer CQ's. Nothing, after about 100
> tries.
>
> I know it's impossible for any of you to know exactly what's wrong,
> but I'd like to see what opinions I can glean here.
>
> Is there any reason why I should use FT-243 crystals, as specified in
> the article and on the website? I used HC6/U crystals because they
> were easy to get.
>
> One of the transistors (Q2) is supposed to be heat sinked. I have put
> a large homemeade heat sink on this, using plenty of heat sink grease,
> and it gets so hot I can barely touch it.
>
> Also, the transmitter chirps a bit at the beginning of each
> transmission, but settles down after a few strokes of the key.
>
> Many thanks for any help you can give.
>
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

2479. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 19:56:19 UTC
From: bg998@FreeNet.Carleton.CA
Message-ID: <blpt13$e84$1@freenet9.carleton.ca>
Source record: 31997

Roy Lewallen (w7el@eznec.com) writes:
> At 60 kHz, there shouldn't be any difference between daytime and
> nighttime propagation. Certainly the ionosphere isn't involved.
>
> Roy Lewallen, W7EL
>

Roy,

I believe that even at 60 kHz, propagation is within an earth-ionosphere waveguide, the height of which is controlled by the sun (60 km during daylight and 90 km during night).

Precise RF phase comparison is easy at these freqs because the phase stability of the path is excellent during all daylight conditions, but there is some random variation at night. It is best to avoid making measurements (of phase) while the path is only partly in daylight because of the diurnal shifts in phase as the sunrise-sunset terminator passes over the radio path (due to the changing height of the waveguide).

The U.S. VLF OMEGA navigation system, the old WWVL (now SK) on 20 kHz, MSF on 60 kHz, and WWVB on 60 kHz all suffer from these effects.

73,
... Martin VE3OAT

2480. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 19:58:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vo0qfjl3b6db2a@corp.supernews.com>
Source record: 32093

The circuit you describe should be delivering approximately the peak voltage, not RMS, so the formula is more like V X V / 100. At 7 volts peak, that means you're putting out around 1/2 watt. That's a lot below the 3 watt figure you mentioned, so you should track down why it's so much lower. Pay special care to the circuit components in the final transistor output (collector) circuit, and make sure the inductors are built as described and the components are connected correctly.

Roy Lewallen, W7EL

John Sandin wrote:
> . . .
> Voltage is measured across my 50 ohm dummy load and rectified using a
> .05 mfd ceramic disc cap and a 1N34A diode. Then I'm calculating
> thusly:
>
> Power = (Voltage x Voltage) / 50
>
> I'm taking the author's word that this works for a ballpark estimate.
> I'm measuring 7 volts across the load, maximum, which works out to 1
> watt or less. I've verified that my meter is accurate.
> . . .

2481. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 20:21:17 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo0va8nm9n006d@corp.supernews.com>
Source record: 31998
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

WELL, "kieren", whoever you are, I don't know where
all this went, I simply replied to a post in alt.radio.amatuer.policy;
if it went to other groups it was because the original post was
also cross-posted. I have no idea where all it went; the same
place the post did that I *replied* to. I guess you do not have
the mental capacity to figure out this was a reply, not an original
post.

If you do not like it, I guess you have a personal problem then,
do you not? I guess if you find this something distasteful, it would
seem to me the problem is on your end, not mine. Ignore the
message, don't read it, if you do not like it. Put me in your
killfile. Log off the internet and go read a book. Do something.

But do not bother posting such condescending messages ever again
you overinflated sense of self-worth, because I could care LESS.
Got it? are we clear?

Clint

--

Reasons why it sucks to be a liberal....
<file overrun error>

--
"Kieren" <kierenmail@hotmail.com> wrote in message
news:Xns940BD352CEDDEkierenmail@195.129.110.200...
> "Clint" <rattlehead at computron dot net> wrote in news:vo0ale1t5og683
> @corp.supernews.com:
>
> > I think the french people must have weak blood
> > or something.. I just read another artical about the
> > heat wave and have found that for 2 weeks the
> > temperature exceeded 104 degrees F, and the
> > health minister says that his prolonged length
> > of time accounts for the deaths.. whether you accept
> > the figure of 3,000 or 14,000, that's STILL a lot
> > of deaths. I live here in Texas where we've had
> > summers exceeding 104 for over a month at a time;
> > if you include the heat index due to humidity close
> > to the coast, we've had weeks where the temperature
> > exceeded 115 degrees for several weeks at a time
> > (this summer was an exceptionally cool one; we didn't get

> > over 101 for more than a few days). Yet here we
> > haven't had 3,000 deaths from it and ESPECIALLY
> > we haven't had 14,000 deaths.
> >
> > Clint
> >
>
> Don't quite understand what this has to do with ANY of the groups this was
> posted to. Please stick to alt.ego.biggots or whatever group's
> appropriate for thoughtless comments like this.
>

2482. Racal 9301A?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 20:28:52 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vo0vo8osm4m2d4@corp.supernews.com>
Source record: 31999

I just picked up a Racal Dana 9301A RF MIllivoltmeter and it doesn't work because Q11 is total carbon. Any info on what Q11 is and what might have shorted to take it out would be appreciated. Please post here as my email has problems.

tnx
hank wd5jfr

2483. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 20:39:38 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <blpvi5$en98e$1@ID-175933.news.uni-berlin.de>
Source record: 32000
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vnvffcgsrubqdd@corp.supernews.com...
> There are a lot of factors that can potentially affect measurements.
(etc)

Range measurement of absolute antenna patterns and gains at VHF and above is tricky business due to reflections and other factors. For a bit of calibration, the FCC does not require measurement of the absolute gain of _ANY_ television or FM broadcast antenna, whether required by them to be directional, or not.

For broadcast purposes, the gain of an antenna for a given azimuth and elevation is the product of its normalized azimuth, and calculated elevation gains. See the slide presentation at http://rfry.org for more detail.

R. Fry

2484. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 20:52:04 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns940BDF5992AA8kierenmail@195.129.110.130>
Source record: 32001
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Clint" <rattlehead at computron dot net> wrote in
news:vo0va8nm9n006d@corp.supernews.com:

> WELL, "kieren", whoever you are, I don't know where
> all this went, I simply replied to a post in alt.radio.amatuer.policy;
> if it went to other groups it was because the original post was
> also cross-posted. I have no idea where all it went; the same
> place the post did that I *replied* to. I guess you do not have
> the mental capacity to figure out this was a reply, not an original
> post.
>
> If you do not like it, I guess you have a personal problem then,
> do you not? I guess if you find this something distasteful, it would
> seem to me the problem is on your end, not mine. Ignore the
> message, don't read it, if you do not like it. Put me in your
> killfile. Log off the internet and go read a book. Do something.
>
> But do not bother posting such condescending messages ever again
> you overinflated sense of self-worth, because I could care LESS.
> Got it? are we clear?
>
> Clint
>

Hi Clint,

Do you really have no idea where your posts go? Wow, perhaps you *were*
aiming to post to alt.ego.biggots after all! I withdraw any inference I
made that you're xenophobic - "plain stupid" sounds more like it. I
apologise for that gross error; I meant you no offence.

The second para. causes me no concern, but I take issue with the third:
You say you "could care LESS" (I suspect you *meant* to say 'couldn't
care less' - an error that strengthens my case for your stupidity, by the
way). However by writing a detailed reply, you indicate that you DO
care...if you really didn't care, you wouldn't have lowered yourself to
responding to my post, you see? Get it?

Because you really don't care what I think, I'll assume you won't respond
to this & we can both leave the topic forthwith.

Enjoy.

Humble apologies to anyone reading this thread: I somehow doubt Clint's email address is valid and, deep down, I suspect he's not really able to drive that medium correctly anyhow.

Spleen vented.

2485. Re: Alinco DX-701

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 22:34:10 UTC
From: "Alexander S. Wood" <alec_wood@NO.SPAM.PLEASE.ntlworld.com>
Message-ID: <911gb.7675$QH3.3358@newsfep4-winn.server.ntli.net>
Source record: 32002
Cross-posted to: alt.ham-radio.hf,free.uk.amateur-radio,rec.radio.amateur.homebrew,uk.radio.amateur

I'm afraid that one's a dead link Harry, thanks anyway.

Alec

2486. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-05 23:24:18 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310051524.10f33462@posting.google.com>
Source record: 32003
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

toor@iquest.net (John S. Dyson) wrote in message news:<blod65$13r1$2@news.iquest.net>...
> In article <3F7FA7C0.6FDA@armory.com>,
> "R. Steve Walz" <rstevew@armory.com> writes:
> > John S. Dyson wrote:
> >>
> >> In article <3F7F857A.543@armory.com>,
> >> "R. Steve Walz" <rstevew@armory.com> writes:
> >> > Bill Sloman wrote:

Actually RSW wrote that - much as I would have liked to. Your tendency
to unmarked and careless snipping can be irritating.

> >> > It doesn't even matter if he's Rightist nut, it's a matter of what
> >> > ANY US president would have had to do or get tossed out of office
> >> > in historical disgrace.
> >> >
> >> It is very, very obvious that namecalling without any factual
> >> basis (e.g. forgetting to realize that the US has stayed relatively
> >> centrist since the 1950's), my own views are quite centrist.
> > ----------------------------
> > We're headed more and more Democratic, and more and more Socialist,
> > we just don't have a history of calling it that. Your so-called
> > "centrism" and your imagination surrounding that, is merely rightwing
> > delusion that tries to ignore change.
> >
> Remember, you just admitted that there are changes towards leftism
> and socialism. You don't disagree with my position that it is Europe
> that is moving farther left (into the abyss.)

He pointed that some countries in western Europe were quite socialist
in the 1950's. More recent socialist governments have abandoned many
of the socialist policies of that period - confiscatory income taxes
on high incomes and the nationalisation of the commanding heights of
the economy are no longer part of the socialist agenda, or at least no
longer part of the agenda of any party with a hope of forming a
government.

The proposition that Europe "is moving further to the left" can only
be validated by choosing a rather right-wing starting point - like the
Thatcher regime in the U.K.

> Maybe you miss my statement (perhaps in another message) that the US has
> drifted a LITTLE leftwards, but not nearly as far cockeyed left as Europe.
>
> Moving further socialist and creating command economies is

> frought with silly situations like a lack of Doctors when they
> are needed most -- because they are all on vacation at the same
> time!!! :-).

Nobody in Europe is creating command economies these days - they have
been tried and found wanting. "Managed free markets" are more the
flavour of the month. where the government intervenes to suppress the
free market's tendencies to indulge in boom and bust, or to degenerate
into monopolies, amongst a whole raft of other nasty habits.

The French habit of going on holiday en masse in August seems to
persist unchanged through right and left-wing governments - Australia
is now being run by as unprincipled a bunch of right-wing nitwits as
you could hope to see, and they still all seem to go on holiday in
January in much the same way. I don't think you can blame that
particular problem on your (imaginary) creeping socialism.

> You seem to have a habit of 'namecalling' while essentially
> agreeing with me. It seems to hurt you that I am correct,
> quite centrist, and disgusted by both the far right and
> the far left.
>
> There seems to be a serious fear on the far-far left that
> their dirty secret of wrong-headedness will be found out :-).

I can assure you that neither the far left (which I take to be
left-wingers with parlimentary representation, but no chance of power)
nor the far-far left (whose ideology would barely permit political
organisation, and that only of a shadowy and clandestine kind) are
represented on this user group.

Your information about the nature of their fears doesn't accord with
anything I've read about left-wing organisations in Europe. Could you
let us know where you learned this interesting (if implausible) fact?
And the identity (or identities) of the left wing organisation(s)
involved?

Bill Sloman, Nijmegen

2487. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 01:35:34 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo1hnman40fn0d@corp.supernews.com>
Source record: 32004
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

PLONK!

and with that we have a new addition to my killfile.

Clint is now kieren-free...

--
"All history was a palimpsest, scraped clean and reinscribed exactly
as often as necessary. In no case would it have been possible, once
the deed was done, to prove that any falsification had taken place...

...it was not even forgery. It was merely the substitution of one piece
of nonsense for another. Most of the material that you were dealing
with had no connection with anything in the real world, not even the
kind of connection that is contained in a direct lie. Statistics were just
as much a fantasy in thier original version as in thier rectified version."

- The totalitarian world of George Orwell's 1984
(or is it the slander & lie campaign strategy of
today's liberals???)

--
"Kieren" <kierenmail@hotmail.com> wrote in message
news:Xns940BDF5992AA8kierenmail@195.129.110.130...
> "Clint" <rattlehead at computron dot net> wrote in
> news:vo0va8nm9n006d@corp.supernews.com:
>
> > WELL, "kieren", whoever you are, I don't know where
> > all this went, I simply replied to a post in alt.radio.amatuer.policy;
> > if it went to other groups it was because the original post was
> > also cross-posted. I have no idea where all it went; the same
> > place the post did that I *replied* to. I guess you do not have
> > the mental capacity to figure out this was a reply, not an original
> > post.
> >
> > If you do not like it, I guess you have a personal problem then,
> > do you not? I guess if you find this something distasteful, it would
> > seem to me the problem is on your end, not mine. Ignore the
> > message, don't read it, if you do not like it. Put me in your
> > killfile. Log off the internet and go read a book. Do something.
> >
> > But do not bother posting such condescending messages ever again
> > you overinflated sense of self-worth, because I could care LESS.
> > Got it? are we clear?

> >
> > Clint
> >
>
> Hi Clint,
>
> Do you really have no idea where your posts go? Wow, perhaps you *were*
> aiming to post to alt.ego.biggots after all! I withdraw any inference I
> made that you're xenophobic - "plain stupid" sounds more like it. I
> apologise for that gross error; I meant you no offence.
>
> The second para. causes me no concern, but I take issue with the third:
> You say you "could care LESS" (I suspect you *meant* to say 'couldn't
> care less' - an error that strengthens my case for your stupidity, by the
> way). However by writing a detailed reply, you indicate that you DO
> care...if you really didn't care, you wouldn't have lowered yourself to
> responding to my post, you see? Get it?
>
> Because you really don't care what I think, I'll assume you won't respond
> to this & we can both leave the topic forthwith.
>
> Enjoy.
> ---
>
>
> Humble apologies to anyone reading this thread: I somehow doubt Clint's
> email address is valid and, deep down, I suspect he's not really able to
> drive that medium correctly anyhow.
>
>
> Spleen vented.

2488. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 01:54:26 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo1ir2osatif9b@corp.supernews.com>
Source record: 32005

--
"Ken Finney" <kenneth.c.finney@boeing.com> wrote in message
news:HM6tGD.83x@news.boeing.com...

> > What worries me is that in almost every country people are getting more
> and
> > more anti-american.

Probably JEALOUSY, because America has a set of NUTS and is willing to
finally
go start doing something about this terroism crap... just like one time the
nations
of the world had to stand up to fight authoritarianism, now the enemy is
terrorism.

The gutless, whimpering social-hell nations of europe forgot that a policy
of appeasement
doesn't work and thinks that if they cow down and lick enough extreme
islamic
fundamentalist's boots, they'll start "being nice and quit blowing thier
people up".
Meanwhile more bombs in subways, more carbombs in innocent neighborhoods.

Cowardly nations of europe- GO ahead, keep burying your HEADS in the sand.
We're doing something about it now.

If you want to be a bunch of weak pansies, just stay out of our way and
we'll take
care of it.

2489. Re: RCA 5KW AM Broadcast Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 02:36:21 UTC
From: KWP <rfburnhertz@hotpop.com>
Message-ID: <3f80d607_5@athenanews.com>
Source record: 32006
Cross-posted to: alt.ham-radio.boatanchors,alt.ham-radio.marketplace,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.misc,rec.radio.swap

Paul Vanasse wrote:
> Sure Mike, I'm the one who's insane. Everyone can buy a museum quality
> transmitter and 6 brand new in the box Eimac 5762's for $250.....Get
> real. The latest offer is $2900

You are right, you are insane.

There is hardley any existant demand for 'museum quality' Xmitter equipment.
I've tried to rid two of our stations of some quality RCA Xmitters when we
replaced them with Nautels.

We attempted to sell them to collecters, no go. No one wanted them for
anything other than back-up. One went for $500. the other for $575.

If you can get $2,900.00 then you found yourself a sucker.

2490. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 02:56:38 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f80d8a6.30979494@news.kcnet.com>
Source record: 32007

>
>On Sun, 05 Oct 2003 13:27:59 GMT, "W3JDR" <joe@roccis.com> wrote:
>
>>John,
>>Can you post a picture of your unit somewhere(top and bottom views) so we
>>can see what the PCB & wiring layout looks like?

I want to thank everyone. I never dreamed that I'd get so many great
responses, within a few hours of my original post.

I have put up a website with a link to the web page that inspired me
to do this. Below that are a bunch of pics of my project. Any
comments and advice are welcome.

I guess it would have been easier and even cheaper to buy a kit. But
I had fun building this, and I guess I'll have almost as much fun
rebuilding it.

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

2491. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 03:00:45 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f80da7c.31449594@news.kcnet.com>
Source record: 32008

Here's the link to my project website..

http://www.kcnet.com/~oyster/transmitter/transmitter.html

On Mon, 06 Oct 2003 02:56:38 GMT, XJohn_S_Sandin@osca.state.mo.us
(John Sandin) wrote:

>>
>>On Sun, 05 Oct 2003 13:27:59 GMT, "W3JDR" <joe@roccis.com> wrote:
>>
>>>John,
>>>Can you post a picture of your unit somewhere(top and bottom views) so we
>>>can see what the PCB & wiring layout looks like?
>
>
>I want to thank everyone. I never dreamed that I'd get so many great
>responses, within a few hours of my original post.
>
>I have put up a website with a link to the web page that inspired me
>to do this. Below that are a bunch of pics of my project. Any
>comments and advice are welcome.
>
>I guess it would have been easier and even cheaper to buy a kit. But
>I had fun building this, and I guess I'll have almost as much fun
>rebuilding it.
>
>
>-John Sandin KC0QWE
>
>Remove the "T" to respond by e-mail
>John_S_Sandin@Tosca.state.mo.us

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

2492. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 03:14:20 UTC
From: groupk0hb@earthlink.net
Message-ID: <5ee63311.0310051914.1a3e2ca7@posting.google.com>
Source record: 32009
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Clint" <rattlehead at computron dot net> wrote

> I think the french people must have weak blood
> or something

Reasons why it sucks to be Clint....
<file overrun error>

With all kind wishes,

de Hans, K0HB
--

2493. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 04:06:26 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <blqpo2$ui9$1@208.206.142.103>
Source record: 32010
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Hans K0HB wrote:

> "Clint" <rattlehead at computron dot net> wrote
>
>
>>I think the french people must have weak blood
>>or something
>
>
>
>
> Reasons why it sucks to be Clint....
> <file overrun error>
>

Yup. He's running with a 40 meg HD in the 40 gig era!

2494. oxygen sensor needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 04:18:47 UTC
From: bobinphx <rbelisle1@cox.net>
Message-ID: <q06gb.54936$Ms2.26382@fed1read03>
Source record: 32011

ok guys and gals... you were great with the LED theory.... but NOW I need your help in finding a cheap replacement for an oxygen sensor. The part is from a Automotive engine analyzer that checks 4 types of gas, one of them being O2.... Its an MSA Oxygen sensor part number 472062. I found one company on the net who sells them for$60. Being un-employed that is to high!!! These are used in the afore mentioned automotive machine and in medical O2 sensors... I was hoping that someone worked in a Hospital or DR office and could get a used working one for cheap.....

Thanks in advance for what ever help you may be for this cheap homebrewer!!!!!

Bob in phx .

p.s. the entire test system is a bear ace II with dual trace scopes, 30 plus tests and emissions testing,,, what did I pay for it.... $10.00 (yep 10 bucks)....

2495. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 05:10:57 UTC
From: averyfineman@aol.com
Message-ID: <20031006011057.11022.00001207@mb-m14.aol.com>
Source record: 32012

For those interested in getting full and complete details of WWVB, go to:

http://www.boulder.nist.gov/timefreq/stations/wwvb.htm

That is the home page for the NIST radio stations and there is a link to
NIST's radio coverage every two hours or so during a 24 hour period
using small hemispere map projections of North and South America.

What I am personally interested in is a source for the direct conversion
of WWVB field strength from or to Volts per Meter to confirm the 60 KHz
loop antenna constructed a year ago here. I have a particular reason
since there is some shading effects of nearby-to-residence San Gabriel
Mountain range. Reception is fine, I'm just trying to tie others' numbers
of field strength into the equations for a magnetic loop.

Len Anderson
retired (from regular hours) electronic engineer person

2496. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 06:36:39 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0310052236.461e8f66@posting.google.com>
Source record: 32013
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Clint" <rattlehead at computron dot net> wrote in message
news:<vo0ale1t5og683@corp.supernews.com>...
> I think the french people must have weak blood
> or something.. I just read another artical about the
> heat wave and have found that for 2 weeks the
> temperature exceeded 104 degrees F, and the
> health minister says that his prolonged length
> of time accounts for the deaths.. whether you accept
> the figure of 3,000 or 14,000, that's STILL a lot
> of deaths. I live here in Texas where we've had
> summers exceeding 104 for over a month at a time;
> if you include the heat index due to humidity close
> to the coast, we've had weeks where the temperature
> exceeded 115 degrees for several weeks at a time
> (this summer was an exceptionally cool one; we didn't get
> over 101 for more than a few days). Yet here we
> haven't had 3,000 deaths from it and ESPECIALLY
> we haven't had 14,000 deaths.
>
> Clint
>
> --
>
> Reasons why it sucks to be a liberal....
> <file overrun error>
>
> --
> "helmsman" <helmsmandelete@mindspring.com> wrote in message
> news:5rfpnv41be011u842rkv6f1iv9lgfjt4pk@4ax.com...
> > "Reg Edwards" <g4fgq.regp@btinternet.com> wrote:
> >
> >
> > >The French government should be congratulated on its honesty as it should
> be
> > >on other matters of international interest and importance.
> > >
> > >Vive la France ! Vive l'Europe !
> > >----
> > >Reg, G4FGQ
> > >
> > >
> > BWHAAAAAAAAAAAHAAAAAAAAAAAAAHAAAAAAAAAAAAAAAAAAAAAAAA

> > .
> >
> >
> > .
> > Don't buy goods made in France or Germany and vacation somewhere else!

Whats going on - why is everyone so down on the French! - and I thought in Amateur Radio the banned subjects were sex, politics, and religion - if you want to argue with the French government, go for it, but there seems a disturbing trend to abuse French amateurs (and everyone else) because of their government policy in not doing what the Americans want in getting bogged down in another Vietnam - and yes, the french can be and are frequently bloody minded, but unlike the rest of us, they are just more upfront about it.

Think about the high death rate in the current European summer, use the same intelligence you would have applied to get your amateur licence - and think what would happen in Texas if you have several weeks of below zero (-32 degrees F from memory) - people, especially the elderly, would be dying simply because their homes were not equipped to deal with such abnormal extremes of temperature.

The French elderly are becoming dehydrated, (as elderly people do, their feedback mechanism about the need for water stops working when they get old) and get no relief at night because it doesnt/didnt cool down, so they get very little rest. Keep this up for a while and people start to die. A simple explanation, no need to resort to "they are inferior to us" racist bigotry.....

de VK3BFA Andrew

2497. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 08:04:04 UTC
From: "\"Clint killer" <rattlehead@computron.net>
Message-ID: <Xns940C5D245B264kierenmail@195.129.110.131>
Source record: 32014
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Clint" <rattlehead at computron dot net> wrote in
news:vo1hnman40fn0d@corp.supernews.com:

>
> *PLONK!*
>
> and with that we have a new addition to my killfile.
>
> Clint is now kieren-free...
>

I for one knew he wouldn't be able to resist a response. Get a life, Clint
- and stop being a xenophobe.

By the way: anyone wishing to comment on Clints behaviour outside the
newsgroup can reach him by emailing rattlehead@computron.net

2498. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 08:22:07 UTC
From: SioL <no-spam@spam-hole.com>
Message-ID: <dC9gb.4234$2B6.757139@news.siol.net>
Source record: 32015
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Bill Sloman" <bill.sloman@ieee.org> wrote in message
> The French habit of going on holiday en masse in August seems to
> persist unchanged through right and left-wing governments - Australia
> is now being run by as unprincipled a bunch of right-wing nitwits as
> you could hope to see, and they still all seem to go on holiday in
> January in much the same way. I don't think you can blame that
> particular problem on your (imaginary) creeping socialism.

Italians have the very same habit, also in August.

Bill, I agree with you mostly, but there's little hope that we'll change
anything. Still, it is nice to see that you're trying.

Siol

2499. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 08:48:30 UTC
From: Daniel Haude <haude@physnet.uni-hamburg.de>
Message-ID: <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>
Source record: 32016
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Sun, 05 Oct 2003 05:07:18 GMT,
R. Steve Walz <rstevew@armory.com> wrote
in Msg. <3F7FA7C0.6FDA@armory.com>
> John S. Dyson wrote:

>> There has DEFINITELY been a far-leftist drift in EU, and an ongoing
>> anti-America and American sentiment in Europe, only recently
>> becoming extremely obvious from the US standpoint.

Curiously, "Anti-Americanism" has always been ONLY visible from an
US standpoint, and not just recently.

I find it noteworthy that it is the very same people who are complaining
about European "Anti-Americanism" are the ones that spew hatred against
everything European (especially French) just because it's European,
whereas the ones accused of Anti-Americanism merely critizise American
policy. The only strong expression of "Anti" sentiment I see in this group
is a hatred against Europe, but so far no one has stooped so low as to
call it "Anti-Europeanism". That's probably because the anti-European
slurs are just a side effect of narrow-mindeness and stupidity and
therefore don't warrant coining a new term to name an old phenonomenon.

--Daniel

--
"With me is nothing wrong! And with you?" (from r.a.m.p)

2500. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 10:52:42 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <_Pbgb.27529$kD3.19522@nwrdny03.gnilink.net>
Source record: 32017

John,
I had a look. The outside cosmetics are very nice, but the internal wiring is kind of scary for RF. I suspect you have a lot of coupling between the wires that are bundled together. In a more ideal setup, the PCB would have been mounted directly on or very near to the two coils and tuning caps.

Here are my suggestions for troublehooting. Do them one at a time and see if any of them make a major difference:
1) Remove the lowpass filter and mearure the RF output again . Maybe the filter cutoff frequency is wrong.
2) Unbundle the wires and spread them apart. Does that improve anything?
3) Remove any interconnect wiring that isn't absolutely essential for RF operation. Strap the switch lines to their proper state on the PCB & remove lamp wiring. See if that improves things.
4) Measure the overall DC current and the DC current into the amplifier stage only. When the amplifier is driven properly, getting 3 watts RF out will require about 4-5 watts of DC into the final (Vfinal x Ifinal). If the current is much too low, check out whether the oscillator stage is driving it properly. If it's too high for the RF you're seeing, check the final stage tuning and possibility of an oscillation.

Good Luck,
Joe
W3JDR

"John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message news:3f80da7c.31449594@news.kcnet.com...
> Here's the link to my project website..
>
> http://www.kcnet.com/~oyster/transmitter/transmitter.html
>
>
> On Mon, 06 Oct 2003 02:56:38 GMT, XJohn_S_Sandin@osca.state.mo.us
> (John Sandin) wrote:
>
> >>
> >>On Sun, 05 Oct 2003 13:27:59 GMT, "W3JDR" <joe@roccis.com> wrote:
> >>
> >>>John,
> >>>Can you post a picture of your unit somewhere(top and bottom views) so we
> >>>can see what the PCB & wiring layout looks like?
> > >
> > >
> > >I want to thank everyone. I never dreamed that I'd get so many great

> >responses, within a few hours of my original post.
> >
> >I have put up a website with a link to the web page that inspired me
> >to do this. Below that are a bunch of pics of my project. Any
> >comments and advice are welcome.
> >
> >I guess it would have been easier and even cheaper to buy a kit. But
> >I had fun building this, and I guess I'll have almost as much fun
> >rebuilding it.
> >
> >
> >-John Sandin KC0QWE
> >
> >Remove the "T" to respond by e-mail
> >John_S_Sandin@Tosca.state.mo.us
>
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

2501. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 12:20:44 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vo2o9u584fvh64@corp.supernews.com>
Source record: 32018

"John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message
news:3f80d8a6.30979494@news.kcnet.com...

> I guess it would have been easier and even cheaper to buy a kit. But
> I had fun building this, and I guess I'll have almost as much fun
> rebuilding it.

One of the wonderful things about amateur radio is that there are so many facets to explore. Each of us finds his own favorites, but in my mind, there are few things in life as fun as building and operating your own equipment.

Your low pass filter leaps out at me. Typically, the coil windings are spread out over 80% of the toroid, rather than 20%. If, in fact, this was the intent of the low pass filter design, then your inductances could be quite a way off. Not only would this change the cutoff frequency of your LPF (raising it most probably, so not likely the direct cause of low output), but it would also change the impedance the transmitter sees. (I'm leaping to the conclusion here that the LPF is between the transmitter and the antenna). What this means is that the transmitter isn't seeing 50 ohms even if your antenna is resonant. This would result in the final heating, and could also favor the parasitics that I suspect we have going on here.

As you explore what's going on here, keep in mind that these things aren't magic, what they do is always goverened by the laws of physics. Validate by measurement that what you think is happening is, in fact, what is going on. You really don't need a ton of test equipment. Granted, lacking lots of gear, each measurement can be a bit of a project in itself, but once you have a DMM and have built an RF probe (about a buck's worth of parts), you can make pretty much any measurement if you think it through.

..

2502. FS Project boxes NEW

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 14:03:53 UTC
From: "S. Rich" <srich@srich.com>
Message-ID: <PLydnQRHltqP6xyiXTWJkw@comcast.com>
Source record: 32019

I have for sale several TenTec project box enclosures. These are brand new and still in the plastic wrap. Several shapes and sizes are available at up to 75% off the original prices. Please contact me with your requirements and price quotes.
Steve Rich
tentecbox@srich.com

2503. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 16:54:37 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bls6ou$t78$1@news.oregonstate.edu>
Source record: 32020

Bill Janssen <billj@ieee.org> wrote:
> I would suggest using a shielded loop antenna to help with the local
> noise problem.
> The loop is directional so it could be oriented to reduce at least one
> source of noise.

I was planning to use a coil wound on a ferrite bar core to reduce the overall size of the antenna, but the web does show people successfully using large 'air core' loops, as you've suggested. I was thinking of shielding the ferrite bar antenna by placing it in something along the lines of a copper pipe with the edge slitted, but apparently it might be bet to enclose the antenna in a U-shaped piece of metal, such that, oh, say, 1/4 of the broadside of the antenna is still exposed? I'm not sure why this should matter, though?

---Joel

2504. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 18:14:15 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <qoGcnfVhu6abLByiXTWJhg@comcast.com>
Source record: 32021
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vnvffcgsrubqdd@corp.supernews.com...
> There are a lot of factors that can potentially ....

Roy,

Does one have to worry about elevation? Generally the gain at 0 degrees elevation is very low. Does this apply when the two antennas are facing each other in plain line of sight? should he raise the transmit antenna to say, 15 degrees above the receiving antennas?

Tam/WB2TT

2505. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 18:44:31 UTC
From: Clit <rattlehead@computron.net>
Message-ID: <Xns940CC9BC0A4F5kierenmail@195.129.110.204>
Source record: 32022

"Clint" <rattlehead at computron dot net> wrote in
news:vo1ir2osatif9b@corp.supernews.com:

>
> --
> "Ken Finney" <kenneth.c.finney@boeing.com> wrote in message
> news:HM6tGD.83x@news.boeing.com...
>
>> > What worries me is that in almost every country people are getting
>> > more
>> and
>> > more anti-american.
>
> Probably JEALOUSY, because America has a set of NUTS and is willing to
> finally
> go start doing something about this terroism crap... just like one
> time the nations
> of the world had to stand up to fight authoritarianism, now the enemy
> is terrorism.
>
> The gutless, whimpering social-hell nations of europe forgot that a
> policy of appeasement
> doesn't work and thinks that if they cow down and lick enough extreme
> islamic
> fundamentalist's boots, they'll start "being nice and quit blowing
> thier people up".
> Meanwhile more bombs in subways, more carbombs in innocent
> neighborhoods.
>
> Cowardly nations of europe- GO ahead, keep burying your HEADS in the
> sand. We're doing something about it now.
>
> If you want to be a bunch of weak pansies, just stay out of our way
> and we'll take
> care of it.
>
>
Oh, you are a FINE ambassidor for the US, aren't you Clint? I hope you're
mother country is PROUD for what you stand for.

Let's take this off-topic and use email if you're going to insult nations.
You go first. Please use this email address:

rattlehead@computron.net

2506. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 18:50:25 UTC
From: toor@iquest.net
Message-ID: <blsdhh$2all$3@news.iquest.net>
Source record: 32023
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>,
Daniel Haude <haude@physnet.uni-hamburg.de> writes:
> On Sun, 05 Oct 2003 05:07:18 GMT,
> R. Steve Walz <rstevew@armory.com> wrote
> in Msg. <3F7FA7C0.6FDA@armory.com>
>> John S. Dyson wrote:
>
>>> There has DEFINITELY been a far-leftist drift in EU, and an ongoing
>>> anti-America and American sentiment in Europe, only recently
>>> becoming extremely obvious from the US standpoint.
>
> Curiously, "Anti-Americanism" has always been ONLY visible from an
> US standpoint, and not just recently.
>
Yes, your censored media does tend to cause problems for us.

So, this is a perfect example of the Europeans having a very poor
abililty to be self-reflective. Remember: it was Chiraq who had
intermingled funds with Saddam, and unnecessarily sold weapons
grade Uranium to him. Very little public exposure has been done
(in Europe because of soft censoring, and in the US to keep
anti-French/Chiraq fervor from being stronger.)

For poor judgment, it is easy to compare the laboratory samples of
materials that I could buy in the 1980s (provided by the US), while
weapons grade Uranium was sold by France. The purpose of the
laboratory samples of biological materials was just as likely
useful for constructive biological research. THERE WAS NO
OTHER PURPOSE for WEAPONS GRADE NUCLEAR MATERIALS that Chiraq
sold to Saddam. The lower grade Uranium would have been useful
for ANY large scale non-weapons purpose.

If you cannot see 'anti-americanism', then it would be good
for you to learn from less censored media about what has been
happening.

John

2507. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 19:56:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vo3emfqikvh1a0@corp.supernews.com>
Source record: 32024
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The gain at low elevation angles is low only if you're distant from the antenna, and ground reflection is taking place -- EZNEC's far field analysis assumptions don't apply to a typical antenna measurement setup. Low far field gain at low angles is due to interference between the direct radiation and radiation reflected from the ground. This can and does occur when measuring antennas which are relatively close, but not to the extent you see in idealized far field modeling results, where the antennas are effectively an infinite distance apart. I don't have a great deal of real experience in measuring antennas, but believe that the common practice is to try to put the antennas high and relatively close together. It shouldn't be difficult to get a pretty good idea of the amount of signal cancellation you'd get for a given height and spacing, by setting up and solving a pretty simple geometry/trigonometry problem. Or you could model the two antennas over ground at their proposed positions, with a source in the transmitting antenna and a matched load in the receiving antenna, and look at the power delivered to a load as the height and spacing are changed.

Fortunately, dipoles and moderate size Yagis have similar elevation patterns for at least moderate angles relative to straight-on. That means that the percentage of signal directed toward the ground and therefore arriving at the receive antenna as a reflection will be about the same for a reference dipole as for a test Yagi. So whatever attenuation occurs, it should be about the same for the two antennas. This wouldn't hold, though, for a very long Yagi or for high-angle reflections from antennas which are high and close together. It's one of the factors that make really good antenna measurements tricky.

Roy Lewallen, W7EL

Tarmo Tammaru wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:vnvffcgsrubqdd@corp.supernews.com...
>
>>There are a lot of factors that can potentially ....
>
>
> Roy,
>
> Does one have to worry about elevation? Generally the gain at 0 degrees
> elevation is very low. Does this apply when the two antennas are facing each
> other in plain line of sight? should he raise the transmit antenna to say,
> 15 degrees above the receiving antennas?
>

> Tam/WB2TT
>
>

2508. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 23:26:43 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo3uj68g5mo360@corp.supernews.com>
Source record: 32025

> Oh, you are a FINE ambassidor for the US, aren't you Clint? I hope you're
> mother country is PROUD for what you stand for.
>

I guess you're from one such immasculated, gutless european nations.

Sorry you guys don't have a pair of nuts to do anything about the terrorists
who are humiliating you and showing you to be the cowards that you are.

2509. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 23:27:50 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo3ul9lrijm4c6@corp.supernews.com>
Source record: 32026
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Screw the backstabbing pansies.

2510. Re: Alinco DX-701

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 23:53:48 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1065484425.103088@auth2.dns.griffin.net.uk>
Source record: 32027
Cross-posted to: alt.ham-radio.hf,free.uk.amateur-radio,rec.radio.amateur.homebrew,uk.radio.amateur

yes it can..i have the workshop manual at the office..if you have no luck
will look it up for you..if you want me to please email me..thanks
simon g0zen
"Harry Bloomfield" <harry.m1bytNOSPAM@tiscali.co.uk> wrote in message
news:MPG.19ea6272b97db838989a23@news.individual.net...
> In article <xVUfb.6114$RU4.59789@newsfep4-glfd.server.ntli.net>,
> alec_wood@NO.SPAM.PLEASE.ntlworld.com says...
>
> Schematic from :-
>
> http://www.electronica.ro/cgi-bin/scheme.pl?
> categorie=Statii_radio&marca=Alinco
>
> --
> Regards,
> Harry (M1BYT)...
>
> Remove the 'NOSPAM' in my email address to reply.
>
> Free Amateur Radio Courses:-
> http://www.ukradioamateur.org

2511. schematics of satellite rx wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-06 23:55:35 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1065484531.820361@auth2.dns.griffin.net.uk>
Source record: 32028

looking for schematics for any analogue satellite recievers..
thanks simon g0zen

2512. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 00:06:14 UTC
From: Tarmo Tammaru <t-tammaru@home.com>
Message-ID: <Cfmdna4JZKIYnh-iXTWJiw@comcast.com>
Source record: 32029
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Thanks

Tam

2513. AC978 TOWER 4-SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 02:43:36 UTC
From: Me <j.dauphinais@worldnet.att.net>
Message-ID: <sLpgb.171530$3o3.12587494@bgtnsc05-news.ops.worldnet.att.net>
Source record: 32030
Cross-posted to: alt.ham-radio.packet,nh.forsale,nh.general,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I have for sale a steel Tower totaling 25'. This is in 3 sections 1 10'st8 section, 1 5' st8 section and 10' top section. I do NOT have a rotator. $50.00 pickup only from Westford, MA. I am selling this because it is not suitable for my current QTH. 73"s Jeff AA1GR

2514. TV Tubes, meters, panel meters, power supplies and more!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 04:37:26 UTC
From: M Wood <mwood@hotmail.com>
Message-ID: <vo4go6d2u5lo03@corp.supernews.com>
Source record: 32031

Hey Fellow tinkerers and gadgeteers,

I have a bunch of vintage electronic, radio, TV and similar stuff, great for homebrew projects. Clearing out my dads stuff, he can't use it any more, and now it is your chance to find a bargain,

I have them listed on ebay, I will be adding even more next week. Have TV Tubes, meters, panel meters, power supplies, breadboards, you name it!

All of my auctions start at $1, no bull, no hidden reserve, etc.

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=paulanator&include=0&since=-1&sort=3&rows=50

Thanks,

Paulanator

2515. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 10:55:28 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vo56uln1ktjs1d@corp.supernews.com>
Source record: 32032
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

ah, another anti-american socialist apologist.

Clint

"Walt Davidson" <g3nyy@despammed.com> wrote in message
news:7eu4ov8hqhc21sq9p6iqk0kirvqh45j4bv@4ax.com...

>
> Just like a child when someone steals his rattle ... he lashes out at
> anyone.
>
> --
> Walt Davidson Email: g3nyy @despammed.com
--

The first amendment was meant to protect individual citizen's
rights to free speech from being hindered or banned by the
government. Did anybody else notice that it was 3 candidates
for president of the democratic party that called for Rush
Limbaugh's firing for what he said?

--

2516. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 11:03:35 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310070303.65129949@posting.google.com>
Source record: 32033
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

toor@iquest.net (John S. Dyson) wrote in message news:<blsdhh$2all$3@news.iquest.net>...
> In article <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>,
> Daniel Haude <haude@physnet.uni-hamburg.de> writes:
> > On Sun, 05 Oct 2003 05:07:18 GMT,
> > R. Steve Walz <rstevew@armory.com> wrote
> > in Msg. <3F7FA7C0.6FDA@armory.com>
> >> John S. Dyson wrote:
>
> >>> There has DEFINITELY been a far-leftist drift in EU, and an ongoing
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> >>> becoming extremely obvious from the US standpoint.
> >
> > Curiously, "Anti-Americanism" has always been ONLY visible from an
> > US standpoint, and not just recently.
> >
> Yes, your censored media does tend to cause problems for us.
>
> So, this is a perfect example of the Europeans having a very poor
> abililty to be self-reflective. Remember: it was Chiraq who had
> intermingled funds with Saddam, and unnecessarily sold weapons
> grade Uranium to him. Very little public exposure has been done
> (in Europe because of soft censoring, and in the US to keep
> anti-French/Chiraq fervor from being stronger.)

The European media isn't all that thoroughly censored. During the run-off stage of the most recent French presidential elections, we were treated to the views of pro-Chirac (note the spelling) placards, urging the electors to vote for the crook (Chirac) rather than the thug (Le Pen). The Dutch news-readers enjoyed this immensely.

http://www.internationalist.org/nationalfront&strongstate0602.html

The odd thing about Chirac is that he isn't one of *your* right-wing crooks in the way that - for example - Belesconi seems to be. Presumably Le Pen - who is even more right wing - is more to your taste. Given Chirac's alleged pechant for taking bribes, it is difficult to understand why you couldn't get him on-side, with Blair and Aznar, for the invasion of Irak.

Bill Sloman, Nijmegen

2517. Newbie homebrew qrp ....update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 12:42:25 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f82b1a9.195020@news.kcnet.com>
Source record: 32034

Regarding the 3-watt transmitter I'm building (and having trouble with), here's an update.

I removed the lowpass filter and loosened the wiring, and for a while it seemed to help. The transistor didn't get as hot. But the output stayed the same (less than 1 watt). But then I noticed, as I've noticed before, that the voltage measured at the dummy load doesn't always drop when the key is released. And the transistor stays hot even after the key activity has stopped.

I did as one poster suggested. I removed the antenna from my receiver, tuned around while transmitting, and discovered the following:
(Crystal is 7110 kHz)
at 3554 kHz, signal is S8
at 7110 kHz, signal is S6
at 14218 kHz, signal is S6
at 21326 kHz, signal is S7
at 28433 kHz, signal is S5

Even I can see that this isn't good. And the emitter of Q2 connects to the same trace as everything else that's grounded in the circuit, and it's not a very big trace.

I'm probably going to rebuild this rig, without the circuit board. Many thanks to all who gave me advice on this. Any further comments are also much appreciated.

I put the schematic on my website. The design calls for 28 VDC for a 5-watt output, but I am using 12, which is also ok according to the article.

http://www.kcnet.com/~oyster/transmitter/transmitter.html

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

2518. Re: Newbie homebrew qrp ....update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 15:32:15 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.19ec7c5efb8360f1989690@news-central.giganews.com>
Source record: 32035

In article <3f82b1a9.195020@news.kcnet.com>,
XJohn_S_Sandin@osca.state.mo.us says...

> I did as one poster suggested. I removed the antenna from my
> receiver, tuned around while transmitting, and discovered the
> following:
> (Crystal is 7110 kHz)
> at 3554 kHz, signal is S8
> at 7110 kHz, signal is S6
> at 14218 kHz, signal is S6
> at 21326 kHz, signal is S7
> at 28433 kHz, signal is S5
>
> I'm probably going to rebuild this rig, without the circuit board.
> Many thanks to all who gave me advice on this. Any further comments
> are also much appreciated.

Build it "ugly style" on an unbroken sheet of copper-clad board, and try
a ferrite bead or two in the base and/or emitter leads of the
transistors. The FAA and your local cellular-phone company will thank
you. :)

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

2519. Re: Newbie homebrew qrp ....update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 15:39:28 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <blumng$n1s$1@freenet9.carleton.ca>
Source record: 32036

John Miles (jmiles@pop.removethistomailme.net) writes:
> In article <3f82b1a9.195020@news.kcnet.com>,
> XJohn_S_Sandin@osca.state.mo.us says...
>
>> I did as one poster suggested. I removed the antenna from my
>> receiver, tuned around while transmitting, and discovered the
>> following:
>> (Crystal is 7110 kHz)
>> at 3554 kHz, signal is S8
>> at 7110 kHz, signal is S6
>> at 14218 kHz, signal is S6
>> at 21326 kHz, signal is S7
>> at 28433 kHz, signal is S5
>>
>> I'm probably going to rebuild this rig, without the circuit board.
>> Many thanks to all who gave me advice on this. Any further comments
>> are also much appreciated.
>
> Build it "ugly style" on an unbroken sheet of copper-clad board, and try
> a ferrite bead or two in the base and/or emitter leads of the
> transistors. The FAA and your local cellular-phone company will thank
> you. :)
>
> -- jm

I didn't look at the pictures, but someone said something about long
leads to coils and maybe variables. Sometimes it makes sense to make
the circuit board used for the "ugly construction" the front panel, or
at least mount it flush with the front panel. Then, all the controls
can be mounted on the circuit board, near where they are connected and
with the actual shaft coming out the circuit board, yet they can be accessed
from the front panel.

Or mount the controls 90 degrees to the front panel, but again have
them mounted on the circuit board so the leads are short.

Michael VE2BVW

2520. Vectronic Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 15:42:12 UTC
From: tk <gamach1@ispwest.com>
Message-ID: <3F82DED4.67745EB6@ispwest.com>
Source record: 32037

When Radio Shack closed the Tech America outlet here in Atlanta I bought
4 Vectronic Kits...
20 & 30 meter recvr & xmtr pairs. Are either of these worth the time
to assemble them ?
The receivers are NE612 DC types. Would appreciate all comments....

Thanks

Ted in Atlanta KD4EE

2521. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 16:26:46 UTC
From: toor@iquest.net
Message-ID: <blupg6$31e5$6@news.iquest.net>
Source record: 32038
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <7c584d27.0310070303.65129949@posting.google.com>,
bill.sloman@ieee.org (Bill Sloman) writes:
> toor@iquest.net (John S. Dyson) wrote in message news:<blsdhh$2all$3@news.iquest.net>...
>> In article <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>,
>> Daniel Haude <haude@physnet.uni-hamburg.de> writes:
>> > On Sun, 05 Oct 2003 05:07:18 GMT,
>> > R. Steve Walz <rstevew@armory.com> wrote
>> > in Msg. <3F7FA7C0.6FDA@armory.com>
>> >> John S. Dyson wrote:
>>
>> >>> There has DEFINITELY been a far-leftist drift in EU, and an ongoing
>> >>> anti-America and American sentiment in Europe, only recently
>> >>> becoming extremely obvious from the US standpoint.
>> >
>> > Curiously, "Anti-Americanism" has always been ONLY visible from an
>> > US standpoint, and not just recently.
>> >
>> Yes, your censored media does tend to cause problems for us.
>>
>> So, this is a perfect example of the Europeans having a very poor
>> abililty to be self-reflective. Remember: it was Chiraq who had
>> intermingled funds with Saddam, and unnecessarily sold weapons
>> grade Uranium to him. Very little public exposure has been done
>> (in Europe because of soft censoring, and in the US to keep
>> anti-French/Chiraq fervor from being stronger.)
>
> The European media isn't all that thoroughly censored. During the
> run-off stage of the most recent French presidential elections, we
> were treated to the views of pro-Chirac (note the spelling)
>
Note that my spelling is a PURPOSEFUL play on words... Geesh
'Chiraq' and 'Saddam Hussein' were joined at the hip anyway.

John

2522. Re: Ongoing Saddam support from devolving French/German societies

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 18:14:18 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310071014.5c110b40@posting.google.com>
Source record: 32039
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

toor@iquest.net (John S. Dyson) wrote in message news:<blocqi$13r1$1@news.iquest.net>...
> In article <IuMfb.2090$%o6.826@news1.central.cox.net>,
> "GPE" <See_my_website_for_email@cox.net> writes:
> >
> > "Bill Sloman" <bill.sloman@ieee.org> wrote in message
> > news:7c584d27.0310041436.3ee7f734@posting.google.com...
> > ...
> > where an RPG attack came from and they actually nailed the instigators.
> > The
> > France 2 news broke off just before this point and instead of the
> > explaination - the France 2 news just adlibed how this was "just another
> > example of another unprovoked attack by the occupiers".
> >
> > Now doesn't this sound just a little like anti-US biased reporting? Maybe
> > just a little?

<huge snip of everything John S.Dyson appears to have posted>

John, could you be a little more careful with your unmarked snips?

The text that you quote here has nothing to do with me, and your
ineptitude makes it looks as if you are responding to something I
wrote.

Bill Sloman, Nijmegen

2523. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 18:45:57 UTC
From: OZ1EQC <per@oz1eqc.dk>
Message-ID: <blv1lh$u38$1@news.cybercity.dk>
Source record: 32040

"Clint" <rattlehead at computron dot net> skrev i en meddelelse
news:vo3uj68g5mo360@corp.supernews.com...
> > Oh, you are a FINE ambassidor for the US, aren't you Clint? I hope
you're
> > mother country is PROUD for what you stand for.
> >
>
> I guess you're from one such immasculated, gutless european nations.
>
> Sorry you guys don't have a pair of nuts to do anything about the
terrorists
> who are humiliating you and showing you to be the cowards that you are.

Clint
Would you be so kind to call those European nations by name, I am tired of
being told how anti american I am !

I am MSGT in the RDAF, have been in Cyprus, Gaza, Afghanistan, Kosova,
Bosnia I Herzegovina and have just got back from
Mosul Iraq (where I lost one of my best friends). I have been working
together with lot of US soldiers, terrific guys.

I am fighting terrorist like many other Danish soldiers, and many other
European Nations. Maybe we are a small nation, but we have
so many troops out there that compared to the nation size of US, it would
mean about 300.000 man. Which means the cost is extensive.
But we as nation means that this is the price we have to pay.

So Clint please call them by name.

Thanks Per OZ1EQC

2524. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 20:47:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vo69iu2o5o18f9@corp.supernews.com>
Source record: 32041

Thanks for the link. That picture brought back vivid memories of times outdoors in the Rockies in some really attention-getting weather. Whoa, mama, time to be lookin' for some cover!

Roy Lewallen, W7EL

Avery Fineman wrote:
> For those interested in getting full and complete details of WWVB, go to:
>
> http://www.boulder.nist.gov/timefreq/stations/wwvb.htm
>
> That is the home page for the NIST radio stations and there is a link to
> NIST's radio coverage every two hours or so during a 24 hour period
> using small hemispere map projections of North and South America.
> . . .

2525. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 22:32:37 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310071432.49cdc9f0@posting.google.com>
Source record: 32042
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

toor@iquest.net (John S. Dyson) wrote in message news:<blupg6$31e5$6@news.iquest.net>...
> In article <7c584d27.0310070303.65129949@posting.google.com>,
> bill.sloman@ieee.org (Bill Sloman) writes:
> > toor@iquest.net (John S. Dyson) wrote in message
news:<blsdhh$2all$3@news.iquest.net>...
> >> In article <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>,
> >> Daniel Haude <haude@physnet.uni-hamburg.de> writes:
> >> > On Sun, 05 Oct 2003 05:07:18 GMT,
> >> > R. Steve Walz <rstevew@armory.com> wrote
> >> > in Msg. <3F7FA7C0.6FDA@armory.com>
> >> >> John S. Dyson wrote:

<snip>

> >> So, this is a perfect example of the Europeans having a very poor
> >> abililty to be self-reflective. Remember: it was Chiraq who had
> >> intermingled funds with Saddam, and unnecessarily sold weapons
> >> grade Uranium to him. Very little public exposure has been done
> >> (in Europe because of soft censoring, and in the US to keep
> >> anti-French/Chiraq fervor from being stronger.)
> >
> > The European media isn't all that thoroughly censored. During the
> > run-off stage of the most recent French presidential elections, we
> > were treated to the views of pro-Chirac (note the spelling)
> >
> Note that my spelling is a PURPOSEFUL play on words... Geesh
> 'Chiraq' and 'Saddam Hussein' were joined at the hip anyway.

I admit that we haven't seen much of John Woodgate recently, but you
are trying to fill a much-needed gap.

I must say that I did wonder about Chiraq/Iraq when I was looking at
your piece, but figured that a defective vocabulary was more likely
than a defective play on words, all things considered.

Bill Sloman, Nijmegen

2526. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-07 23:16:52 UTC
From: toor@iquest.net
Message-ID: <blvhh4$76v$1@news.iquest.net>
Source record: 32043
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <7c584d27.0310071432.49cdc9f0@posting.google.com>,
bill.sloman@ieee.org (Bill Sloman) writes:
> toor@iquest.net (John S. Dyson) wrote in message news:<blupg6$31e5$6@news.iquest.net>...
>> In article <7c584d27.0310070303.65129949@posting.google.com>,
>> bill.sloman@ieee.org (Bill Sloman) writes:
>> > toor@iquest.net (John S. Dyson) wrote in message
news:<blsdhh$2all$3@news.iquest.net>...
>> >> In article <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>,
>> >> Daniel Haude <haude@physnet.uni-hamburg.de> writes:
>> >> > On Sun, 05 Oct 2003 05:07:18 GMT,
>> >> > R. Steve Walz <rstevew@armory.com> wrote
>> >> > in Msg. <3F7FA7C0.6FDA@armory.com>
>> >> >> John S. Dyson wrote:
>
> <snip>
>
>> >> So, this is a perfect example of the Europeans having a very poor
>> >> abililty to be self-reflective. Remember: it was Chiraq who had
>> >> intermingled funds with Saddam, and unnecessarily sold weapons
>> >> grade Uranium to him. Very little public exposure has been done
>> >> (in Europe because of soft censoring, and in the US to keep
>> >> anti-French/Chiraq fervor from being stronger.)
>> >
>> > The European media isn't all that thoroughly censored. During the
>> > run-off stage of the most recent French presidential elections, we
>> > were treated to the views of pro-Chirac (note the spelling)
>> >
>> Note that my spelling is a PURPOSEFUL play on words... Geesh
>> 'Chiraq' and 'Saddam Hussein' were joined at the hip anyway.
>
> I admit that we haven't seen much of John Woodgate recently, but you
> are trying to fill a much-needed gap.
>
Does ad-hominem against me help you? Does it really make you feel
better?

>
> I must say that I did wonder about Chiraq/Iraq when I was looking at
> your piece, but figured that a defective vocabulary
>
You were wrong, as usual. You don't even have a miniscule idea
as to how wrong headed you are...

Again, if you cannot see that the use of the name Chiraq isn't obvious, then perhaps your own perceptive skills are challenged by the wordplay?

John

2527. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 03:56:11 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F838A81.8355B978@bellatlantic.net>
Source record: 32044

John Sandin wrote:
>
> Here's the link to my project website..
>
> http://www.kcnet.com/~oyster/transmitter/transmitter.html
>

Your heatsink (at least, I think it's the heatsink) is
inefficient (finless), and you mentioned using lots of
heat sink grease. You *can* have too much grease.
Putting in a bigger sink with fins and a small amount
of heatsink compound won't fix your problem - but it may
be a good idea, once you have fixed it.

The fact that the xsistor is heating up at least means that
the rig is "making power". If we assume that the power
it's making is RF at the right frequency, then suspect the
output circuit from the collector outwards up to and
including the antenna. And, with your antenna at 7 feet,
and fed by a questionable mix of coax, it may be the source
of the trouble.

Try feeding the rig into a good 50 ohm dummy load and see if
that allows the transistor to run cooler.

2528. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 05:58:12 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <bm091k$1ce$2@208.206.142.71>
Source record: 32045
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Clint wrote:

> ah, another anti-american socialist apologist.
>
> Clint
>
> "Walt Davidson" <g3nyy@despammed.com> wrote in message
> news:7eu4ov8hqhc21sq9p6iqk0kirvqh45j4bv@4ax.com...
>
>
>>Just like a child when someone steals his rattle ... he lashes out at
>>anyone.

Yep. Anyone whoi doesn't agree with Clint's "well thought out"
propaganda is an anti-american socialist.

2529. Re: Newbie homebrew qrp ....update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 06:25:14 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3F83ADCA.70107@invalid.invalid>
Source record: 32046

John Sandin wrote:
> I removed the lowpass filter and loosened the wiring, and for a while
> it seemed to help. The transistor didn't get as hot. But the output
> stayed the same (less than 1 watt). But then I noticed, as I've
> noticed before, that the voltage measured at the dummy load doesn't
> always drop when the key is released. And the transistor stays hot
> even after the key activity has stopped.

This seems to me to be a sure sign the amplifier transistor is oscillating on its own. In this circuit the code key doesn't interrupt the amplifier - if it's oscillating on its own, it will do so whether the key is closed or not.

What *frequency* is it oscillating at? Good question. (if I were you I'd try to get my hands on a 51-ohm or 47-ohm 2-watt resistor and use it in place of the antenna until you get the oscillation in the amplifier fixed. Unfortunately, simply replacing the antenna with the resistor *might* fix the oscillation! The antenna is essentially part of the circuit..)

I have my suspicion that the fact the leads for L1/L2 (the coils between the two transistors) and L3/L4 (the coils between the amplifier and the antenna) are long and close together may be your problem. You really need wires in RF circuits to be as short as possible. Maybe remove the connectors from the back of the box, put the coil sockets there, and put the *connectors* on top? I suspect the RF on the leads for L3 is being coupled into the leads for L2.
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

2530. Re: Newbie homebrew qrp ....update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 12:40:24 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310080440.1f0a9539@posting.google.com>
Source record: 31947

XJohn_S_Sandin@osca.state.mo.us (John Sandin) wrote in message
news:<3f82b1a9.195020@news.kcnet.com>...
> Regarding the 3-watt transmitter I'm building (and having trouble
> with), here's an update.
...

john,
a receiver will probably report all the harmonics of the crystal. so
that is not really a big deal. almost all the harmonics will also
sound pretty powerful and equal to each other in the HF receiver
because the recevier's AGC will boost the lowering outputs to a higher
level.
the output at 3.5mhz can be easily explained by a receiver shielding
deficiency. what i would really suggest to you is to TAKE CHARGE. i
mean, figure out exactly what is going and how.
do you have access to an oscilloscope? a single oscilloscope trace is
really worth a thousand blind trails. failing which,
i suggest that you should first make yourself some test instruments. i
would highly recommend a wavemeter. it requires about 5 components (a
couple more if you want to build a GDO-cum-wavemeter). A single coil
should cover most of the HF band of interest to you. then ...
rebuild the transmitter from scratch, keep everything at 50 ohms
impedance. refer to EMRFD for guidlines. then ...
don't push too much gain in each stage. It is actually easier to debug
and build a transmitter with more stages having lower gain than trying
to push maximum out of fewer components. finally ...
shoot for about 7 watts of output. An 80 cent IRF510 should easily
give you that much. use the wavemeter and the a power meter to measure
the harmonic outputs. But frankly even if you are pushing out 50% of
the energy in fundamentals, then political correctness aside, you
should be able to make contacts. QRP of single watters are best left
to old war horse like W7EL. it is tough for a novice to get through on
a single watt being rock-bound.
i would also suggest that you hook up with a ham down the block to be
able to monitor your signal. then another across the city ... then
another across the state...
- farhan

2531. Re: Newbie homebrew qrp ....update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 13:30:56 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f840f5a.576957@news.kcnet.com>
Source record: 31948

Thanks again to all. I'm going to take charge of this problem first of all by rebuilding the project, using direct wiring, using the layout recommended by QST, June 1967. Using this method, I can fit everything into the just the lid section of my existing box and I won't have to remake the tube socket holes in a new chassis. Based on what everyone has said, I ought to get rid of all that loose wiring anyway, prior to making any tests with a scope, which I don't yet have. I want the thing to be well-constructed, to eliminate all that unpredictability we've been talking about. I will also use only my 50 ohm dummy load for testing until everything's as good as I can make it.

On 8 Oct 2003 05:40:24 -0700, farhan@hotfoon.com (Ashhar Farhan) wrote:

>XJohn_S_Sandin@osca.state.mo.us (John Sandin) wrote in message news:<3f82b1a9.195020@news.kcnet.com>...
>> Regarding the 3-watt transmitter I'm building (and having trouble
>> with), here's an update.
>...
>
>john,
>a receiver will probably report all the harmonics of the crystal. so
>that is not really a big deal. almost all the harmonics will also
>sound pretty powerful and equal to each other in the HF receiver
>because the recevier's AGC will boost the lowering outputs to a higher
>level.
>the output at 3.5mhz can be easily explained by a receiver shielding
>deficiency. what i would really suggest to you is to TAKE CHARGE. i
>mean, figure out exactly what is going and how.
>do you have access to an oscilloscope? a single oscilloscope trace is
>really worth a thousand blind trails. failing which,
>i suggest that you should first make yourself some test instruments. i
>would highly recommend a wavemeter. it requires about 5 components (a
>couple more if you want to build a GDO-cum-wavemeter). A single coil
>should cover most of the HF band of interest to you. then ...
>rebuild the transmitter from scratch, keep everything at 50 ohms
>impedance. refer to EMRFD for guidlines. then ...
>don't push too much gain in each stage. It is actually easier to debug
>and build a transmitter with more stages having lower gain than trying
>to push maximum out of fewer components. finally ...
>shoot for about 7 watts of output. An 80 cent IRF510 should easily
>give you that much. use the wavemeter and the a power meter to measure
>the harmonic outputs. But frankly even if you are pushing out 50% of
>the energy in fundamentals, then political correctness aside, you

>should be able to make contacts. QRP of single watters are best left
>to old war horse like W7EL. it is tough for a novice to get through on
>a single watt being rock-bound.
>i would also suggest that you hook up with a ham down the block to be
>able to monitor your signal. then another across the city ... then
>another across the state...
>- farhan

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

2532. Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 14:26:26 UTC
From: Liam Ness <working@the.factory>
Message-ID: <ot68ovo9dgfnecvka693gar6n9q9uqpu1o@4ax.com>
Source record: 31949

I've been homebrewing some simple part 15 transmitters and have always thought that I was safely within part 15 by controling the RF output. I use a spice program to estimate my output levels. I just read a web page that suggests a antenna can increase the RF output power and I wanted advice if that is true. It was suggested that output could be increased from 30milliwatts to 60milliwatts by using this antenna. I understand how you could increase voltage with a decrease in amperage and vice versa, but I was under the assumption that you couldn't increase total power without adding more power. I thought it would violate one of the laws of thermodymanics otherwise. They didn't seem to be talking about more effieciently radiating the transmitters power, but actually increasing it above what is present at the antenna port.

Could someone confirm whether it is posible to increase the power output of an RF transmitter above the total presented to the antenna. If it is, I'd appreciate any pointers to information about this. I don't want put myself out of part 15 by a poor antenna choice. (even though I still can't believe that it is possible, it sounds to much like perpetual motion)

TIA

2533. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 15:15:50 UTC
From: Pawel Stobinski <sq9nry@wp.pl>
Message-ID: <bm165rpjm1@julia.coi.pw.edu.pl>
Source record: 31950

Liam Ness wrote:
> page that suggests a antenna can increase the RF output power and I
> wanted advice if that is true. It was suggested that output could be
> increased from 30milliwatts to 60milliwatts by using this antenna. I
> understand how you could increase voltage with a decrease in amperage
> and vice versa, but I was under the assumption that you couldn't
> increase total power without adding more power. I thought it would
> violate one of the laws of thermodymanics otherwise.

Of course, it would.

> They didn't seem
> to be talking about more effieciently radiating the transmitters

I guess that's the point.

> power, but actually increasing it above what is present at the antenna
> port. Could someone confirm whether it is posible to increase the power
> output of an RF transmitter above the total presented to the antenna.
> If it is, I'd appreciate any pointers to information about this. I
> don't want put myself out of part 15 by a poor antenna choice. (even
> though I still can't believe that it is possible, it sounds to much
> like perpetual motion)

If anybody invented such a device, the Nobel Prize would be sure.

--
Pawel Stobinski SQ9NRY
Republic of Poland

2534. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 15:16:00 UTC
From: Key Largo <Bogie@largo.com>
Message-ID: <RSVgb.58303$Ms2.40556@fed1read03>
Source record: 31951

Nope -- you can not get out more power than you put in.
Antenna gain is essentially squishing energy into a narrower pattern.
Hence gain over the previous pattern or reference antenna in a given
direction and angle
Gain is referenced to a dipole or isotropic radiator

antenna gain: The ratio of the power required at the input of a loss-free
reference antenna to the power supplied to the input of the given antenna to
produce, in a given direction, the same field strength at the same distance.
Note 1: Antenna gain is usually expressed in dB. Note 2: Unless otherwise
specified, the gain refers to the direction of maximum radiation. The gain
may be considered for a specified polarization. Depending on the choice of
the reference antenna, a distinction is made between:

a.. absolute or isotropic gain (Gi), when the reference antenna is an
isotropic antenna isolated in space;

b.. gain relative to a half-wave dipole (Gd) when the reference antenna is
a half-wave dipole isolated in space and with an equatorial plane that
contains the given direction;
For example: A radio's transmitting power can be concentrated along the
horizon by use of a GAIN antenna. Although you may still be transmitting
with four watts of power, your EFFECTIVE RADIATED POWER (ERP) will be
greatly increased.
See URL: http://www.firestik.com/Tech_Docs/gain_erp.htm

Some more references
http://www.arrl.org/members-only/tis/info/pdf/8211035.pdf

http://www.marcspages.co.uk/tech/antgain.htm

--
73 From Key Largo

"Liam Ness" <working@the.factory> wrote in message
news:ot68ovo9dgfnecvka693gar6n9q9uqpu1o@4ax.com...
> I've been homebrewing some simple part 15 transmitters and have always
> thought that I was safely within part 15 by controling the RF output.
> I use a spice program to estimate my output levels. I just read a web
> page that suggests a antenna can increase the RF output power and I
> wanted advice if that is true. It was suggested that output could be
> increased from 30milliwatts to 60milliwatts by using this antenna. I
> understand how you could increase voltage with a decrease in amperage
> and vice versa, but I was under the assumption that you couldn't
> increase total power without adding more power. I thought it would
> violate one of the laws of thermodymanics otherwise. They didn't seem

> to be talking about more effieciently radiating the transmitters
> power, but actually increasing it above what is present at the antenna
> port.
>
> Could someone confirm whether it is posible to increase the power
> output of an RF transmitter above the total presented to the antenna.
> If it is, I'd appreciate any pointers to information about this. I
> don't want put myself out of part 15 by a poor antenna choice. (even
> though I still can't believe that it is possible, it sounds to much
> like perpetual motion)
>
> TIA

2535. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 15:31:37 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000ae.00406e1b@btinternet.com>
Source record: 31952

Hi,

Firstly, I am not familiar with Part 15 and any comments that follow do not take into account system losses or inefficiencies.

It is generally NOT possible to increase the power output of a transmitter just by changing the antenna connected to it. A transmitter of 'X' watts connected to antenna 'Y' would produce exactly the same radiated power if it were connected to a completely different antenna 'Z' instead. The exception to this is if changing the antenna causes the transmitter to generate more power because of changes in its operating conditions such as in the impedance match presented to it.

However every antenna, other than an isotropic radiator (a hypothetical device that radiates equally in all directions), will have gain in some direction at the expense of that in others. The product of the gain and transmitter power is called the EiRP (equivalent isotropic radiated power) and this is what is generally quoted as the limiting power allowed.

So, if a particular antenna is stated as having a gain of 2 (3dB) over an isotropic radiator then, along the axis of the antenna that has the maximum gain, it will appear that the transmitter power has been increased by 3dB (twice the power output) although the transmitter itself has not in fact produced any more. This 'extra', of course, comes from not radiating power in all the other directions.

Cheers - Joe

2536. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 15:43:59 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bm1bbv$b44$1@titan.btinternet.com>
Source record: 31953

Antennas have directional properties.

It the total available power is concentrated in one direction then, as far as the receiver is concerned, the APPARENT power of the transmitter has increased.

But receivers in less-favoured directions from the transmitter will experience an APPARENT reduction in the transmitter's output power.

2537. Re: Fuel Tanks and Cereal Silos as Cavity Resonators for HF

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 19:13:57 UTC
From: n1jpr@hotmail.com
Message-ID: <95a201e0.0310081113.13ee30f8@posting.google.com>
Source record: 31954

Thank you all for your support w/ cavities!

I'll first do more research,
then I'll post more questions
on sci.med.dentistry

2538. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 20:31:57 UTC
From: k7itm@aol.com
Message-ID: <3200347.0310081231.706cfbcc@posting.google.com>
Source record: 31955

Liam,

You are absolutely right that the antenna cannot radiate more power
than you feed it. They are probably talking about "effective ratiated
power", which is closely related to antenna gain. You get more power
at the receivers, but only in the directions where radiation is
maximized. For example, a Yagi directs the power more in one
direction, and a "vertical collinear" directs it in a horizontal
plane. Each does so at the "expense" of power radiated in other
directions, but if you don't care about reaching receivers in those
other directions, it's not a problem. But be careful: do the rules
limit the maximum power, or the maximum ERP (effective radiated
power)? (The same thing works for receiving, too. You can use
antenna directivity to increase the received signal level, and to
reject signals or noise coming from directions you don't care about
receiving.)

Cheers,
Tom

Liam Ness <working@the.factory> wrote in message
news:<ot68ovo9dgfnecvka693gar6n9q9uqpu1o@4ax.com>...
> I've been homebrewing some simple part 15 transmitters and have always
> thought that I was safely within part 15 by controling the RF output.
> I use a spice program to estimate my output levels. I just read a web
> page that suggests a antenna can increase the RF output power and I
> wanted advice if that is true. It was suggested that output could be
> increased from 30milliwatts to 60milliwatts by using this antenna. I
> understand how you could increase voltage with a decrease in amperage
> and vice versa, but I was under the assumption that you couldn't
> increase total power without adding more power. I thought it would
> violate one of the laws of thermodymanics otherwise. They didn't seem
> to be talking about more effieciently radiating the transmitters
> power, but actually increasing it above what is present at the antenna
> port.
>
> Could someone confirm whether it is posible to increase the power
> output of an RF transmitter above the total presented to the antenna.
> If it is, I'd appreciate any pointers to information about this. I
> don't want put myself out of part 15 by a poor antenna choice. (even
> though I still can't believe that it is possible, it sounds to much
> like perpetual motion)
>
> TIA

2539. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 21:59:06 UTC
From: bill.sloman@ieee.org
Message-ID: <7c584d27.0310081359.38a40e7a@posting.google.com>
Source record: 31956
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

toor@iquest.net (John S. Dyson) wrote in message news:<blvhh4$76v$1@news.iquest.net>...
> In article <7c584d27.0310071432.49cdc9f0@posting.google.com>,
> bill.sloman@ieee.org (Bill Sloman) writes:
> > toor@iquest.net (John S. Dyson) wrote in message
news:<blupg6$31e5$6@news.iquest.net>...
> >> In article <7c584d27.0310070303.65129949@posting.google.com>,
> >> bill.sloman@ieee.org (Bill Sloman) writes:
> >> > toor@iquest.net (John S. Dyson) wrote in message
news:<blsdhh$2all$3@news.iquest.net>...
> >> >> In article <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>,
> >> >> Daniel Haude <haude@physnet.uni-hamburg.de> writes:
> >> >> > On Sun, 05 Oct 2003 05:07:18 GMT,
> >> >> > R. Steve Walz <rstevew@armory.com> wrote
> >> >> > in Msg. <3F7FA7C0.6FDA@armory.com>
> >> >> >> John S. Dyson wrote:
> >
> > <snip>
> >
> >> >> So, this is a perfect example of the Europeans having a very poor
> >> >> abililty to be self-reflective. Remember: it was Chiraq who had
> >> >> intermingled funds with Saddam, and unnecessarily sold weapons
> >> >> grade Uranium to him. Very little public exposure has been done
> >> >> (in Europe because of soft censoring, and in the US to keep
> >> >> anti-French/Chiraq fervor from being stronger.)
> >> >
> >> > The European media isn't all that thoroughly censored. During the
> >> > run-off stage of the most recent French presidential elections, we
> >> > were treated to the views of pro-Chirac (note the spelling)
> >> >
> >> Note that my spelling is a PURPOSEFUL play on words... Geesh
> >> 'Chiraq' and 'Saddam Hussein' were joined at the hip anyway.
> >
> > I admit that we haven't seen much of John Woodgate recently, but you
> > are trying to fill a much-needed gap.
> >
> Does ad-hominem against me help you? Does it really make you feel
> better?

John Woodgate is a perfectly respectable figure, albeit with a taste
for bad puns. He seems to be multilingual, with a very good grasp of
the way language works, so his puns do work, even through most of them
don't have the extra symbolic content required to justify posting
them.

If anything, you've just been flattered.

> > I must say that I did wonder about Chiraq/Iraq when I was looking at
> > your piece, but figured that a defective vocabulary
> >
> You were wrong, as usual. You don't even have a miniscule idea
> as to how wrong headed you are...

Perhaps. I *was* being charitable.

> Again, if you cannot see that the use of the name Chiraq isn't obvious,
> then perhaps your own perceptive skills are challenged by the
> wordplay?

Have you ever heard the two words pronounced?

Chirac is pronounced Sheer-ack ("ack" as in back, lack and tack).

Irak/Iraq is pronounced Ear-ark.

Trying to get a punning relationship between these two words violates phonology, that is, it is defective word play. You made an orthographic attempt to assert a similarity which isn't there in the spoken language, and it simply doesn't work. The symbolic content is there, but the phonetics don't sustain it.

Bill Sloman, Nijmegen

2540. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-08 23:02:11 UTC
From: Fire & Brimstone <Not.no.m@il.here>
Message-ID: <3f8496b7$0$47053$45beb828@newscene.com>
Source record: 31957
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@
BIG-AL -003894.5-LSB-75-METERS> wrote in
news:vn6lk3dd6nrg62@corp.supernews.com:

> PARIS, France (AP) -- The death toll in France from August's
> blistering heat wave was nearly 15,000, according to a government
> report released Thursday that exceeded prior official estimates by
> 3,000 victims.

No, Not good news, 30,000 would've been good news.

15,000 is a good start though.

During one of the many wars that the French and the British fought and the French usually lost, the French just happened to capture a British Major. An officer brought the Major to the French general for interrogation. The French general began ridiculing the Major for wearing "that stupid red tunic." The French general said, "Why to you wear that red uniform, it makes it easy for us to shoot you." The British major replied, "If I do get wounded, the blood will not show, and my soldiers will not get scared." The French general said, "That is a very good idea," The Frenchy turned to his orderly and said, "From now on all French officers will wear brown pants."

2541. Re: Vectronic Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 00:34:35 UTC
From: shephed <smokey@twist1up.com>
Message-ID: <v22hb.109052$xx4.17719713@twister.neo.rr.com>
Source record: 31958

Almost any kit is worth the time. :-)
These are not bad little rigs, but I would find a kid or two and get them to help you build them. When you are finished, tell them they can have them when they get their ticket.
This might spur a new kid into the hobby.

Just a thought.

73

"tk" <gamach1@ispwest.com> wrote in message
news:3F82DED4.67745EB6@ispwest.com...
> When Radio Shack closed the Tech America outlet here in Atlanta I bought
> 4 Vectronic Kits...
> 20 & 30 meter recvr & xmtr pairs. Are either of these worth the time
> to assemble them ?
> The receivers are NE612 DC types. Would appreciate all comments....
>
> Thanks
>
> Ted in Atlanta KD4EE
>

2542. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 00:55:03 UTC
From: Liam Ness <working@the.factory>
Message-ID: <0cc9ovcsmu46na3avjpdfc3vclgineu2rn@4ax.com>
Source record: 31959

Thank you to everyone who responded to my question. And thank you for making what I thought I had a handle on so much clearer to me.

Liam Ness

2543. OLD QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 01:55:25 UTC
From: Paul Jordan <pauljordan@gci.net>
Message-ID: <vo9g0obp4mnc05@corp.supernews.com>
Source record: 31960

Does anyone have the QST article I believe from 1997 that discusses the Micronaut 20 meter QRP rig?? I've been lookin all over for it and can't get a copy.. Any help is greatly appreciated.

kl0an
Paul Jordan
Anchorage, AK

2544. Old QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 01:56:51 UTC
From: Paul Jordan <pauljordan@gci.net>
Message-ID: <vo9g3en51fav91@corp.supernews.com>
Source record: 31961

I'm looking for an article from 1997 I believe where it discusses the Micronaut 20 meter qrp rig. I'm looking into building one of these for myself and hopefully making up some kits for some younger future hams to learn on.. Any help is greatly appreciated.

Paul Jordan
kl0an
Anchorage, AK

2545. Re: Old QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 02:59:48 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <0b4hb.720$LJ5.23337@iad-read.news.verio.net>
Source record: 31962

"Paul Jordan" <pauljordan@gci.net> wrote in message
news:vo9g3en51fav91@corp.supernews.com...
> I'm looking for an article from 1997 I believe where it discusses the
> Micronaut 20 meter qrp rig. I'm looking into building one of these for
> myself and hopefully making up some kits for some younger future hams to
> learn on.. Any help is greatly appreciated.
>
> Paul Jordan
> kl0an
> Anchorage, AK
>
>

You don't mention if a member of the ARRL.. maybe go to their web site and
see if they can retrieve it from their archives and sell you a copy -
especially if not a member.

I MAY have it but not sure. Would have to look.

L.

2546. Re: Newbie homebrew qrp ....update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 04:20:21 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F84E236.518857F6@bellatlantic.net>
Source record: 31963

John Sandin wrote:
>
> Regarding the 3-watt transmitter I'm building (and having trouble
> with), here's an update.
>
> I removed the lowpass filter and loosened the wiring, and for a while
> it seemed to help. The transistor didn't get as hot. But the output
> stayed the same (less than 1 watt). But then I noticed, as I've
> noticed before, that the voltage measured at the dummy load doesn't
> always drop when the key is released. And the transistor stays hot
> even after the key activity has stopped.
>
> I did as one poster suggested. I removed the antenna from my
> receiver, tuned around while transmitting, and discovered the
> following:
> (Crystal is 7110 kHz)
> at 3554 kHz, signal is S8
> at 7110 kHz, signal is S6
> at 14218 kHz, signal is S6
> at 21326 kHz, signal is S7
> at 28433 kHz, signal is S5
>
> Even I can see that this isn't good.

This IS good - it is what you should expect with the LP filter
removed. (In fact, you may very well "see" these frequencies
even with the LP filter installed.) You're "seeing" the harmonics
with the receiver. It proves the thing is producing oscillation
in the Q1 stage, which is a desired effect. But it doesn't tell
you anything about self oscillation or the "health" of the Q2
circuit. If you disconnect the base of Q2 and the receiver doesn't
hear those frequencies any more, or hears them at a lower level,
that proves that the Q2 stage was amplifying.

What is of interest is the fact that you saw voltage across the
dummy load, after the key was released. That is bad. Q2 should
be cut off by the 33 and 56 ohm resistors with no signal on L2,
and even if it was shorted, there should be no voltage across
the dummy load. That suggests that Q1 must still be producing
a signal, or self oscillation in the Q2 circuit. Check the
capacitor values in the Q1 circuit - make sure it is a 10 uf
electrolytic, and the 220 is 220 pF. The resistance to ground
from the base of Q2 should be about 90 ohms. The components
connected to the base of Q2 should have short leads, and you
want to keep wires and components connecting to the Q2 collector

away from the Q2 base and all of the components to the left
(on the schematic) of Q2.

> And the emitter of Q2 connects
> to the same trace as everything else that's grounded in the circuit,
> and it's not a very big trace.
>
> I'm probably going to rebuild this rig, without the circuit board.
> Many thanks to all who gave me advice on this. Any further comments
> are also much appreciated.
>
> I put the schematic on my website. The design calls for 28 VDC for a
> 5-watt output, but I am using 12, which is also ok according to the
> article.
>
> http://www.kcnet.com/~oyster/transmitter/transmitter.html
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

2547. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 04:22:24 UTC
From: tdonaly@aol.com
Message-ID: <20031009002224.24920.00000040@mb-m17.aol.com>
Source record: 31964

>
>
>Have you ever heard the two words pronounced?
>
>Chirac is pronounced Sheer-ack ("ack" as in back, lack and tack).
>
>Irak/Iraq is pronounced Ear-ark.
>
>Trying to get a punning relationship between these two words violates
>phonology, that is, it is defective word play. You made an
>orthographic attempt to assert a similarity which isn't there in the
>spoken language, and it simply doesn't work. The symbolic content is
>there, but the phonetics don't sustain it.
>
>------
>Bill Sloman, Nijmegen

Many of us Americans pronounce Iraq, "eye-rack," and
don't have the foggiest notion who or what Chirac is.
73,
Tom Donaly KA6RUH

2548. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 04:27:48 UTC
From: tdonaly@aol.com
Message-ID: <20031009002748.24920.00000041@mb-m17.aol.com>
Source record: 31965

Another great American dimbulb wrote,
>
>
>No, Not good news, 30,000 would've been good news.
>
>15,000 is a good start though.
>
>
> During one of the many wars that the French and the British fought and
>the French usually lost, the French just happened to capture a British
>Major. An officer brought the Major to the French general for
>interrogation. The French general began ridiculing the Major for
>wearing "that stupid red tunic." The French general said, "Why to you
>wear that red uniform, it makes it easy for us to shoot you." The
>British major replied, "If I do get wounded, the blood will not show,
>and my soldiers will not get scared." The French general said, "That
>is a very good idea," The Frenchy turned to his orderly and said,
>"From now on all French officers will wear brown pants."
>
>

Very funny. You're going to need those pants when you get the whole
bill for the Iraq war.
Tom Donaly

2549. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 04:48:08 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F84E8B9.67FDAF9A@bellatlantic.net>
Source record: 31966

Liam Ness wrote:
>
> I've been homebrewing some simple part 15 transmitters and have always
> thought that I was safely within part 15 by controling the RF output.
> I use a spice program to estimate my output levels. I just read a web
> page that suggests a antenna can increase the RF output power and I
> wanted advice if that is true. It was suggested that output could be
> increased from 30milliwatts to 60milliwatts by using this antenna. I
> understand how you could increase voltage with a decrease in amperage
> and vice versa, but I was under the assumption that you couldn't
> increase total power without adding more power. I thought it would
> violate one of the laws of thermodymanics otherwise. They didn't seem
> to be talking about more effieciently radiating the transmitters
> power, but actually increasing it above what is present at the antenna
> port.
>
> Could someone confirm whether it is posible to increase the power
> output of an RF transmitter above the total presented to the antenna.

Yes, IF the present antenna presents a bad impedance match
to the transmitter. Two factors come into play: 1) maximum
power transfer occurs when the source (transmitter) and load
(antenna) impedances match; and 2) the efficiency of the output
stage of the transmitter may be compromised when connected to
a mismatched load, resulting in less RF power produced.

But I doubt whether that was the point. I think that all they
were trying to say was that you would get more effective
radiated power. And the claim of doubling the power raises
suspicion. If memory serves me, part 15 radiations are severely
limited. That may preclude 3db gain antennas.

> If it is, I'd appreciate any pointers to information about this. I
> don't want put myself out of part 15 by a poor antenna choice. (even
> though I still can't believe that it is possible, it sounds to much
> like perpetual motion)
>
> TIA

2550. Re: Antenna Range Testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 05:31:03 UTC
From: Peter <peterlmiles@hotmail.com>
Message-ID: <3f84f29d$0$6529$afc38c87@news.optusnet.com.au>
Source record: 31968
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Thanks for all the information it has been of great assistance.

Cheers

Peter

--
Peter Miles VK3YSF
Melbourne, Australia
vk3ysf@optushome.com.au

http://members.optushome.com.au/vk3ysf/main.htm

2551. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 06:29:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vo9siocps52225@corp.supernews.com>
Source record: 31967

You've gotten some good advice some others. I'll just add that most Part 15 devices are specified in terms of field strength at some distance from the antenna, depending on frequency, and not in terms of power or ERP. There might be some sections with other criteria, but if there are, field strength specification is by far the most common. The FCC does cut some slack in testing for home-built devices (not marketed, not constructed from a kit, and built in quantities of five or less for personal use), in section 15.23. My copy is nearly ten years old now, so I suggest checking a newer copy of Part 15. It's likely on the Web these days.

Roy Lewallen, W7EL

Liam Ness wrote:
> I've been homebrewing some simple part 15 transmitters and have always
> thought that I was safely within part 15 by controling the RF output.
> I use a spice program to estimate my output levels. I just read a web
> page that suggests a antenna can increase the RF output power and I
> wanted advice if that is true. It was suggested that output could be
> increased from 30milliwatts to 60milliwatts by using this antenna. I
> understand how you could increase voltage with a decrease in amperage
> and vice versa, but I was under the assumption that you couldn't
> increase total power without adding more power. I thought it would
> violate one of the laws of thermodymanics otherwise. They didn't seem
> to be talking about more effieciently radiating the transmitters
> power, but actually increasing it above what is present at the antenna
> port.
>
> Could someone confirm whether it is posible to increase the power
> output of an RF transmitter above the total presented to the antenna.
> If it is, I'd appreciate any pointers to information about this. I
> don't want put myself out of part 15 by a poor antenna choice. (even
> though I still can't believe that it is possible, it sounds to much
> like perpetual motion)
>
> TIA

2552. Re: OLD QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 08:57:40 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000b0.006290b0@btinternet.com>
Source record: 31969

Hi,

> Does anyone have the QST article I believe from 1997 that discusses the
> Micronaut 20 meter QRP rig?? I've been lookin all over for it and can't get
> a copy..

That's because it was in CQ Magazine.

73 de Joe, G3LLV

2553. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 12:25:31 UTC
From: jo_stoller@yahoo.com
Message-ID: <748165b4.0310090425.4a91e0f2@posting.google.com>
Source record: 31970
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jim Thompson wrote:
>Medical is the best in the world

Cite?

2554. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 14:59:54 UTC
From: Jim Thompson <invalid@invalid.invalid>
Message-ID: <mmtaovsifqv62lq6802vb9f2nqrkso26sk@4ax.com>
Source record: 31971
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On 9 Oct 2003 05:25:31 -0700, jo_stoller@yahoo.com (Jo Stoller) wrote:

>Jim Thompson wrote:
>>Medical is the best in the world
>
>Cite?

Personal experience.

Don't come back at me with

(1) "free" for *all*, "free" doesn't make for excellence

(2) Infant mortality... we have more poor(ï¿½) than you have total
population. (ï¿½)(Who won't avail themselves of the free clinics in
their neighborhoods... they'd rather take dope.)

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona Voice:(480)460-2350	
E-mail Address at Website Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

2555. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 15:30:04 UTC
From: Richard Henry <rphenry@home.com>
Message-ID: <1afhb.11551$La.2258@fed1read02>
Source record: 31972
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Jim Thompson" <invalid@invalid.invalid> wrote in message
news:mmtaovsifqv62lq6802vb9f2nqrkso26sk@4ax.com...
> On 9 Oct 2003 05:25:31 -0700, jo_stoller@yahoo.com (Jo Stoller) wrote:
>
> >Jim Thompson wrote:
> >>Medical is the best in the world
> >
> >Cite?
>
> Personal experience.
>
> Don't come back at me with
>
> (1) "free" for *all*, "free" doesn't make for excellence
>
> (2) Infant mortality... we have more poor(?) than you have total
> population. (?)(Who won't avail themselves of the free clinics in
> their neighborhoods... they'd rather take dope.)

If it makes you feel better, it IS medicine.

2556. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 15:32:21 UTC
From: Jim Thompson <invalid@invalid.invalid>
Message-ID: <kqvaovcupf29lktpjjp3mn03jsl9ubm20h@4ax.com>
Source record: 31973
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Thu, 9 Oct 2003 08:30:04 -0700, "Richard Henry" <rphenry@home.com>
wrote:

>
>"Jim Thompson" <invalid@invalid.invalid> wrote in message
>news:mmtaovsifqv62lq6802vb9f2nqrkso26sk@4ax.com...
>> On 9 Oct 2003 05:25:31 -0700, jo_stoller@yahoo.com (Jo Stoller) wrote:
>>
>> >Jim Thompson wrote:
>> >>Medical is the best in the world
>> >
>> >Cite?
>>
>> Personal experience.
>>
>> Don't come back at me with
>>
>> (1) "free" for *all*, "free" doesn't make for excellence
>>
>> (2) Infant mortality... we have more poor(?) than you have total
>> population. (?)(Who won't avail themselves of the free clinics in
>> their neighborhoods... they'd rather take dope.)
>
>If it makes you feel better, it IS medicine.
>
>

My favorite medicine is made from grapes ;-)

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona Voice:(480)460-2350	
E-mail Address at Website Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

2557. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 15:51:35 UTC
From: Richard Henry <rphenry@home.com>
Message-ID: <gufhb.11552$La.7201@fed1read02>
Source record: 31974
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Jim Thompson" <invalid@invalid.invalid> wrote in message
news:kqvaovcupf29lktpjjp3mn03jsl9ubm20h@4ax.com...
> On Thu, 9 Oct 2003 08:30:04 -0700, "Richard Henry" <rphenry@home.com>
> wrote:
>
> >
> >"Jim Thompson" <invalid@invalid.invalid> wrote in message
> >news:mmtaovsifqv62lq6802vb9f2nqrkso26sk@4ax.com...
> >> On 9 Oct 2003 05:25:31 -0700, jo_stoller@yahoo.com (Jo Stoller) wrote:
> >>
> >> >Jim Thompson wrote:
> >> >>Medical is the best in the world
> >> >
> >> >Cite?
> >>
> >> Personal experience.
> >>
> >> Don't come back at me with
> >>
> >> (1) "free" for *all*, "free" doesn't make for excellence
> >>
> >> (2) Infant mortality... we have more poor(?) than you have total
> >> population. (?)(Who won't avail themselves of the free clinics in
> >> their neighborhoods... they'd rather take dope.)
> >
> >If it makes you feel better, it IS medicine.
> >
> >
>
> My favorite medicine is made from grapes ;-)

Reminds me of a scene from "All in the Family". Archie has been arrested in
a labor dispute. He criticizes one of the other prisoners for being
arrested for drug possession, then takes a hit from a nasal inhaler.

P: Well, what's that then?
A: That's medicine.
P: It's ALL medicine.

2558. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 16:13:19 UTC
From: Jim Thompson <invalid@invalid.invalid>
Message-ID: <c52bov0bq7vst4fadu81dmjsogifsml96d@4ax.com>
Source record: 31975
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Thu, 9 Oct 2003 08:51:35 -0700, "Richard Henry" <rphenry@home.com>
wrote:

>
>"Jim Thompson" <invalid@invalid.invalid> wrote in message
>news:kqvaovcupf29lktpjjp3mn03jsl9ubm20h@4ax.com...
[snip]
>> My favorite medicine is made from grapes ;-)
>
>Reminds me of a scene from "All in the Family". Archie has been arrested in
>a labor dispute. He criticizes one of the other prisoners for being
>arrested for drug possession, then takes a hit from a nasal inhaler.
>
>P: Well, what's that then?
>A: That's medicine.
>P: It's ALL medicine.
>

My all-time favorite TV show. I happened to recently catch a re-run
of that episode where Archie picked up Sammy Davis Jr. in his cab.
Still makes me ROTFLMAO!

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona Voice:(480)460-2350	
E-mail Address at Website Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

2559. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 16:27:28 UTC
From: averyfineman@aol.com
Message-ID: <20031009122728.07578.00001034@mb-m25.aol.com>
Source record: 31976

In article <vo69iu2o5o18f9@corp.supernews.com>, Roy Lewallen <w7el@eznec.com>
writes:

>Thanks for the link. That picture brought back vivid memories of times
>outdoors in the Rockies in some really attention-getting weather. Whoa,
>mama, time to be lookin' for some cover!
>
>Roy Lewallen, W7EL
>
>Avery Fineman wrote:
>> For those interested in getting full and complete details of WWVB, go
>to:
>>
>> http://www.boulder.nist.gov/timefreq/stations/wwvb.htm

I'm sure the photographer for NIST was counting on that attention-getting
weather for the WWVB page's photogenic qualities. :-)

A link on the WWVB page has some typical field strengths given for
various locations in the USA along with a tabulation of daily changes
in that field strength level. There's also a log of outages of WWVB for
those who want to check if they are on when you want them to be.

Almost any Internet search engine will turn up a surprising number of
links to 60 KHz loop antennas built by all sorts of electronic hobbyists.
I did that search a year ago when preparing to build my WWVB loop
receiver and phase-locker for the frequency counter timebase standard.

One of the most innovative in my estimation was the loop built on an
unused bicycle wheel rim (spokes removed). A couple of cuts of a
hacksaw put the gap in the wheel rim to prevent the "shorted turn
effect" from happening. The wheel rim should be a very sturdy former
for winding heavy coil wire around it. A strip of plastic provided
mechanical support for the gap in the wheel. If memory serves, it was
done in San Diego, CA, area and mounted outside under a patio cover.

My own loop is 58 1/2 turns of #14 AWG THHN electrical wire self-
supporting with a mean diameter of 2 feet, 8 inches, then bound with
cheap twine that was well varnished with McCloskey's "Gym-Seal"
floor varnish. The electrostatic shielding was provided by heavy-grade
kitchen aluminum foil (with a gap, of course) that was bound with a
second application of twine, then varnished. Q at resonance is about
44, good enough for about 1.4 KHz BW by itself. With 58 1/2 turns,
inductance is 5.6 to 5.7 milliHenry. Distributed capacity is about 390
pFd, not too bad considering that winding took all but 9 feet of a 500
foot spool (purchased at Home Depot for $14).

The loop is mounted in the attic space above the center room of the house with half of that room as the workshop. That attic space is closed off from the rest of the attic by recent roof remodeling so it has become essentially waterproof now...construction was originally done to work in direct rain, tested only with liberal garden hose sprinkling and measuring of characteristics. The loop connections are balanced above ground with the electrostatic shield at ground potential and two 12 foot RG-59 TV cables are used something like Twinax to a balanced input FET differential amplifier stage below in the workshop. Resonating at 60 KHz is done with a sacrificed dual variable capacitor in the differential FET amplifier. Worked out well and I can't observe any funny spikes from appliances or other non-WWVB signal things after the FET stage. 60 KHz signal voltage across the loop at resonance is estimated at about 90 to 120 microVolts. Location here is northern Los Angeles in the Verdugo Hills (a mile of hills between here and Boulder, CO)..

There are two Oregon Scientific radio clocks in the house, a small one about 4 years old that indicates it has solid automatic updating. Has a small "loopstick" like gizmo inside as the antenna. A large one in the office room, very visible from 12 feet, 1 year old, misses a midnight update about once every two weeks. The small one is "solid copy" all the time. Don't know what the large one uses for a loopstick antenna...wife won't let me open it up to look. :-)

Ferrite/powdered-iron core "antennas" used in consumer market radio clocks seem to work very well. Neither is very directional. The little radio clock was $20 retail and the big one about $25. Battery life is over a year, closer to two years. Both have built-in calendars (leap year is probably derived directly from WWVB data coding).

Len Anderson
retired (from regular hours) electronic engineer person

2560. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 16:27:30 UTC
From: averyfineman@aol.com
Message-ID: <20031009122730.07578.00001035@mb-m25.aol.com>
Source record: 31977

In article <bm1bbv$b44$1@titan.btinternet.com>, "Reg Edwards"
<g4fgq.regp@btinternet.com> writes:

>Antennas have directional properties.
>
>It the total available power is concentrated in one direction then, as far
>as the receiver is concerned, the APPARENT power of the transmitter has
>increased.
>
>But receivers in less-favoured directions from the transmitter will
>experience an APPARENT reduction in the transmitter's output power.

Quite true, Reg.

To get even more basic for new folks to radio theory, assume the
ideal isotropic antenna, one that radiates equally in all directions.
It creates an EM field of the same density of RF energy per square
area all around an ideal sphere enclosing the isotropic antenna.

A half-wave dipole that is very high (elevated above ground) has an
antenna pattern (of RF energy per square area) that is maximum
perpendicular to the axis of the wires. That RF energy is minimum
along the wire axes.

An ideal dipole has a "gain" of about 2.4 db over the ideal isotropic
antenna and such gain is referred to as "2.4 dbi" with the little "i"
indicating the reference to the isotropic.

Because it is difficult to build a reference antenna that can perform
like the ideal isotropic, many more complex antennas reference their
gain to the half-wave dipole and those gains, in db, are labeled as
"dbd" with the little "d" suffix refering to a dipole.

FM and TV broadcast antennas are usually designed for antenna
patterns that are almost omnidirectional in the horizontal plane and
have very little RF energy at elevations above or below horizontal.
The term "ERP" for Effective Radiated Power was first used with
FM and TV broadcasting to indicate the basic power output of the
transmitter multiplied by the antenna gain. For broadcast listeners
they would "hear" a signal as if the station's power output was as
strong as the ERP value.

Directional antennas simply focus the RF energy in certain
directions. What would be an equal value of RF in all directions
with an ideal isotropic antenna now increases above ideal in the
direction of maximum RF energy. That is the "gain."

If one were to plot RF energy density per square whatever in a 3-D graph (almost always the case in antenna analysis programs or on antenna range receiver plotters), the "shape" formed is what everyone intuitively describes as the "pattern." [it could be called an "isopower" plot, I would guess]

For an ideal isotropic antenna, the "pattern" is a sphere. For a good half-wave dipole very high above ground, the pattern looks like a torus or doughnut shape. A typical FM or TV antenna pattern looks like a fat pizza. A very high gain parabolic reflector radar antenna pattern looks sort of like a long breadstick. Complex wire antennas start looking like the outline of the contents of a spaghetti bowl.

It's about 10:30 PM local time here and I'm getting hungry...bye...:-)

Len Anderson
retired (from regular hours) electronic engineer person

2561. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 18:17:04 UTC
From: Reg Edwards <g4fgq.regp@btinternet.com>
Message-ID: <bm48n0$50t$1@sparta.btinternet.com>
Source record: 31978
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The most likely places to find weapons of mass destruction, production programs, and manufacturing facilities are in the United States of America.

Does anybody disagree?

2562. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 18:36:53 UTC
From: Winfield Hill <Winfield_member@newsguy.com>
Message-ID: <bm49s50alg@drn.newsguy.com>
Source record: 31981
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Reg Edwards wrote...
>
> The most likely places to find weapons of mass destruction, production
> programs, and manufacturing facilities are in the United States of America.
>
> Does anybody disagree?

Perhaps, but hopefully irrelevant.

I found the web link. http://www.coxar.pwp.blueyonder.co.uk/

Thanks,
- Win

whill_at_picovolt-dot-com

2563. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 18:59:30 UTC
From: toor@iquest.net
Message-ID: <bm4b6i$1lti$5@news.iquest.net>
Source record: 31979
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <bm48n0$50t$1@sparta.btinternet.com>,
"Reg Edwards" <g4fgq.regp@btinternet.com> writes:
> The most likely places to find weapons of mass destruction, production
> programs, and manufacturing facilities are in the United States of America.
>
It is much more likely that the Islamists and terrorists would use
WMD when they are made available to them. The US has had WMD
for many years, and only used them recently against an enemy who
had an ongoing practice of testing biological WMD against large
groups of civilian populations.

So, the conditional where 'given access to WMD', who is most likely
to use them now, then the Islamists are VERY HIGH on that list.
Those who have supported the Islamists who might attack the US
will likely be considered to be aiding that enemy in their
quest.

John

John

2564. Re: Newbie homebrew qrp question; nobody hears me

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 19:01:59 UTC
From: N2EY@AOL.COM
Message-ID: <c2356669.0310091101.4d3bf3e9@posting.google.com>
Source record: 31980

XJohn_S_Sandin@osca.state.mo.us (John Sandin) wrote in message
news:<3f7f9c6f.2726998@news.kcnet.com>...
> I am a new technician with code privileges. I built the following CW
> transmitter for 40 meters:
>
> http://cs.okanagan.bc.ca/ve7ouc/eng/kc6wdk-mirror/transmitter2.html
>
> It's a solid state 3-watter, based on an article in QST in June 1967.
> I used a printed circuit board instead of wiring everything together
> directly, as the QST article suggests. So, there are many wires
> running from various parts mounted on the chassis to the circuit
> board.

I think all those wires, and the stray L and C they introduce, is the
heart of your problem with getting it to work right.

I'd try building it as close to the way the original article showed as
possible. An inexpensive bread or cake pan can be a good chassis, and
easy to wrok.

> I am
> running this into a dipole cut for 40 meters, which is 7 feet off the
> ground. I'm using fundamental frequency HC6/U crystals for 7110 and
> 7125 kHz. I've been trying for 2 weeks, at all hours of the day and
> night, and have had no indication that anyone hears me. I've called
> CQ, and I've attempted to answer CQ's. Nothing, after about 100
> tries.

7 feet off the ground is less than 1/16 wavelength on 40 meters.
That's just too low.
>
> One of the transistors (Q2) is supposed to be heat sinked. I have put
> a large homemeade heat sink on this, using plenty of heat sink grease,
> and it gets so hot I can barely touch it.

That's not right. You may have cooked that transistor.

73 es GL de Jim, N2EY

2565. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 19:29:57 UTC
From: pat.norton@iname.com
Message-ID: <4d4b14.0310091129.eb2c58f@posting.google.com>
Source record: 31982
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jim Thompson wrote:
>(1) "free" for *all*, "free" doesn't make for excellence

The armed forces are "free". Are they not excellent?

2566. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 19:40:48 UTC
From: cellularqwerty@yahoo.com
Message-ID: <1cdf5115.0310091140.5ad3c106@posting.google.com>
Source record: 31983
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jim Thompson wrote:
>>>Medical is the best in the world
>>
>>Cite?
>
>Personal experience.

Wow! Personal experience of all the features of all the medical
systems of all the countries of the world? It is a wonder you are
still alive.

:-)

2567. Ham Radio University 2004

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 20:03:59 UTC
From: Eddie Muro <edmuro3@optonline.net>
Message-ID: <Pajhb.25670$Ri4.10877708@news4.srv.hcvlny.cv.net>
Source record: 31984
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

FOR IMMEDIATE RELEASE:

October 9, 2003
Contact:
George Tranos N2GA
HRU 2004 Chairman / ARRL NYC-LI Section Manager
N2GA@arrl.org
631-286-7562

Oyster Bay, New York - On Sunday, January 18, 2004 at 8AM, the doors of the East Woods School will open for the fifth annual Ham Radio University and the ARRL New York City/Long Island Section Convention. Ham Radio University 2004 is a day of education about Amateur Radio.

The event is being held at the prestigious East Woods School, a private school on 46 acres in Oyster Bay. There will be special forums geared to the non-ham as well as the experienced ham radio operator. The focus will be "hands on" with many demonstrations.

Come join us at the East Woods School, 31 Yellow Cote Road, Oyster Bay, Long Island, and learn about everything from satellite communications, low power operating using radios as small as a tuna tin and the latest in emergency communications. There will also be a VE session for those who would like to take an FCC exam and a Special Event Station set up and operational on HF.

HRU 2004 is sponsored this year by the Long Island Mobile Amateur Radio Club and is a cooperative effort between over twenty clubs and organizations in the New York City- Long Island area. Besides the forums, there will be tables set up with information about different organizations and clubs including the Red Cross, Salvation Army, National Weather Service, Friends of Long Island Wireless as well as ham radio classes, local FCC exam schedules, public service and other activities. New this year is a special seminar presented by the ARRL explaining the different on-line educational courses that are now

available.
They include Emergency Communications, Antenna Modeling, HF Digital
Communications, Beyond Repeaters, RFI and more. These are part of the ARRL
Certification and Continuing Education program (http://www.arrl.org/cce).

Join us for a day of fun and education for the whole family! Admission is
open to all - donation is $2 per person. (refreshments will be available)

Directions: (The school is approximately 18 miles east of the Queens/Nassau
border in Nassau County) Take the Long Island Expressway east to Exit 41
North
(Rte 106/107). 106 and 107 will split about 1/2 mile north of the LIE,
follow 106 north (to
the right).

Bill Sloman wrote:
Go about 4 miles to Route 25A. Make a right and head east on 25A and go
about
2 miles to Yellow Cote Road (on your left).

Look for the white sign which says "East Woods School". Proceed
approximately
1/2 mile - the entrance to the school will be on your left at another white
sign. There is parking available in one of the three designated areas in on
three sides of the school. Look for the HRU signs!

TALK-IN on W2VL 146.850 -600 136.5 PL> toor@iquest.net (John S. Dyson)
wrote in message news:<blupg6$31e5$6@news.iquest.net>...
>
>>In article <7c584d27.0310070303.65129949@posting.google.com>,
>> bill.sloman@ieee.org (Bill Sloman) writes:
>>
>>>toor@iquest.net (John S. Dyson) wrote in message
news:<blsdhh$2all$3@news.iquest.net>...
>>>
>>>>In article <slrnbo2b2v.cna.haude@kir.physnet.uni-hamburg.de>,
>>>> Daniel Haude <haude@physnet.uni-hamburg.de> writes:
>>>>
>>>>>On Sun, 05 Oct 2003 05:07:18 GMT,
>>>>> R. Steve Walz <rstevew@armory.com> wrote
>>>>> in Msg. <3F7FA7C0.6FDA@armory.com>
>>>>>
>>>>>>John S. Dyson wrote:
>
>
> <snip>
>
>>>>So, this is a perfect example of the Europeans having a very poor
>>>>abililty to be self-reflective. Remember: it was Chiraq who had
>>>>intermingled funds with Saddam, and unnecessarily sold weapons
>>>>grade Uranium to him. Very little public exposure has been done
>>>>(in Europe because of soft censoring, and in the US to keep

>>>>anti-French/Chiraq fervor from being stronger.)
>>>
>>>The European media isn't all that thoroughly censored. During the
>>>run-off stage of the most recent French presidential elections, we
>>>were treated to the views of pro-Chirac (note the spelling)
>>>
>>
>>Note that my spelling is a PURPOSEFUL play on words... Geesh
>>'Chiraq' and 'Saddam Hussein' were joined at the hip anyway.
>
>
> I admit that we haven't seen much of John Woodgate recently, but you
> are trying to fill a much-needed gap.
>
> I must say that I did wonder about Chiraq/Iraq when I was looking at
> your piece, but figured that a defective vocabulary was more likely
> than a defective play on words, all things considered.
>
> ------
> Bill Sloman, Nijmegen

2568. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 20:15:23 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bm4fl1nsa1@news.oregonstate.edu>
Source record: 31985

Hi Avery,

Avery Fineman <averyfineman@aol.com> wrote:
> One of the most innovative in my estimation was the loop built on an
> unused bicycle wheel rim (spokes removed).

Indeed. I saw one of those here: http://lakeweb.com/rf/wwvb/ (may or may not be the same one you found), and it is a clever idea. I'm thinking now I might build one like that as well as a ferrite rod version to compare with; since the ferrite will increase the effective area of the antenna by the square of its effective relative permeability, I want to believe that a 1/2" ferrite rod can compete with... well... at least an air core loop, uh... the size of your hand? (I don't have various references here with me to start looking up the effective relative permeability of a ferrite rod of a given l/d ratio... hopefully in the ballpark of 20-50...)

I also found that people did occasionally ask about really large diameter (>1") ferrite cores, and while the usual response was that you could, of course, pack a bunch of smaller rods together to make a big one, apparently no one has the considerable $$$ around to build, say, a coffee can sized ferrite core antenna. Would be something to see though! Anyone want to donate some fat ferrite rods to me? :-)

> My own loop is 58 1/2 turns of #14 AWG THHN electrical wire self-
> supporting with a mean diameter of 2 feet, 8 inches, then bound with
> cheap twine that was well varnished with McCloskey's "Gym-Seal"
> floor varnish. The electrostatic shielding was provided by heavy-grade
> kitchen aluminum foil (with a gap, of course) that was bound with a
> second application of twine, then varnished. Q at resonance is about
> 44, good enough for about 1.4 KHz BW by itself.

Not bad at all!

> Worked out well
> and I can't observe any funny spikes from appliances or other
> non-WWVB signal things after the FET stage.

That's good to hear; noise seems to be a common concern.

I believe you said your receiver was a synchronous design, correct? I'm still liking the envelope detector approach, but I've yet to hear about anyone successfully employing this (simpler) method.

> 60 KHz signal voltage
> across the loop at resonance is estimated at about 90 to 120
> microVolts.

I don't suppose you have an estimate of your signal to noise ratio?

> Location here is northern Los Angeles in the Verdugo
> Hills (a mile of hills between here and Boulder, CO)..

I'm in Corvallis, Oregon, which -- eyeballing it on a map -- is perhaps half again as far from Boulder. I have one of the inexpensive self-setting clocks that does work pretty reliably _if keep in certain positions within my house_. I've read that these also set themselves at night when the SNR is significantly higher too.

> Ferrite/powdered-iron core "antennas" used in consumer market
> radio clocks seem to work very well.

I was going to get some of the 1/2"x4" or 7" rods from Ocean State Electronics here: http://www.oselectronics.com/ose_p88.htm ... they also have some inexpensive pre-wound rods meant for AM radios (http://www.oselectronics.com/ose_p91.htm), but they're apparently tuned for the AM broadcast band and therefore I'd have to re-wind the things anyway.

This is hopefully going to end up as a class project and therefore the goal of learning how to build your own antenna and receiver is the reason I'm not intending to just go and use someone's "all in one" WWVB receiver IC (even though colleges seem to push that approach these days... but then _someone_ had to design that IC, right!?).

---Joel Kolstad

2569. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 20:43:41 UTC
From: Jeroen Vriesman <joenix@the-djs.com>
Message-ID: <oprwsmi3ycfn6ec4@news.demon.nl>
Source record: 31986
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Bush invested another 600+E6 in finding WMD's, aren't there other things
more important?

This is from a group of volunteers, trying to do their best, living on
donations:

quote:

In November a team of **** will travel to Baghdad to establish the center.
We are renting at least one large house that will be fitted with many beds
and all the supplies needed to serve the children for one year. Then we
will welcome the children to a safe place where they can rest and heal. It
will be impossible for us to help all the homeless children in Iraq, but
with your help we will be able to reach out to many of them.

end quote

They are trying to help a few of the thousands of homeless children whose
parents were killed in the war, and they have to do that by donations,
while bush just throws another 600 miljon down the drain.

anyway, you can mail me if you want the url to make donations to these
volunteers.

joenix at gmx dot net

Jeroen.

On Thu, 9 Oct 2003 18:17:04 +0000 (UTC), Reg Edwards
<g4fgq.regp@btinternet.com> wrote:

> The most likely places to find weapons of mass destruction, production
> programs, and manufacturing facilities are in the United States of
> America.
>
> Does anybody disagree?
>
>
>

2570. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 21:34:39 UTC
From: tdonaly@aol.com
Message-ID: <20031009173439.13958.00000108@mb-m13.aol.com>
Source record: 31987

Reg wrote,
>
>
>The most likely places to find weapons of mass destruction, production
>programs, and manufacturing facilities are in the United States of America.
>
>Does anybody disagree?
>

Here in California we don't need any of that stuff; we've got Schwarzenegger.
73,
Tom Donaly, KA6RUH

2571. Re: OLD QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 21:51:23 UTC
From: Lou <Spamfree@Spamfree.com>
Message-ID: <YLkhb.752$LJ5.24629@iad-read.news.verio.net>
Source record: 31988

"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.000000b0.006290b0@btinternet.com...
> Hi,
>
>
> > Does anyone have the QST article I believe from 1997 that discusses the
> > Micronaut 20 meter QRP rig?? I've been lookin all over for it and can't
get
> > a copy..
>
> That's because it was in CQ Magazine.
>
>
> 73 de Joe, G3LLV
>
>

come to think of it, you may be right about CQ! Lou

2572. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-09 22:14:51 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F85DDDB.FE6FC9E9@ob-wan.com>
Source record: 31989
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Totally off-topic for this group.

Get a clue. Get a life. FOAD.

This thread is officially over.

John S. Dyson wrote:
>
> In article <bm48n0$50t$1@sparta.btinternet.com>,
> "Reg Edwards" <g4fgq.regp@btinternet.com> writes:
> > The most likely places to find weapons of mass destruction, production
> > programs, and manufacturing facilities are in the United States of America.
> >
> It is much more likely that the Islamists and terrorists would use
> WMD when they are made available to them. The US has had WMD
> for many years, and only used them recently against an enemy who
> had an ongoing practice of testing biological WMD against large
> groups of civilian populations.
>
> So, the conditional where 'given access to WMD', who is most likely
> to use them now, then the Islamists are VERY HIGH on that list.
> Those who have supported the Islamists who might attack the US
> will likely be considered to be aiding that enemy in their
> quest.
>
> John
>
> John

2573. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 00:44:29 UTC
From: Jim Thompson <invalid@invalid.invalid>
Message-ID: <830covg67scikb1tan1e2r7bi7l6haef2p@4ax.com>
Source record: 31990
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Fri, 10 Oct 2003 08:14:51 +1000, Rob Judd <judd@ob-wan.com> wrote:

>Totally off-topic for this group.
>
>Get a clue. Get a life. FOAD.
>
>This thread is officially over.
>
>

And who appointed you god ?

Another non-contributor who should FOAD himself.

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona Voice:(480)460-2350	
E-mail Address at Website Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

2574. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 02:43:15 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <bm56c3$mv6$0@208.207.71.173>
Source record: 31991
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Reg Edwards wrote:

> The most likely places to find weapons of mass destruction, production
> programs, and manufacturing facilities are in the United States of America.
>
> Does anybody disagree?
>
>

Why, you're absolute correct, Reg! After all, you wouldn't want us to have to start all over from scratch again, like in 1940 or so, to build up the wherewithal to save your butt would ya?? After all, if Hitler hadn't been such a loon he'd have ate your lunch long before we Yanks could have done a thing to stop it. And today, you *really* want to just let today's versions of Hitler, of which have been clearly demonstrated to be even more numerous, have a free shot at you? How 'bout the Russian bear we kept away from your door for half a century?

You don't appreciate it? Why am I not surprised?

2575. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 02:51:14 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <bm56r2$o84$0@208.207.71.173>
Source record: 31992
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jeroen Vriesman wrote:

> Bush invested another 600+E6 in finding WMD's, aren't there other things
> more important?
>
> This is from a group of volunteers, trying to do their best, living on
> donations:
>
> quote:
>
> In November a team of **** will travel to Baghdad to establish the
> center. We are renting at least one large house that will be fitted with
> many beds and all the supplies needed to serve the children for one
> year. Then we will welcome the children to a safe place where they can
> rest and heal. It will be impossible for us to help all the homeless
> children in Iraq, but with your help we will be able to reach out to
> many of them.
>
> end quote
>
> They are trying to help a few of the thousands of homeless children
> whose parents were killed in the war, and they have to do that by
> donations,

It'll probably work until the Islamist saboteurs get into the act and
bomb them out just to show us Infidels they and Allah don't care about
human life.

2576. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 03:35:42 UTC
From: Liam Ness <working@the.factory>
Message-ID: <q49covo12tb1a3i5d6j0q0uvlvf24ijnoh@4ax.com>
Source record: 31993

On Wed, 08 Oct 2003 23:29:46 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>You've gotten some good advice some others. I'll just add that most Part
>15 devices are specified in terms of field strength at some distance
>from the antenna, depending on frequency, and not in terms of power or
>ERP. There might be some sections with other criteria, but if there are,
>field strength specification is by far the most common. The FCC does cut
>some slack in testing for home-built devices (not marketed, not
>constructed from a kit, and built in quantities of five or less for
>personal use), in section 15.23. My copy is nearly ten years old now, so
>I suggest checking a newer copy of Part 15. It's likely on the Web these
>days.
>
>Roy Lewallen, W7EL
>

Yea, thanks Roy, you are right. I know that Part 15 limits are field
strength based, and there isn't a direct corrolation with output
power. I have been relying in the 15.23 home built portion, which
provides some lee way to tinkerers. 15.23 acknowledges that home
builders probably don't have test equipment, and instead it is
directed at design. My stuff is super low power, at least that is
what my spice program tells me, so I'm not really worried. If I do
screw up, and an FCC representive contacts me (the first highly
likely, the second much less so) I'll push section 15.23's
applicability, stop using the transmitter and redesign per section
15.5.

Even though I'm in a really rural, really mountainous location, I
spent a good amount of time going over part 15 so I could justify that
anything I do is done in a good faith effort to be in compliance. You
are also right that part 15 is now web based. They just released a
new version of the regulations in August and you can d/l it as a PDF
from the FCC website.

2577. Re: Antenna gain question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 03:51:41 UTC
From: Liam Ness <working@the.factory>
Message-ID: <rcacovs8vjsc318cf8lq90n0vp8uub248a@4ax.com>
Source record: 31994

I guess this all (well most anyway) makes sense. And while at first I
was glad that you all confirmed my thinking that you can't get more
out than you put in (although you can get what you put in out more
efficiently), Roy's part 15 comments are making rethink things.
Because I'm field strenght limited, I concievable could be over limit
in one direction. I don't think that I could accidentally rig an
antenna like in Reg's example, but just for piece of mind could you
give me an idea of how far from isotropic (or how close to
ultradirectional) a vertical piece of wire would be at 1/4, 1/2 and
not even close to being matched to wavelength? I'm not looking for
calculations or anything, a simple very, not very or somewhere in
between to isotropic would be fine.

TIA

On 09 Oct 2003 16:27:30 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

>In article <bm1bbv$b44$1@titan.btinternet.com>, "Reg Edwards"
><g4fgq.regp@btinternet.com> writes:
>
>>Antennas have directional properties.
>>
>>It the total available power is concentrated in one direction then, as far
>>as the receiver is concerned, the APPARENT power of the transmitter has
>>increased.
>>
>>But receivers in less-favoured directions from the transmitter will
>>experience an APPARENT reduction in the transmitter's output power.
>
> Quite true, Reg.
>
> To get even more basic for new folks to radio theory, assume the
> ideal isotropic antenna, one that radiates equally in all directions.
> It creates an EM field of the same density of RF energy per square
> area all around an ideal sphere enclosing the isotropic antenna.
>
> A half-wave dipole that is very high (elevated above ground) has an
> antenna pattern (of RF energy per square area) that is maximum
> perpendicular to the axis of the wires. That RF energy is minimum
> along the wire axes.
>
> An ideal dipole has a "gain" of about 2.4 db over the ideal isotropic
> antenna and such gain is referred to as "2.4 dbi" with the little "i"
> indicating the reference to the isotropic.

>
> Because it is difficult to build a reference antenna that can perform
> like the ideal isotropic, many more complex antennas reference their
> gain to the half-wave dipole and those gains, in db, are labeled as
> "dbd" with the little "d" suffix refering to a dipole.
>
> FM and TV broadcast antennas are usually designed for antenna
> patterns that are almost omnidirectional in the horizontal plane and
> have very little RF energy at elevations above or below horizontal.
> The term "ERP" for Effective Radiated Power was first used with
> FM and TV broadcasting to indicate the basic power output of the
> transmitter multiplied by the antenna gain. For broadcast listeners
> they would "hear" a signal as if the station's power output was as
> strong as the ERP value.
>
> Directional antennas simply focus the RF energy in certain
> directions. What would be an equal value of RF in all directions
> with an ideal isotropic antenna now increases above ideal in the
> direction of maximum RF energy. That is the "gain."
>
> If one were to plot RF energy density per square whatever in a 3-D
> graph (almost always the case in antenna analysis programs or on
> antenna range receiver plotters), the "shape" formed is what everyone
> intuitively describes as the "pattern." [it could be called an "isopower"
> plot, I would guess]
>
> For an ideal isotropic antenna, the "pattern" is a sphere. For a good
> half-wave dipole very high above ground, the pattern looks like a torus
> or doughnut shape. A typical FM or TV antenna pattern looks like
> a fat pizza. A very high gain parabolic reflector radar antenna pattern
> looks sort of like a long breadstick. Complex wire antennas start
> looking like the outline of the contents of a spaghetti bowl.
>
> It's about 10:30 PM local time here and I'm getting hungry...bye...:-)
>
> Len Anderson
> retired (from regular hours) electronic engineer person

2578. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 06:19:40 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310092219.401c0ea7@posting.google.com>
Source record: 31995

dick and others ....

please note that not all iraqis are islamists. just like not all americans are george bushes or mcveighs. just like all americans are not pyromaniacs, similarly not all iraqees are mad-dogs out to kill everyone and anyone.

further ... i take this personally as a muslim whose some very close friends were killed in the twin towers, that all muslims are painted as terrorists.

most of us are ordinary guys, some trying fighting VHF parasitics of IRF510 (like me) and some not. it is a shame to paint them all in one go.

i would extend the argument to the french too. it is not nice. stick to homebrewing on this group. you are free to vent your spleen about islamists and their ilk at /dev/null.

thanks.

- farhan

Dick Carroll <dixie@NOSPAM.townsqr.com> wrote in message news:<bm56r2$o84$0@208.207.71.173>...
> Jeroen Vriesman wrote:
>
> > Bush invested another 600+E6 in finding WMD's, aren't there other things
> > more important?
> >
> > This is from a group of volunteers, trying to do their best, living on
> > donations:
> >
> > quote:
> >
> > In November a team of **** will travel to Baghdad to establish the
> > center. We are renting at least one large house that will be fitted with
> > many beds and all the supplies needed to serve the children for one
> > year. Then we will welcome the children to a safe place where they can
> > rest and heal. It will be impossible for us to help all the homeless
> > children in Iraq, but with your help we will be able to reach out to
> > many of them.
> >
> > end quote
> >
> > They are trying to help a few of the thousands of homeless children

> > whose parents were killed in the war, and they have to do that by
> > donations,
>
>
> It'll probably work until the Islamist saboteurs get into the act and
> bomb them out just to show us Infidels they and Allah don't care about
> human life.

2579. FA: ebay ham stuff...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 13:46:52 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <gLyhb.171389$0v4.13057940@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31996

```
24 vct 1 A xfmr NOS only $1.99 each
Antique radio belts
Large RF choke-B+
Russian 12AXT's
+Midge doll
etc...check in out under seller

heytubeguy or

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&
sort=3&since=-1&include=0&page=1&rows=25
```

2580. Need Help: Audio Channel

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 14:05:17 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F86AE8C.78B56B8F@ix.netcom.com>
Source record: 31897
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space

Thanks for reading this.

I need a Windows-compatable program or TSR
(can be DOS, as long as it will run on a Windows machine)
that will give me an open audio channel, sound card to sound card,
from one internet-connected computer to another.
Needs to have good bandwidth for broadband connections,
scalable down to narrower bandwidth for dial-up.
Need to pass at least 15-20 KCs of bandwidth for broadband,
4-6 KCs for dial-up.
Don't need any bells or whistles. Does need to maintain the
channel once opened. I can rig some kind of hardware "transmit,"
but that would complicate the application.
Can anyone help?
Thanks again and 73,
Dave AB5S

2581. Re: oxygen sensor needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-10 23:12:23 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1065984591.620319@auth2.dns.griffin.net.uk>
Source record: 31919

wont a lambda senser do?? if so car breakers yard..
"bobinphx" <rbelisle1@cox.net> wrote in message
news:q06gb.54936$Ms2.26382@fed1read03...
> ok guys and gals... you were great with the LED theory.... but NOW I need
> your help in finding a cheap replacement for an oxygen sensor. The part is
> from a Automotive engine analyzer that checks 4 types of gas, one of them
> being O2.... Its an MSA Oxygen sensor part number 472062. I found one
> company on the net who sells them for$60. Being un-employed that is to
> high!!! These are used in the afore mentioned automotive machine and in
> medical O2 sensors... I was hoping that someone worked in a Hospital or DR
> office and could get a used working one for cheap.....
>
> Thanks in advance for what ever help you may be for this cheap
> homebrewer!!!!!
>
> Bob in phx .
>
> p.s. the entire test system is a bear ace II with dual trace scopes, 30
plus
> tests and emissions testing,,, what did I pay for it.... $10.00 (yep 10
> bucks)....
>
>

2582. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 00:21:55 UTC
From: averyfineman@aol.com
Message-ID: <20031010202155.12501.00003049@mb-m04.aol.com>
Source record: 31898

In article <bm4fl1nsa1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>Avery Fineman <averyfineman@aol.com> wrote:
>> One of the most innovative in my estimation was the loop built on an
>> unused bicycle wheel rim (spokes removed).
>
>Indeed. I saw one of those here: http://lakeweb.com/rf/wwvb/ (may or may
>not be the same one you found), and it is a clever idea. I'm thinking now I
>might build one like that as well as a ferrite rod version to compare with;
>since the ferrite will increase the effective area of the antenna by the
>square of its effective relative permeability, I want to believe that a 1/2"
>ferrite rod can compete with... well... at least an air core loop, uh... the
>size of your hand? (I don't have various references here with me to start
>looking up the effective relative permeability of a ferrite rod of a given
>l/d ratio... hopefully in the ballpark of 20-50...)

Sounds good. I've not experimented with ferrite or powdered-iron
core antennas for my project. My loop was based more on the fact
that there was attic space above the interior workshop and the trap
door diagonal dimension set the maximum loop diameter to 2' 10".
#14 electrical wire was actually cheaper than purchaseable coil
wire for 500 feet and was a relatively calculable-before-build thing.
I could have put in a 5 foot diameter loop but would have to dismantle
a few things to get it there or spend time bent over while constructing
it. :-) [winding and wrapping took a LOT longer than expected!]

>I also found that people did occasionally ask about really large diameter
>(>1") ferrite cores, and while the usual response was that you could, of
>course, pack a bunch of smaller rods together to make a big one, apparently
>no one has the considerable $$$ around to build, say, a coffee can sized
>ferrite core antenna. Would be something to see though! Anyone want to
>donate some fat ferrite rods to me? :-)
>
>> My own loop is 58 1/2 turns of #14 AWG THHN electrical wire self-
>> supporting with a mean diameter of 2 feet, 8 inches, then bound with
>> cheap twine that was well varnished with McCloskey's "Gym-Seal"
>> floor varnish. The electrostatic shielding was provided by heavy-grade
>> kitchen aluminum foil (with a gap, of course) that was bound with a
>> second application of twine, then varnished. Q at resonance is about
>> 44, good enough for about 1.4 KHz BW by itself.
>
>Not bad at all!
>
>> Worked out well

>> and I can't observe any funny spikes from appliances or other
>> non-WWVB signal things after the FET stage.
>
>That's good to hear; noise seems to be a common concern.
>
>I believe you said your receiver was a synchronous design, correct? I'm
>still liking the envelope detector approach, but I've yet to hear about
>anyone successfully employing this (simpler) method.

My project is specifically for deriving the 60 KHz carrier, as clean as possible prior to mixing-dividing etc. to compare the frequency counter timebase frequency of 10 MHz. With two commercial radio clocks on hand, WWV over the Icom R-70 for time hacks, wasn't any desire to decode the time signal.

To get a narrow receiving bandwidth "raw," the tuned loop handles the initial selectivity. A differential FET with tuned transformer output both gets rid of some common-mode RF pickup and the transformer Q of just about 30 drops the far-frequency attenuation more (bandwidth of the transformer is roughly 2 KHz, wider than loop alone). From there on things are quite different.

The amplified, "wide" bandwidth WWVB signal is fed to an old MC1350P video-RF differential amplifier with a local oscillator at about 246 KHz into
the AGC voltage pin. That makes it an active balanced mixer. The output of that goes to a single quartz crystal filter at 186 KHz...an old surplus xtal acquired decades ago, presumably from a timebase or marker crystal for a military radar set of ancient vintage. A second MC1350P mixerf, fed with the same 246 KHz LO but the output tuned to 60 KHz downconverts to the original frequency.

The two mixers need to have the LO injection with at least 30 db of isolation between the two...takes some playing around and I got about 40 db. The up-conversion and down-conversion was to use a crystal filter at a frequency different than 60 KHz (avoids re-radiation pickup in the loop for one thing or other stuff in the breadboard stage). The crystal filter is still being played with but the basic circuit is just series-resonance at a single frequency, looking for the narrowest bandwidth possible. Getting about 5 Hz of -3 db bandwidth right now and am having to fuss with temperature stability of the L-C tuned LO. Gets a bit fussy to test out that narrow a bandwidth...:-)

Note: The heterodyning (mixing) process doesn't change the relative phase of a frequency-changed signal. A second heterodyne back to the original frequency retains the original relative phase. The trick there is to get isolation from one LO injection port to the other. That avoids any feed-through which can spoil the crystal filtering action. I use a couple more MC1350s to split out from the L-C transistor oscillator with supply pins separately decoupled and gains set low by using very low collector load resistors.

I might be satisfied with a 10 Hz bandwidth overall if the fussing-around period eats up too much time. Right now it looks like a very clean RF carrier waveform with annoying 1 second bounce up and down when viewed on a scope. I'm planning on adding a limiter stage or two following which will remove the modulation almost fully (!). The MC1350P (an old Motorola part based on their metal can MC1590) makes an excellent limiter when over-driven.

>> 60 KHz signal voltage
>> across the loop at resonance is estimated at about 90 to 120
>> microVolts.
>
>I don't suppose you have an estimate of your signal to noise ratio?

No. I'm looking for the carrier as clean as I can get it. There's zilch front-end noise. There are some occaisional "bumps" from impulse stuff from somewhere but nothing from horizontal TV sweep 4th harmonic at ~63 KHz. Closest TV set is about 15 feet away diagonal.

Offhand, I'd say the S:N ratio is consistent with a 10 Hz bandwidth at -3 db points. That would be fine if I were demodulating the WWVB time code changing at a 1 Hz rate.

>> Location here is northern Los Angeles in the Verdugo
>> Hills (a mile of hills between here and Boulder, CO)..
>
>I'm in Corvallis, Oregon, which -- eyeballing it on a map -- is perhaps half
>again as far from Boulder. I have one of the inexpensive self-setting
>clocks that does work pretty reliably _if keep in certain positions within
>my house_. I've read that these also set themselves at night when the SNR
>is significantly higher too.

Their automatic sensing varies with the manufacturer. NIST has some info (in a FAQ page?) on their site. The little Oregon Scientific unit here (older one) checks itself every 8 hours, the larger new one (by same company) checks itself in the hour after midnight.

>> Ferrite/powdered-iron core "antennas" used in consumer market
>> radio clocks seem to work very well.
>
>I was going to get some of the 1/2"x4" or 7" rods from Ocean State
>Electronics here: http://www.oselectronics.com/ose_p88.htm ... they also
>have some inexpensive pre-wound rods meant for AM radios
>(http://www.oselectronics.com/ose_p91.htm), but they're apparently tuned for
>the AM broadcast band and therefore I'd have to re-wind the things anyway.

Couple of things there. Core permeability may be different at 60 KHz versus the 550 KHz low frequency of AM BC band. If it is okay then you can get away without rewinding the coil on it, just retune it with more capacitance if your input circuit can stand the lower impedance.

At 60 KHz you can use a wide-range audio test oscillator for checking resonance Q, measuring inductance, etc. I was using an ancient Heathkit audio oscillator (Wien bridge type) with the 5-digit frequency

counter built into a French-made DVM newly purchased from Mouser.

>This is hopefully going to end up as a class project and therefore the goal
>of learning how to build your own antenna and receiver is the reason I'm not
>intending to just go and use someone's "all in one" WWVB receiver IC (even
>though colleges seem to push that approach these days... but then _someone_
>had to design that IC, right!?).

Hans Summers has a nice section on his website in the UK that has
full particulars of his 1991 first-year university project of a 60 KHz
receiver-decoder for the Rugby station there. He used discrete TTL
packages for the entire decoder! [Rugby modulation code a bit
different compared to WWVB]

http://www.hanssummers.com/electronics/clocks/radio/radioclk.htm

Hans (who appears in here from time to time) has _everything_ on
that project available there. Interesting!

If I type the link incorrect, just get www.hanssummers.com and
navigate from there. Interesting website with lots of different projects
well-described.

If I were going for a radio clock project, I'd get a reasonably-clean
signal at 60 KHz by analog means with a bandwidth of 10 to 50 Hz
on the output then use one of the many PIC microcontrollers to do
the decoding...and also readout control. Microcircuits has free
development software for download that works in any PC. Decoding
algorithms will be roughly the same whether done in software or
hardware and (in my estimation) your own software development can
be as much fun as handling lots of hardware. Your mileage may vary.

Have fun. Things are a bit different working with a very fixed frequency
station at LF with very slow modulation rates! :-)

Len Anderson
retired (from regular hours) electronic engineer person

2583. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 01:03:11 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <jFIhb.6578$dn6.2675@newsread4.news.pas.earthlink.net>
Source record: 31899

I read an article about WWVB reception for a frequency standard that made use of a zero crossing detector to detect the 60 KHz signal.

His point was that many detection schemes can get a false count now and then due to the 10 dB drop in signal strength that WWVB uses to encode the time information.

Apparently, the zero crossings are quite stable regardless of the amplitude change.

For a system to recover the time information, I'd be inclined to simply amplify the incoming and then use a diode detector of some sort. Well, that and a SLOW AGC system...

I do not think it would need anything as complex as a synchronous detector since any changes in the propogation of 60 KHz is very slow. Admitted, the occasional noise burst may result in a false pulse now and then.

Since you are likely to feed the signal into a computer of some sort to decode the pulses to a time signal, you can add some programming to handle the occasional false pulse.

Jim Pennell
N6BIU

2584. WANTED: 104 HAM RADIO PROJECTS FOR NOVICE AND TECHNICIAN

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 01:37:55 UTC
From: antswitch@tomochka.com
Message-ID: <47c89a30.0310101737.f555236@posting.google.com>
Source record: 31900
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors

Anyone have a copy?

respond to shack at tomochka dot com

TNX!

2585. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 02:52:44 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bm7r9r$to7$1@news.oregonstate.edu>
Source record: 31901

Thanks for that most informative response, Avery, and also the link to Hans' project.

Hopefully next week I'll get around to constructing my antenna (need to visit a bike store and ask for busted rims this weekend... :-)). From the signal strengths you were quoting (<100uV), it seems as though it's iffy whether or not you'd see anything at all taking the output of the antenna (with resonating capacitor) and feeding it directly to a spectrum analyzer (since we're looking at, oh, -70 to -80dBm into 50 ohms, which is starting to push the noise floor of at least one spectrum analyzer I have available to use). If there's nothing visible at that point, however, hopefully after a differential FET amplifier as you suggested the signal will be visible. (I find it very reassuring to be able to see you actually have some signal present at each point of a porject's development...)

---Joel

2586. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 18:06:46 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns9411C35724FE2kierenmail@195.129.110.131>
Source record: 31902

>
> Many of us Americans pronounce Iraq, "eye-rack," and
> don't have the foggiest notion who or what Chirac is.
> 73,
> Tom Donaly KA6RUH
>

.... which is precicely why you should stear clear of international debate!

Rule one in any dispute: Know thine enemy!

Interesting point: The ONLY country to have ever used WMD in anger
is.....the USofA. Twice - and deliberately aimed at a civilian population
to boot.
Compare with the evidence so far reported in Iraq: *Possible* evidence of
WMD, but designed for battle-field use ONLY.

A fair act of invasion? I don't think so. I may be wrong, but I'm
entitled to my opinion - or is freedom of speech subjective to the proviso
it's not used to run down American feelings?

2587. 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 18:58:22 UTC
From: Pawe&#65533; Stobi&#65533;ski <sq9nry@wp.pl>
Message-ID: <bm9gb0jgv1@julia.coi.pw.edu.pl>
Source record: 31903

Hi all;

I plan to build an HF power amplifier, output about 80-100W, not critical. It might look like as those used in popular Yaesu, Kenwood or Icom end PA stages, i.e. first stage as driver and the second as final amp., both in push-pull, transformer-separated. It should run directly with 13.8V supply. Of course, everything based on popular transistors as MRFxxx, 2SCxxxx, 2SDxxxx, IRFxxx MOS or russian (would be the best, since there are no problems with buying ones in my country). I've spend several evenings searching in googles, but I've failed to find anything suitable for me. Either I'm such a demanding person, or missed something while looking up in endless vastness of the internet. If anyone knew a well-designed project, or built one whenever in past, it would be welcome.

TIA

--
Pawe&#65533; Stobi&#65533;ski SQ9NRY
Republic of Poland

2588. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 19:29:00 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F8859F7.49CDD9D3@earthlink.net>
Source record: 31904

Kieren wrote:
>
> >
> > > Many of us Americans pronounce Iraq, "eye-rack," and
> > > don't have the foggiest notion who or what Chirac is.
> > > 73,
> > > Tom Donaly KA6RUH
> >
>
> .... which is precicely why you should stear clear of international debate!
>
> Rule one in any dispute: Know thine enemy!
>
> Interesting point: The ONLY country to have ever used WMD in anger
> is.....the USofA. Twice - and deliberately aimed at a civilian population
> to boot.
> Compare with the evidence so far reported in Iraq: *Possible* evidence of
> WMD, but designed for battle-field use ONLY.
>
> A fair act of invasion? I don't think so. I may be wrong, but I'm
> entitled to my opinion - or is freedom of speech subjective to the proviso
> it's not used to run down American feelings?

You are forgetting a small thing called WW-II? America was at war
with Japan when they dropped the bombs on Hiroshima and Nagasaki. At the
time it was seen as the only way to end a world war that was pulling
down most of the world economy, killing millions of people and using
resources needed for people to live a normal life all over the world.

While I hate to see a life taken, sometimes you have to shoot a rabid
dog to keep people safe. It take bigger bullets to stop Bigger dogs. If
you consider this "used WMD in anger", I feel sorry for you.

Like every other country, Japan had their military and civilians
mixed. No country draws a pair lines in the sand and segregates their
military and civilians on separate sides of their country, with a no
mans land between them. You need to study history, military strategy,
and think about the way society works.
--

Michael A. Terrell
Central Florida

2589. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-11 20:35:03 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <42qgov0f4f7hkhncleise3mktuaso4k9nj@4ax.com>
Source record: 31905

On Sat, 11 Oct 2003 20:58:22 +0200, "Paweï¿½ Stobiï¿½ski" <sq9nry@wp.pl>
wrote:

>Hi all;
>
>I plan to build an HF power amplifier, output about 80-100W, not critical.
>It might look like as those used in popular Yaesu, Kenwood or Icom end PA
>stages, i.e. first stage as driver and the second as final amp., both in
>push-pull, transformer-separated. It should run directly with 13.8V supply.
>Of course, everything based on popular transistors as MRFxxx, 2SCxxxx,
>2SDxxxx, IRFxxx MOS or russian (would be the best, since there are no
>problems with buying ones in my country). I've spend several evenings
>searching in googles, but I've failed to find anything suitable for me.
>Either I'm such a demanding person, or missed something while looking up in
>endless vastness of the internet. If anyone knew a well-designed project, or
>built one whenever in past, it would be welcome.

Why not just copy a suitable proprietory schematic? What's the problem
with that?
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2590. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 01:00:45 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f88a697.61294508@news.freeserve.net>
Source record: 31906

On Sat, 11 Oct 2003 20:58:22 +0200, "Pawe&#65533; Stobi&#65533;ski" <sq9nry@wp.pl>
wrote:

>Hi all;
>
>I plan to build an HF power amplifier, output about 80-100W, not critical.
>It might look like as those used in popular Yaesu, Kenwood or Icom end PA
>stages, i.e. first stage as driver and the second as final amp.
<snipped>

Have you looked at Motorola's website?. There are a good number of
Application Notes there with amps from 10w to Kw's for HF to uWave
described in detail. There is also a company in US that stocks the
'hard to find' bits, and Kits, for them. Sadly I can't find the URL at
the moment.

2591. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 01:22:41 UTC
From: Bruce Raymond <raymondb@dma.org>
Message-ID: <B12ib.593$P%1.559953@newssvr28.news.prodigy.com>
Source record: 31907

Could be RF Parts?

http://www.rfparts.com/mototran.html

- Bruce Raymond/ND8I

"Mike W" <mike@corn2.freeserve.co.uk> wrote in message
news:3f88a697.61294508@news.freeserve.net...
> On Sat, 11 Oct 2003 20:58:22 +0200, "Pawe&#65533; Stobi&#65533;ski" <sq9nry@wp.pl>
> wrote:
>
> >Hi all;
> >
> >I plan to build an HF power amplifier, output about 80-100W, not
critical.
> >It might look like as those used in popular Yaesu, Kenwood or Icom end PA
> >stages, i.e. first stage as driver and the second as final amp.
> <snipped>
>
> Have you looked at Motorola's website?. There are a good number of
> Application Notes there with amps from 10w to Kw's for HF to uWave
> described in detail. There is also a company in US that stocks the
> 'hard to find' bits, and Kits, for them. Sadly I can't find the URL at
> the moment.
>

2592. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 02:24:50 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F88BB72.34EF6688@ob-wan.com>
Source record: 31908
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jim Thompson wrote:
>
> On Fri, 10 Oct 2003 08:14:51 +1000, Rob Judd <judd@ob-wan.com> wrote:
>
> >Totally off-topic for this group.
> >
> >Get a clue. Get a life. FOAD.
> >
> >This thread is officially over.
> >
> >
>
> And who appointed you god ?
>
> Another non-contributor who should FOAD himself.
>
> ...Jim Thompson

Jim,

A lot of people read this group without continuous contribution and I'm
one of them. But American politics is about the last thing I want to
read about anywhere. Defend the right to be off-topic and you look like
a moron newbie who barely knows the rules of Usenet.

Now, I know you're not that. So what's up exactly?

Rob
"I appointed _myself_ god, mate."

2593. Re: OLD QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 05:34:32 UTC
From: Paul Jordan <pauljordan@gci.net>
Message-ID: <vohpvjanco5579@corp.supernews.com>
Source record: 31909

Well, I had heard both magazines mentioned in my search.. That's why I said
"I believe" in my request. Do I need to repost with the correct name for
you to send me a copy or what??

"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.000000b0.006290b0@btinternet.com...
> Hi,
>
>
> > Does anyone have the QST article I believe from 1997 that discusses the
> > Micronaut 20 meter QRP rig?? I've been lookin all over for it and can't
get
> > a copy..
>
> That's because it was in CQ Magazine.
>
>
> 73 de Joe, G3LLV
>
>

2594. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 05:42:14 UTC
From: averyfineman@aol.com
Message-ID: <20031012014214.15462.00003516@mb-m06.aol.com>
Source record: 31910

In article <bm7r9r$to7$1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>Thanks for that most informative response, Avery, and also the link to Hans'
>project.
>
>Hopefully next week I'll get around to constructing my antenna (need to
>visit a bike store and ask for busted rims this weekend... :-)). From the
>signal strengths you were quoting (<100uV), it seems as though it's iffy
>whether or not you'd see anything at all taking the output of the antenna
>(with resonating capacitor) and feeding it directly to a spectrum analyzer
>(since we're looking at, oh, -70 to -80dBm into 50 ohms, which is starting
>to push the noise floor of at least one spectrum analyzer I have available
>to use). If there's nothing visible at that point, however, hopefully after
>a differential FET amplifier as you suggested the signal will be visible.
>(I find it very reassuring to be able to see you actually have some signal
>present at each point of a porject's development...)

2595. Re: OLD QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 09:15:09 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000b5.003c883a@btinternet.com>
Source record: 31911

Hi,

> Well, I had heard both magazines mentioned in my search.. That's why I said
> "I believe" in my request. Do I need to repost with the correct name for
> you to send me a copy or what??

I don't have any copies of CQ but do have all the QST CDs and there ain't an article in there about the Micronaut transmitter. There was however one on a companion receiver which may be the reason you have had confusing referrals to it. The transmitter was sold as a kit which may account for why the circuit is not quite in the public domain.

It would appear that back in '97 K4WTJ published some articles on it in CQ, so will you need to find someone with those particular back issues. I did a google search on Micronaut but couldn't come up with the original circuit. I got the impression though that it is similar to one of the 'TUNA TIN' designs which have appeared in QST from time to time and, with those circuits, I can help you.

Hang in there - Joe

2596. Re: OLD QST article needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 09:55:36 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000b6.00619329@btinternet.com>
Source record: 31912

Hi,

OOPS! That should be K4TWJ.

Cheers - Joe

2597. PicBasic Pro Compiler Ver 2.43

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 14:11:58 UTC
From: tk <gamach1@ispwest.com>
Message-ID: <3F89612D.6CF08741@ispwest.com>
Source record: 31915

Will swap Micro Engineering Labs BASIC compiler for SWL PSK-20 or PSK-30. (Built or unbuilt)

Original users manual, program disks. and latest program updates.

Supports vast array of PIC processors 12FXXX 16FXXX etc. Including the 16F84 and 16F628.

Ted Kester
Atlanta GA KD4EE

2598. FS: NEW RCA 8072 RF Output tube for Signal-One Xcvr's w/pic!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 14:21:29 UTC
From: rlucch2098@aol.com
Message-ID: <20031012102129.07899.00000670@mb-m11.aol.com>
Source record: 31913

Hi all;
Anyone need a new RCA 8072 output tube for your Signal-One?
I wish I had kept my two:-(
Anyway, its $150 ppd Conus.
Pic>>
http://www.myradioroom.com/rca8072tube.jpg
Tnx & 73...
Rich WA2RQY

2599. 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 14:23:22 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000b8.001b75df@btinternet.com>
Source record: 31914

Hi,

Has anyone a pointer to the RF output impedance of the 74HC series gates (at about 10MHz)? I have a few inverters/buffers left over in a package and thought of using them stacked to drive an output port via a simple matching network. I've seen this done before and have simulated it myself but would like it spelled out.

Cheers - Joe, G3LLV

2600. Re: 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 14:54:40 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000b9.00382047@btinternet.com>
Source record: 31916

Hi,

I've been able to answer my own question. One minute of
googling produced AN-393 at -

http://www.fairchildsemi.com/

Apologies for wasting the bandwidth.

73 de Joe, G3LLV

2601. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 18:48:37 UTC
From: Pawel Stobinski <sq9nry@wp.pl>
Message-ID: <bmc44ndt1@julia.coi.pw.edu.pl>
Source record: 31917

Paul Burridge wrote:
> Why not just copy a suitable proprietory schematic? What's the problem
> with that?

Yes, that's a good idea, however it is not always possible to decipher values of the elements, number of turns, type of magnetic material and so on. You cannot determine board layout, either. I believe it is relevant to the circuit not to start oscillating.

--
Pawel Stobinski SQ9NRY
Republic

2602. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 18:49:23 UTC
From: Pawe&#65533; Stobi&#65533;ski <sq9nry@wp.pl>
Message-ID: <bmc465hm1@julia.coi.pw.edu.pl>
Source record: 31918

Mike W wrote:
> Have you looked at Motorola's website?. There are a good number of
> Application Notes there with amps from 10w to Kw's for HF to uWave
> described in detail. There is also a company in US that stocks the
> 'hard to find' bits, and Kits, for them. Sadly I can't find the URL at
> the moment.

Thanks!

--
Pawe&#65533; Stobi&#65533;ski SQ9NRY
Republic of Poland

2603. Taking apart Hustler mobile mast?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 19:52:49 UTC
From: Martin <marty123@optonline.net>
Message-ID: <liiib.109121$Ri4.33496386@news4.srv.hcvlny.cv.net>
Source record: 31920
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

While I'm waiting hopefully for some help from New-Tronics, I thought I would
ask here if anyone would know how to take apart a Hustler mobile mast
without wrecking it?

The joint where the mast folds has two screws which I can remove, but the
fit between the sections seems impossible to budge.

Anyone have any actual experience with this?

Marty K1FHR

2604. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 20:03:26 UTC
From: averyfineman@aol.com
Message-ID: <20031012160326.21457.00001307@mb-m10.aol.com>
Source record: 31921

In article <bm7r9r$to7$1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>Thanks for that most informative response, Avery, and also the link to Hans'
>project.
>
>Hopefully next week I'll get around to constructing my antenna (need to
>visit a bike store and ask for busted rims this weekend... :-)).

The circularity shape of the loop has little relation to its ability to
intercept the magnetic field of the signal. There's a slight variation
from perfect circle to octagonal to square shape. Sensitivity is
related to the loop's total area and, most especially, to the number
of turns of wire in the loop.

>From the
>signal strengths you were quoting (<100uV), it seems as though it's iffy
>whether or not you'd see anything at all taking the output of the antenna
>(with resonating capacitor) and feeding it directly to a spectrum analyzer
>(since we're looking at, oh, -70 to -80dBm into 50 ohms, which is starting
>to push the noise floor of at least one spectrum analyzer I have available
>to use). If there's nothing visible at that point, however, hopefully after
>a differential FET amplifier as you suggested the signal will be visible.
>(I find it very reassuring to be able to see you actually have some signal
>present at each point of a porject's development...)

I don't "see" anything directly at my loop in the way of signal from
WWVB. A resonated, relatively high impedance loop (mine is about
93 KOhms at 60 KHz) will lose everything in the way of sensitivity
if loaded down with 50 Ohms input Z of any other device. The purpose
of the differential FET input amplifier is manyfold: Present a
differential,
balanced short feed to reduce common-mode pickup; provide a
coupling from a high-impedance source (resonated inductor of
moderate Q) to the lower impedance of later amplifiying circuitry; to
enable tuning for resonance remotely when the loop is 8 feet over-
head and inaccessible.

"Signal strength" was calculated based on measured gains of the
input stage, loop impedance simulated by a series resistor, all done
at higher voltage levels. The loop voltage and field strength would
then be equal to the differential amplifer output voltage divided by its
voltage gain. One CAN see amplified signals of a milliVolt with most
higher-end oscilloscopes...even if the WWVB has a slow, dull, not-
directly-interesting RF envelope. :-)

The number of amplifying stages following a moderate-gain input stage is really a sort of arbitrary thing, depending more on what one DOES with the output. Since WWVB is going to about as fixed-tuned and stable on 60 KHz as anything can be, there should be no problem with fixed tuning of those following stages. Even if the Q of those tuned circuits are low (15 to 25, maybe), they have an advantage of providing even more skirt attenuation on either side of 60 KHz. The 4th harmonic of NTSC horizontal sweep is 3 KHz higher than 60 KHz...some TV receivers spritz out a lot of that while others have minimal output. Attenuation at around 63 KHz is probably desireable for household locations in North America.

I'm going to eventually use some moderately-high input Z comparators after extreme narrowband filtering, that to square it up for CMOS TTL digital levels. That isn't a necessary, just a convenience for me. If the amplified signal level can get above about a half Volt p-p, then an ordinary digital Schmitt trigger gate or inverter will act just fine to square up the signal, make it compatible with other digital packages. Did that before for other applications and no problem.

Squaring-up the received signal doesn't offer much for improving the signal to noise ratio. That may make it LOOK like it is "noise free" but that is only because the existing noise is transferred from the vertical direction of a scope picture to the horizontal. It's harder to observe the horizontal display noise due to the very fast transition of a comparator or trigger output. Squaring up is absolutely necessary to couple the signal to any kind of digital circuit for time decoding.

LEN Anderson
:-)
retired (from regular hours) electronic engineer person

2605. Re: 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 20:03:27 UTC
From: averyfineman@aol.com
Message-ID: <20031012160327.21457.00001308@mb-m10.aol.com>
Source record: 31922

In article <VA.000000b8.001b75df@btinternet.com>, Joe McElvenney
<ximac@btinternet.com> writes:

> Has anyone a pointer to the RF output impedance of the 74HC
>series gates (at about 10MHz)? I have a few inverters/buffers
>left over in a package and thought of using them stacked to drive
>an output port via a simple matching network. I've seen this done
>before and have simulated it myself but would like it spelled
>out.

Fairchild's application note AN-393 is an informative one from the
standpoint of _transient_ switching analysis. Analysis or simulation
for impedance matching, presuming matching at a single frequency,
leans towards _steady_state_ analysis.

"Impedance matching" of very fast transition time rectangular
waveforms must be done over a very wide bandwidth to insure
fidelity of the rectangular waveform at the far end of the transmission
line. Digital devices are characterized under near-total On or Off
current source drivers...working into very non-linear active device
loads.

To get into the theory of a narrowband source impedance condition
is possible. Some of that has already been done with the "Class E"
amplifiers using certain SCR devices at 40 meters, such as several
examples at Cal Tech, Pasadena, CA, groups. A search on Class E
material might turn up something that would fit your application.

Class C tube or transistor operation can be considered a sort of "soft
switching" condition similar to On-Off current sources but that is
complicated by the fact that the On state of the active device varies in
current carrying capability depending on a narrowband load... hence the
"soft switching" label. Triode to pentode vacuum tubes were never very
good switches in On-Off operation compared to transistors.over the
very wide bandwidths necessary for fast-transient digital waveforms.

While it might be an interesting intellectual exercise in analysis, it will
take considerable time. Far more time than geting up a small
breadboard test circuit and TRYING IT OUT. Nearly all of the "74" (or
"54") family components are relatively cheap...small-scale integrated
circuit packages cost less than a dollar each in single quantities.

Len Anderson
retired (from regular hours) electronic engineer person

2606. new to group

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 21:10:02 UTC
From: irvingf <irvingf@optonline.net>
Message-ID: <Kqjib.110222$Ri4.33994335@news4.srv.hcvlny.cv.net>
Source record: 31923

hi
i am new to this and all news groups .i find this group very interesting but have a question that is driving me nuts. how can i delete a single message to this group that i have just read. i can remove all the messages but i only want to remove them 1 at time.
thanks for the help
irv

2607. Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 22:01:03 UTC
From: jim <3carroll@optonline.net>
Message-ID: <3F89CF30.1040207@optonline.net>
Source record: 31924
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

Sorry for the xpost. A good friend of mine, John WB2ISI recently passed away and his widow w/3 kids under 18 asked me to try and dispose of his equipment as follows:
AIM 20 amp power supply
Kenwood 2 meter transceiver TR-7850 slight wear, missing rt side panel.
Yeasu YS200 Watt/SWR meter w/mic No dents/dings, slight paint wear.
National NC-33 receiver, fair appearance, no dents/dings, power cord needs work.
Icom IC 751 fair appearance. Needs back cover.
Tubes:
62011/12AT7WA 1 piece
6AL5 1 piece
6L6 G 2 pieces
866 A 2 pieces
2A3 4 pieces
5881 1 piece
811A 1 piece
5V4 qa 1 piece
811 2 pieces
6J5 1 piece
12AX7 1 piece
6083/AX 9909 (Amperex) 1 piece
6083 (Amperex) 1 piece

Again I am sorry for the xpost but my mates family could use the funds from whatever can be sold. 73, Jim.

2608. Re: new to group

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 22:27:06 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <v4ljov4i6v2enlbdi8sjl500ua7dhu9fkb@4ax.com>
Source record: 31925

On Sun, 12 Oct 2003 21:10:02 GMT, "irvingf" <irvingf@optonline.net>
wrote:

>hi
>i am new to this and all news groups .i find this group very interesting but
>have a question that is driving me nuts. how can i delete a single message
>to this group that i have just read. i can remove all the messages but i
>only want to remove them 1 at time.
>thanks for the help
>irv
>
Depends on the news browsing software you have, but generally when you
look at a message, it is marked as "read". Depending on the options
set in your software, you can choose to see all available messages, or
just the unread ones. If the latter, every time you refresh or purge
the group, you will no longer see the already read messages.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

2609. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 23:13:29 UTC
From: nojunk.c.a.m@banthespam.blueyonder.co.uk
Message-ID: <24njovoviuhni9166ual1eugqastj24j4s@4ax.com>
Source record: 31926

> I'm going to eventually use some moderately-high input Z comparators
> after extreme narrowband filtering, that to square it up for CMOS TTL
> digital levels. That isn't a necessary, just a convenience for me. If
> the amplified signal level can get above about a half Volt p-p, then
> an ordinary digital Schmitt trigger gate or inverter will act just fine to
> square up the signal, make it compatible with other digital packages.
> Did that before for other applications and no problem.
>
> Squaring-up the received signal doesn't offer much for improving the
> signal to noise ratio. That may make it LOOK like it is "noise free"
> but that is only because the existing noise is transferred from the
> vertical direction of a scope picture to the horizontal. It's harder to
> observe the horizontal display noise due to the very fast transition
> of a comparator or trigger output. Squaring up is absolutely necessary
> to couple the signal to any kind of digital circuit for time decoding.

Your ok so long as the ampliflier and squarer upper dooper doesn't leakyage back into the loopy thing or previous ampliflying bits.

2610. Re: new to group

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-12 23:25:08 UTC
From: KeyBoard In The Wilderness <Keyboard73@zilcha.com>
Message-ID: <oplib.68305$Ms2.66036@fed1read03>
Source record: 31927

Left mouse click the message , then EDIT, then DELETE

Works for me on OutLook Express (Windows XP)

--
73 From Da Keyboard

"irvingf" <irvingf@optonline.net> wrote in message
news:Kqjib.110222$Ri4.33994335@news4.srv.hcvlny.cv.net...
> hi
> i am new to this and all news groups .i find this group very interesting
but
> have a question that is driving me nuts. how can i delete a single message
> to this group that i have just read. i can remove all the messages but i
> only want to remove them 1 at time.
> thanks for the help
> irv
>
>

2611. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 00:09:10 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns9413CA37F24Fkierenmail@195.129.110.200>
Source record: 31928
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

You go Clint!!

You certainly know how to rally the world and unite!!

<me, laughing at Clint and his type>
Kieren

2612. Re: 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 00:20:04 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000ba.00435842@btinternet.com>
Source record: 31930

Len,

> Fairchild's application note AN-393 is an informative one from the
> standpoint of _transient_ switching analysis. Analysis or simulation
> for impedance matching, presuming matching at a single frequency,
> leans towards _steady state_ analysis.

You are right about AN-393, and the non-linearities, of course. However when I first posted I needed a ballpark figure and the app-note gave it me. My application is a rather mundane, fixed frequency, 10MHz frequency standard required to drive a counter/signal generator combo and whose output should be reasonably sinusoidal so as not to spray harmonics around the place. The buffered or inverted output coming off the VCXO has to supply about 1V pk-pk into 50 ohms. A 74HC04 or '07 followed by a single-section, image-parameter, pi -section filter appears to do the job but it was just my day for being scientific :-(

Cheers - Joe

2613. Re: Taking apart Hustler mobile mast?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 00:24:29 UTC
From: James Wilson <Someone@Microsoft.Com>
Message-ID: <1hmib.121458$xx4.20792594@twister.neo.rr.com>
Source record: 31929
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Adjust and apply a crescent wrench to fit the shaft above the sleeve. Tap downward with wrench lightly with hammer. Protect bottom threads from damage..

> ask here if anyone would know how to take apart a Hustler mobile mast
> without wrecking it?
>
> The joint where the mast folds has two screws which I can remove, but the
> fit between the sections seems impossible to budge.
>
> Anyone have any actual experience with this?
>
> Marty K1FHR
>
>
>
>
>
>
>
>

2614. Re: Taking apart Hustler mobile mast?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 00:51:40 UTC
From: Dave Bushong <dbushong@adelphia.net>
Message-ID: <wGmib.107772$qj6.4067085@news1.news.adelphia.net>
Source record: 31931
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Never use a crescent wrench as anything other than a wrench (unless it belongs to someone else). Find an open-end wrench and tap that with a hammer instead.

"Ham" doesn't need to mean "Hack".

All the best,
KZ1O

James Wilson wrote:
> Adjust and apply a crescent wrench to fit the shaft above the sleeve. Tap
> downward with wrench lightly with hammer. Protect bottom threads from
> damage..
>
>
>>ask here if anyone would know how to take apart a Hustler mobile mast
>>without wrecking it?
>>
>>The joint where the mast folds has two screws which I can remove, but the
>>fit between the sections seems impossible to budge.
>>
>>Anyone have any actual experience with this?
>>
>>Marty K1FHR
>>
>>
>>
>>

2615. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 03:36:05 UTC
From: averyfineman@aol.com
Message-ID: <20031012233605.00545.00001591@mb-m02.aol.com>
Source record: 31932

In article <24njovoviuhni9166ual1eugqastj24j4s@4ax.com>,
nojunk.c.a.m@banthespam.blueyonder.co.uk writes:

>> I'm going to eventually use some moderately-high input Z comparators
>> after extreme narrowband filtering, that to square it up for CMOS TTL
>> digital levels. That isn't a necessary, just a convenience for me. If
>> the amplified signal level can get above about a half Volt p-p, then
>> an ordinary digital Schmitt trigger gate or inverter will act just fine to
>> square up the signal, make it compatible with other digital packages.
>> Did that before for other applications and no problem.
>>
>> Squaring-up the received signal doesn't offer much for improving the
>> signal to noise ratio. That may make it LOOK like it is "noise free"
>> but that is only because the existing noise is transferred from the
>> vertical direction of a scope picture to the horizontal. It's harder to
>> observe the horizontal display noise due to the very fast transition
>> of a comparator or trigger output. Squaring up is absolutely necessary
>> to couple the signal to any kind of digital circuit for time decoding.
>
>Your ok so long as the ampliflier and squarer upper dooper doesn't leakyage
>back into the loopy thing or previous ampliflying bits.

Thank you for the advice on the "squarer upper dooper" and the
"leakage back into the loopy thing" and the "amplifying bits."

Len Anderson
retired (from regular hours) electronic engineer person

2616. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 04:28:34 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f8a2953.160312770@news.freeserve.net>
Source record: 31934

On Sun, 12 Oct 2003 01:22:41 GMT, "Bruce Raymond" <raymondb@dma.org>
wrote:

>Could be RF Parts?
>
>http://www.rfparts.com/mototran.html
>
No, The site I referred to sells Kits of all the hard to get parts for
the Motorola RF amps, at a very good price too. Far less than Mainline
used to sell the same thing.
I've had a search on the web tonight and can't find the damn place.

2617. Re: 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 05:15:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vokd8a8bq85791@corp.supernews.com>
Source record: 31933

Make sure to keep the capacitor leads in the filter very short, and build the filter so there isn't a sneak path around it. HF filters often lose their lowpass characteristics at VHF and above due to stray impedances and resonances. The 74HC series switches very fast, so it generates some really high frequency stuff you really need to effectively filter.

Roy Lewallen, W7EL

Joe McElvenney wrote:
>
> You are right about AN-393, and the non-linearities, of course. However
> when I first posted I needed a ballpark figure and the app-note gave it me. My
> application is a rather mundane, fixed frequency, 10MHz frequency standard
> required to drive a counter/signal generator combo and whose output should be
> reasonably sinusoidal so as not to spray harmonics around the place. The
> buffered or inverted output coming off the VCXO has to supply about 1V pk-pk
> into 50 ohms. A 74HC04 or '07 followed by a single-section, image-parameter, pi
> -section filter appears to do the job but it was just my day for being
> scientific :-(
>
>
> Cheers - Joe
>
>

2618. Re: Need Help: Audio Channel

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 06:48:21 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310122248.3bd7f879@posting.google.com>
Source record: 31935
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space

David Stinson <arc5@ix.netcom.com> wrote in message
news:<3F86AE8C.78B56B8F@ix.netcom.com>...

> I need a Windows-compatable program or TSR
> (can be DOS, as long as it will run on a Windows machine)
> that will give me an open audio channel, sound card to sound card,
> from one internet-connected computer to another.

http://www.speakfreely.org/
it is free, comes with source code and is GPL-ed.
the voice quality is really excellent and
it has choice of codecs to choose from.

- farhan

2619. Re: Receiving WWVB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 12:28:25 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bme5of$lmndv$1@ID-61331.news.uni-berlin.de>
Source record: 31936

>
> >This is hopefully going to end up as a class project and therefore the
goal
> >of learning how to build your own antenna and receiver is the reason I'm
not
> >intending to just go and use someone's "all in one" WWVB receiver IC
(even
> >though colleges seem to push that approach these days... but then
someone
> >had to design that IC, right!?).
>
> Hans Summers has a nice section on his website in the UK that has
> full particulars of his 1991 first-year university project of a 60 KHz
> receiver-decoder for the Rugby station there. He used discrete TTL
> packages for the entire decoder! [Rugby modulation code a bit
> different compared to WWVB]
>
> http://www.hanssummers.com/electronics/clocks/radio/radioclk.htm
>
> Hans (who appears in here from time to time) has _everything_ on
> that project available there. Interesting!
>
> If I type the link incorrect, just get www.hanssummers.com and
> navigate from there. Interesting website with lots of different
projects
> well-described.

Thanks Len. I always read in here but rarely find the time to post anything
much.

My 60KHz receiver was just a Tuned Radio Frequency (TRF) design and very
poor, indicating the state of my knowledge of receiver architectures at the
time. If I were doing something similar today I'd do it very differently.
I'd probably use a crystal oscillator divided down to something near 60KHz
and heterodyne that down to audio frequencies for further filtering to get
the 1 pulse per second, with coded length. I'd probably still make the
decoder in TTL though ;-)

The MSF Rugby transmissions are a 60KHz carrier interrupted each second for
either 100mS representing binary 0, or 200mS representing binary 1. Details
at http://www.npl.co.uk/time/msf.html.

Rugby is a town as near to what one might consider to be the centre of
England as could be judged. By coincidence I happened to drive past the
antenna farm on Saturday on my way up the motorway. I'd previously seen the

antennas from a great distance but up close: very impressive. There are 12 huge masts. I think there are 12, but you don't want to spend too much time looking at the antennas and not the road, or you'll join the wrecks of all the other unfortunate radio amateurs strewn along the motorway embankment. Who no doubt departed this mortal coil happily dreaming of how many wavelengths above ground they could put their HF antennas ;-) As you get closer, a whole forest of smaller masts becomes visible.

There's a picture here
http://www.subbrit.org.uk/sb-sites/sites/r/rugby_radio/index.shtml.
Actually, reading that now shows there are indeed 12 masts, 820ft high each one, so my count was correct. I read somewhere else that there is a plan to close the Rugby site, a pity.

73 Hans
http://www.HansSummers.com

2620. Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 13:05:57 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <a98lov8kp0pnh6rb3lhkfblm89udkjdbl3@4ax.com>
Source record: 31937
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hi,

Let's say I'm trouble-shooting a circuit board with several stages of
RF amplification in addition to a primary source in the form of a
VCXO. I'd like to be able to bypass certain parts of the signal path
by the use of a jumper wire. This wire may need to be up to 4 inches
in length to have sufficient reach between stages. Can anyone see a
problem with this? I mean, rather than a single wire, should I use
some sort of grounded outer lead like coax to carry the signal?

at HF
at VHF
at UHF
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2621. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 16:27:10 UTC
From: Paul Jaeger <p.jaeger@softhome.net>
Message-ID: <3F8AD25E.CE240839@softhome.net>
Source record: 31938

Mike W wrote:
>
> On Sun, 12 Oct 2003 01:22:41 GMT, "Bruce Raymond" <raymondb@dma.org>
> wrote:
>
> >Could be RF Parts?
> >
> >http://www.rfparts.com/mototran.html
> >
> No, The site I referred to sells Kits of all the hard to get parts for
> the Motorola RF amps, at a very good price too. Far less than Mainline
> used to sell the same thing.
> I've had a search on the web tonight and can't find the damn place.

http://www.communication-concepts.com/default.htm

73,
PJ

2622. Sample frequency adjustment

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 16:37:14 UTC
From: OZ1EQC <per@oz1eqc.dk>
Message-ID: <bmekcs$212t$1@news.cybercity.dk>
Source record: 31939

Hi

Is there any possibility to change the sample frequency on the soundcards ?

If you take the MMSSTV program from Mako mori, he has done the software so you can set the sampling frq to eg. 11.030 instead of the 11.025 but if I am using the PC-ALE software from Charles G4GUO I dont have this possibility. Especially laptop computers soundcards dosnt follow the standard, which means that most of them are more or less useles in connection with software that hasnt the possibility to adjust the sampling.
If I look in the Codex settings, I can choose between the standard values 8000Hz, 11.025 etc. but none gives me the possibility to setup a user sampling frequency.
Is there a way to change the soundcards sampling frequency and how ?

Thanks in advance

Per OZ1EQC

2623. Re: Sample frequency adjustment

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 18:31:16 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <F2ydnSXPTcuFbReiXTWJlg@cnmnetwork.com>
Source record: 31940

Isn't there a crystal (or crystal oscillator) you can replace with one of
the desired frequency?

2624. Re: Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 18:33:42 UTC
From: Bob <balbert@cnmnetwork.com>
Message-ID: <F2ydnSTPTcuEbReiXTWJlg@cnmnetwork.com>
Source record: 31941
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

What happened to the covers? Without covers, these radios are reduced to the status of parts rigs. What about microphones and manuals and mobile brackets?

I have an IC-751 I like but I wonder what you mean by the back cover.

Perhaps you can guess at a price for everything and I might take it all, in hopes of fixing up some of the stuff to get my money back and then having the rest gratis.

Let me know.

73, Bob K6DDX

2625. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 18:49:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <volsu3bbkaqmf5@corp.supernews.com>
Source record: 31942
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

The main problem with it is that the two stages being connected with the wire will no longer see the same impedances they see when operating. This can cause a multitude of changes in their operation, including modifying their frequency responses and gains. It can also cause instability that's not present when the intermediate stage is in place. The amount of the changes depends greatly on the nature of the cicuits being connected, as well as the frequency. The changes will almost certainly be severe at UHF and considerable at VHF. At HF, you might get by with it and you might not, depending on the circuits.

It's good practice to design each stage for a standard input and output impedance, with 50 ohms being overwhelmingly the most common choice for RF circuitry. That is, each stage should be designed for correct operation when driven from a 50 ohm source and terminated with a 50 ohm load. The great benefit to this approach is that it allows independent testing and characterization of each stage with a standard set of test equipment. A secondary benefit is that any stage can be replaced with a jumper of 50 ohm coax without changing the impedances seen by the connected stages.

Roy Lewallen, W7EL

Paul Burridge wrote:
> Hi,
>
> Let's say I'm trouble-shooting a circuit board with several stages of
> RF amplification in addition to a primary source in the form of a
> VCXO. I'd like to be able to bypass certain parts of the signal path
> by the use of a jumper wire. This wire may need to be up to 4 inches
> in length to have sufficient reach between stages. Can anyone see a
> problem with this? I mean, rather than a single wire, should I use
> some sort of grounded outer lead like coax to carry the signal?
>
> at HF
> at VHF
> at UHF

2626. Re: Sample frequency adjustment

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 20:02:02 UTC
From: OZ1EQC <per@oz1eqc.dk>
Message-ID: <bmf0dd$2kk4$1@news.cybercity.dk>
Source record: 31943

Could be a possibility, but if you still have have 1 1/2 year warranty its
not smart :-)

73 Per

"Bob" <balbert@cnmnetwork.com> skrev i en meddelelse
news:F2ydnSXPTcuFbReiXTWJlg@cnmnetwork.com...
> Isn't there a crystal (or crystal oscillator) you can replace with one of
> the desired frequency?
>
>

2627. Re: 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 20:19:07 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310131219.6da0730d@posting.google.com>
Source record: 31944

Roy Lewallen <w7el@eznec.com> wrote in message news:<vokd8a8bq85791@corp.supernews.com>...
> Make sure to keep the capacitor leads in the filter very short, and
> build the filter so there isn't a sneak path around it. HF filters often
> lose their lowpass characteristics at VHF and above due to stray
> impedances and resonances. The 74HC series switches very fast, so it
> generates some really high frequency stuff you really need to
> effectively filter.

often, u might find a need for a diplexer at the output of the 74HC
series! quite like terminating the HEXFET power amps. I would suggest
that u include a 22 ohms resistor in series with the output and about
20-30 of capacitor to smoothen out the jitter on the square wave
edges. we used to need this to prevent the memory IC from blowing up
when driven by fast TTL chips with a large fan out.

- farhan

2628. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 21:22:26 UTC
From: maxfoo <maxfoo@punkass.com>
Message-ID: <655movcjqrmqtahftpnd1heruqimp12h0j@4ax.com>
Source record: 31945
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 13 Oct 2003 14:05:57 +0100, Paul Burridge
<pb@osiris.notthisbit.co.uk> wrote:

>
>Hi,
>
>Let's say I'm trouble-shooting a circuit board with several stages of
>RF amplification in addition to a primary source in the form of a
>VCXO. I'd like to be able to bypass certain parts of the signal path
>by the use of a jumper wire. This wire may need to be up to 4 inches
>in length to have sufficient reach between stages. Can anyone see a
>problem with this? I mean, rather than a single wire, should I use
>some sort of grounded outer lead like coax to carry the signal?
>
>at HF
>at VHF
>at UHF

Don't hack up the board just to troubleshoot...(if it is a pcb)
make a rf sniffer instead. one method I use is a piece of coax
connected to a spectrum analyzer with a dc block connector.
the other end of the coax is stripped to expose the center conducter
as a probe tip.
course if this is a hobby project you probably don't have a spectrum
analyzer...if that's the case...my heart bleeds...

2629. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 21:47:49 UTC
From: averyfineman@aol.com
Message-ID: <20031013174749.25815.00003709@mb-m07.aol.com>
Source record: 31797

In article <a98lov8kp0pnh6rb3lhkfblm89udkjdbl3@4ax.com>, Paul Burridge
<pb@osiris.notthisbit.co.uk> writes:

>Let's say I'm trouble-shooting a circuit board with several stages of
>RF amplification in addition to a primary source in the form of a
>VCXO. I'd like to be able to bypass certain parts of the signal path
>by the use of a jumper wire. This wire may need to be up to 4 inches
>in length to have sufficient reach between stages. Can anyone see a
>problem with this? I mean, rather than a single wire, should I use
>some sort of grounded outer lead like coax to carry the signal?

Paul, offhand I'd say no problem since I've done that on the bench
many a time from LF on up to low UHF. The waveform may not
be optimum but "quick check" circuit jumpering should not be a
source of worry. Not at 4" length.

I'll have to add that my personal experience is based on circuit
boards (including breadboards of the universal kind) all had fairly
good ground planes ("earthed" planes, heh heh).

Digital circuits have rather high frequency content, must have to
carry very fast edge-transient-time signals. I've done a lot of
one-shot applications that were not-yet-formalized production
designs using 4 1/2" square Douglas Electronic circuit cards*
using #26 insulated wires snaking around the card containing up
to 16 DIPs. Fast revisions of wiring and package connections were
done without any problems.

* Douglas Electronics has excellent quality prototype cards but
they are also quite expensive, I'd say too costly for amateur home-
brewing at $15+ or so now.

Len Anderson
retired (from regular hours) electronic engineer person

2630. Re: 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 21:47:50 UTC
From: averyfineman@aol.com
Message-ID: <20031013174750.25815.00003710@mb-m07.aol.com>
Source record: 31798

In article <VA.000000ba.00435842@btinternet.com>, Joe McElvenney
<ximac@btinternet.com> writes:

> You are right about AN-393, and the non-linearities, of course. However
>when I first posted I needed a ballpark figure and the app-note gave it me.
My
>application is a rather mundane, fixed frequency, 10MHz frequency standard
>required to drive a counter/signal generator combo and whose output should be
>reasonably sinusoidal so as not to spray harmonics around the place. The
>buffered or inverted output coming off the VCXO has to supply about 1V pk-pk
>into 50 ohms. A 74HC04 or '07 followed by a single-section, image-parameter,
>pi -section filter appears to do the job but it was just my day for being
>scientific :-(

No problem here. :-)

As a first approximation for the application, it should be intuitive that
the peak-to-peak voltage out of the gate/inverter into a resistive load
would yield the beginning of data on RF power output capability. The
rest can be figured out on the bench.

More eleborate data sheets for particular devices have specs for
driving different loads, usually as the logic 1 level voltage minimum
for a given resistive load. Depends on the manufacture's budget for
data sheet preparation, I would guess, since those vary in content.

If others are trying such an application at maximum power handling
capability and need lowpass filtering, a caution. Some elliptic filter
input impedances can vary widely in stopband frequencies. That
might, but not necessarily, result in edge spikes above breakdown
at the gate/inverter output. Butterworth response filters are the
most forgiving of such but also have the lowest stopband attenuation.
The 74HC family ought to be rather robust on that and I don't think
it is a great concern.

I did encounter some problems with 74S devices driving filters some
years ago when using a gate as a digital mixer for an optical
interferometer phase measurement instrument. That was with old
74S family devices before the newer incorporated protection
devices were introduced a decade or so ago.

"Digital mixers" work very well indeed when both RF inputs are at
similar high levels common to digital circuits. It's quite easy to get
difference frequency output and to lowpass filter it to remove the
input frequency components. Never tried it for sum-output mixing,
probably need a spectrum analyzer handy for such circuits.

Len Anderson
retired (from regular hours) electronic engineer person

2631. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 21:47:51 UTC
From: averyfineman@aol.com
Message-ID: <20031013174751.25815.00003711@mb-m07.aol.com>
Source record: 31946
Body handling: HTML body converted to readable text

In article <3F8AD25E.CE240839@softhome.net>, Paul Jaeger
writes:

>Mike W wrote:
>>
>> On Sun, 12 Oct 2003 01:22:41 GMT, "Bruce Raymond"
>> wrote:
>>
>> >Could be RF Parts?
>> >
>> >http://www.rfparts.com/mototran.html
>> >
>> No, The site I referred to sells Kits of all the hard to get parts for
>> the Motorola RF amps, at a very good price too. Far less than Mainline
>> used to sell the same thing.
>> I've had a search on the web tonight and can't find the damn place.
>
>http://www.communication-concepts.com/default.htm

Communications Concepts continues to advertise in printed media.
They still have advertisements in RF Design, an electronics trade
publication.

Haven't looked at Communications Concepts web site lately but a
couple years ago their reproduced Motorola application notes,
most authored by Motorola's Helge Granberg, were of less than
best quality in PDF. Still readable, though.

Len Anderson
retired (from regular hours) electronic engineer person

2632. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-13 23:29:47 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f8b34fa.63871514@news.freeserve.net>
Source record: 31799
Body handling: HTML body converted to readable text

On Mon, 13 Oct 2003 09:27:10 -0700, Paul Jaeger
wrote:

>Mike W wrote:
>>
>> On Sun, 12 Oct 2003 01:22:41 GMT, "Bruce Raymond"
>> wrote:
>>
>> >Could be RF Parts?
>> >
>> >http://www.rfparts.com/mototran.html
>> >
>> No, The site I referred to sells Kits of all the hard to get parts for
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>> used to sell the same thing.
>> I've had a search on the web tonight and can't find the damn place.
>
>http://www.communication-concepts.com/default.htm
>
>73,
>PJ

Thanks PJ, I spent about 3 hours searching last night without success.
I wish we had a resource like that in UK.
Your help appreciated and the URL bookmarked and backed-up
atb Mike W, G8NXD

2633. A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 01:27:32 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8B4D6D.31D19695@ix.netcom.com>
Source record: 31800
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Thanks for reading this.
I have today submitted an article to QST magazine entitled
"Virtual Spectrum: Beating BPL at its own game,"
detailing a concept that can greatly impact our radio hobby.
I wanted to "put down a marker" to date the introduction
of a new ham-radio innovation, and to officially place
the idea in the public domain, so the maximum amount of
"tinkering" with it can happen.

This concept uses the bandwidth available on the Internet
and some simple circuitry to create a replica of a segment of
the radio spectrum, stream it live or prerecorded to another
internet-connected computer and reconstruct that radio spectrum
at your location. *Any* radio equipment you wish to use
(given an Internet connection with sufficent bandwidth)-
from modern PSK-31 rigs, SSB nets, WW-II modulated oscillators
all the way back to ancient spark transmitters
with crystal receivers; all can legally communicate just as though
you were on-the-air. The system is bi-directional, allowing
QSOs between stations that normally could not communicate.
If you can't hear weak signals because of noise in your area,
the concept allows you to build a "remote front end" and
transport the radio spectrum in a quiet area right to your rig,
bypassing the problems in your location.

I believe this concept can be the answer to BPL, "noise holes,"
antenna restrictions, HF "jammers" and many other obstacles to
using our radios. There is great potential for many uses,
and a possible niche market for someone with the resources
to develop the equipment.
I have already built prototype equipment to prove the concept
and it works splendidly. The article includes construction
details. The circuits are simple and you can get
95% of the parts at Radio Shack.
By the time QST publishes (assume they accept the work),
we should have completed the first Virtual Spectrum QSO:
two World War 2 BC-611 handie-talkies (output: about 60 milliwatts)
will communicate over a path of about 2000 miles.

If QST does not publish the concept,
I will publish it myself on the web
immediatly after hearing from them.
I am indebted to Mike Hanz, aafradio@cox.net

for invaluable suggestions and encouragement.

TNX ES 73 DE Dave Stinson AB5S

2634. ** FLEA at MIT ** Sunday October 19th Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 01:30:26 UTC
From: w1gsl@mit.edu
Message-ID: <3f8b51b2$0$566$b45e6eb0@senator-bedfellow.mit.edu>
Source record: 31801
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors

This coming Sunday....

+++ Now even more Buyers Parking !!!
Thanks to TKT we have use of their new parking lot
across Albany St from the SWAPFEST !!!

!! ** More Buyers PARKING is available ** for details see
http://web.mit.edu/w1gsl/Public/flyer

*** !!!! In our Traditional GARAGE and the adjacent lot !!!! ****
so come rain or shine or super heat the Flea is on !!!

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
Sunday October 19th 2003
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >2000 cars!

Buyers admission is $5 (you get $1 off if
you're lucky enough to have a copy of our ad)
and sellers spaces are $20 for the first and
$15 for each additional at the gate.

The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
time starting at 7AM.

*** Attention Sellers ***
Prepaid vendors.. Season Pass or monthly,
will be admitted FIRST.
Separate lines will form prior to gate opening
for prepaid and nonprepaid vendors

!! RAIN or SHINE !! Have no fear of rain, a covered
well illuminated tailgate area is available for all
sellers (6'8" clearance).

Talk-in: 145.23- (PL 88.5) W1BOS/R and
W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ************

<<<<<<<<<<<<<<<<<<<<<<< cut here >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

Mail the coupon below by the 5th of the month to be a Prepaid Vendor.

FLEA at MIT 2003 Rates

SELLERS

This year each vendor must have a Cambridge Vendor License.
We will do all the paperwork to get the one day Cambridge licenses.
To keep the spaces affordable we are discounting your first space.
To use your spaces the named vendor MUST be present.
Rates include one admission per space.

Advance $17 First space - includes $10 Cambridge Vendor License
$12 Additional Spaces
Must be received by the 5th of the month.

Gate Admission $20 First Space - includes $10 Cambridge Vendor License
$15 Additional Spaces
Admission is after the prepaid vendors

Early Bird Buyer -Admission after the prepaid vendor line is admitted. ~ 7:15AM
** You may not sell. **
$15 per person at the gate.

****************************** cut here ******************************

FLEA at MIT 2003 Advance Space Application

____April ____May ____June ____ July ____Aug ___Sept ____Oct
@ $17 for the first each month + $12 each additional

Name _____ Call _____ $ Included_____

Address _____ Phone _____ Make Check to
The MIT Radio Society
City _____ State _____ Zip _____ PO Box 397082
Cambridge MA 02139
E-mail _____

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

2635. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 01:53:21 UTC
From: James Nipper <jnipper@nospam.fdn.com>
Message-ID: <fdudnXmvW_aOyhaiU-KYkA@comcast.com>
Source record: 31802
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Are you talking about a souped up version of Echo Link?

Why would any of this be needed, if you can just chat with each other via
AIM or some other chat program ?

73 de Jim K4PYT

2636. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 01:58:06 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8B5494.C3948C82@ix.netcom.com>
Source record: 31803
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

James Nipper wrote:

> Why would any of this be needed, if you can just chat with each other via
> AIM or some other chat program ?

I didn't buy my radios and build my stations so I could
let them gather dust while I "chat" on the internet.
I want *use* them.

2637. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 02:16:29 UTC
From: --exray-- <no@no.no>
Message-ID: <vomn3f9ut0r826@corp.supernews.com>
Source record: 31804
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

David Stinson wrote:
> James Nipper wrote:
>
>
>>Why would any of this be needed, if you can just chat with each other via
>>AIM or some other chat program ?
>
>
> I didn't buy my radios and build my stations so I could
> let them gather dust while I "chat" on the internet.
> I want *use* them.

I recall back in the early 70s how excited I was about the future of ham radio via satellite and how I expected to see a flood of activity (that never materilaized) to take us through the bad sunspot years.
Dave, maybe hooking up all those BAs thru transverters will be a better answer.
:-)
-Bill WX4A

2638. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 02:23:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vomnhgh0cbkg9d@corp.supernews.com>
Source record: 31805
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

I apologize for being a little vague about this. Are you proposing replacing wireless communication with wired communication (via the Internet) as a way to communicate with inadequate radio equipment?

Roy Lewallen, W7EL

2639. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 02:27:19 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8B5B6B.8E5123D@ix.netcom.com>
Source record: 31806
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Roy Lewallen wrote:
>
> I apologize for being a little vague about this. Are you proposing
> replacing wireless communication with wired communication (via the
> Internet) as a way to communicate with inadequate radio equipment?

"Wireless" doesn't always work, if you're in a "noise hole,"
or if the mode or radio you want to use isn't "legit" anymore.
So that's one use, yes.
The idea is to use our own radios as source and sink,
bypassing the vagaries of Mother Nature's propagation
and local noise sources. Or, if you're in a "noise hole,"
to bring spectrum to you from a "quiet" location.
It also allows the use of heretofore prohibitied modes.
For instance:
In the article I detail how an old longwave maritime
rig on 415 KC A2 can carry on a real-time CW QSO with
someone using a modern rig on 40 meters.
It will be a real boon for the "boatanchor" community.
I do hope QST will consider it.

TNX ES 73 DE Dave AB5S

2640. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 02:40:06 UTC
From: Gene Storey <nospam@cox.net>
Message-ID: <amJib.112$ZE1.42@news1.central.cox.net>
Source record: 31807
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"--exray--" <no@no.no> wrote
>
> I recall back in the early 70s how excited I was about the future of ham
> radio via satellite and how I expected to see a flood of activity (that
> never materilaized) to take us through the bad sunspot years.
> Dave, maybe hooking up all those BAs thru transverters will be a better
> answer. :-)
> -Bill WX4A

Right!

I was excited about the microsats. Then they built this monster satellite
and spent millions on it. I don't know anyone in a 100 miles who uses it.

2641. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 03:07:30 UTC
From: James Nipper <jnipper@nospam.fdn.com>
Message-ID: <AI2dnV5oibhI9RaiXTWJig@comcast.com>
Source record: 31808
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Just what would this internet communicating have to do with Ham Radio ?

Again, why would you need the ham equipment , considering you can do all the communicating to begin with just by being on the internet?

Not to be personally offensive (I mean it), but this sounds rather silly to me.

Ham Radio is communication over the airwaves using ham gear. Websurfing is connecting to other pc's and servers etc using the telephone line or cable, and the internet.

They both are FUN but they ain't the SAME !!

73 de Jim K4PYT

2642. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 03:23:38 UTC
From: Gene Storey <nospam@cox.net>
Message-ID: <__Jib.137$ZE1.100@news1.central.cox.net>
Source record: 31809
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

you didn't read any part of his message (after the word Internet) did you?

"James Nipper" <jnipper@fdn.com> wrote
>
>
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>
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>
> 73 de Jim K4PYT
>

2643. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 03:26:50 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <bmfqdq$jq0$0@208.206.142.110>
Source record: 31810
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

David Stinson wrote:

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> This concept uses the bandwidth available on the Internet
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> the radio spectrum, stream it live or prerecorded to another
> internet-connected computer and reconstruct that radio spectrum
> at your location. *Any* radio equipment you wish to use
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> two World War 2 BC-611 handie-talkies (output: about 60 milliwatts)
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> immediatly after hearing from them.
> I am indebted to Mike Hanz, aafradio@cox.net
> for invaluable suggestions and encouragement.
>
> TNX ES 73 DE Dave Stinson AB5S

Dave, have fun. I'll check back to see how it went when I get back from the lake from fishing with my grandsons. And I'll be puttng my gear up for sale. If it doesn't sell, I'll take it fishing next time along with a good rope to tether the boat.

2644. Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 05:58:24 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310132158.4a53459c@posting.google.com>
Source record: 31811

here is a spectrum analyser design that i would like the group to comment upon.
1) we take the input via a low pass filter, up convert it to an IF of 100Mhz or so, and follow it up with a direct conversion receiver at 100 Mhz with 20 khz bandwidth.
2) the upconverting local oscillator is a VCO that is controlled by a sweep generator. the sweep is controlled by a PWM modulated signal in the audio range.
3) the sweep generator input is connected to the output of a PC sound card. the output of the direct conversion receiver is connected to the input of the PC sound card.

Now, by clever programming of the sound card on the PC, we can make the VCO sweep our passband of interest. The sound is often digitsed at 16 bit levels (in the better systems at 32-bit level). This will effectively give us 90db range. the lograithmic scale can be implemented in software. DSP can be used to set the bandwidth to any particular size.

the most important benefit of this design will be that even hams without expensive oscilloscopes will be able to easily make a PC based analyser that is easy to assemble and use.

if there isn't any glaring problem with this design, i would like to pull out my soldering iron and take a go. is anyone here with spectrum analyser experience willing to share knowledge?

2645. Re: 74HC series RF output impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 07:28:42 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <ch6novcnnl9h706pf3590t3hegfumt7v1u@4ax.com>
Source record: 31812

On Sun, 12 Oct 2003 15:23:22 +0100, Joe McElvenney
<ximac@btinternet.com> wrote:

> Has anyone a pointer to the RF output impedance of the 74HC
>series gates (at about 10MHz)? I have a few inverters/buffers
>left over in a package and thought of using them stacked to drive
>an output port via a simple matching network. I've seen this done
>before and have simulated it myself but would like it spelled
>out.

How about using an open collector device like the '06 or '07 and put a parallel resonant circuit from the output to V+ (which might be Vcc or some lower or higher voltage depending on your need and buffer voltage rating) and analyze this as a class C amplifier stage ?

If you have multiple OC inverters, run two out of phase into a centre tapped transformer (CT to V+) and put the resonant circuit on the secondary. Again, V+ could be adjusted to give required impedance and power levels. This circuit would have good symmetry, since the impedance would be the same on both half cycles, thus reducing the even harmonics, thus, the third harmonics would be the first one to worry about, if you need sinusoid output.

Paul OH3LWR

2646. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 08:04:19 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmgam6$mgi8n$1@ID-61331.news.uni-berlin.de>
Source record: 31813

"Ashhar Farhan" <farhan@hotfoon.com> wrote in message
news:8331b126.0310132158.4a53459c@posting.google.com...
> here is a spectrum analyser design that i would like the group to
> comment upon.
> 1) we take the input via a low pass filter, up convert it to an IF of
> 100Mhz or so, and follow it up with a direct conversion receiver at
> 100 Mhz with 20 khz bandwidth.
> 2) the upconverting local oscillator is a VCO that is controlled by a
> sweep generator. the sweep is controlled by a PWM modulated signal in
> the audio range.
> 3) the sweep generator input is connected to the output of a PC sound
> card. the output of the direct conversion receiver is connected to the
> input of the PC sound card.
>
> Now, by clever programming of the sound card on the PC, we can make
> the VCO sweep our passband of interest. The sound is often digitsed at
> 16 bit levels (in the better systems at 32-bit level). This will
> effectively give us 90db range. the lograithmic scale can be
> implemented in software. DSP can be used to set the bandwidth to any
> particular size.
>
> the most important benefit of this design will be that even hams
> without expensive oscilloscopes will be able to easily make a PC based
> analyser that is easy to assemble and use.
>
> if there isn't any glaring problem with this design, i would like to
> pull out my soldering iron and take a go. is anyone here with spectrum
> analyser experience willing to share knowledge?

I have recently completed a spectrum analyser, see
http://www.hanssummers.com/electronics/equipment/spectrumanalyser/index.htm.
It is
awaiting possible magasine publication so there are not yet any circuit or
construction details on the page above. If you want the full details, email
me privately and I'll show them to you.

I also tried a direct conversion receiver initially. It doesn't work on in
analogue (i.e. non-PC) analyser, because there are all sorts of heterodynes
of the sweep frequency against the directly converted incoming signal. Of
course I kicked myself afterwards for not thinking of it in advance to save
myself the time of the experiment.

I think broadly speaking the final IF should be substantially higher than
the frequency of the sweep waveform, so that the final filtering works
faster than the sweep. There are lots of people in this forum far more

advanced than me who will probably be able to explain it better in terms of filter response times or group delays or something.

Though there might be a way of untangling everything in software so it may work. Being direct conversion you'll also have both sidebands present, which will create further complications. Again, clever software might untangle it but I think it's far from straightforward.

Another problem is the narrow bandwidth. 20KHz is a nice bandwidth to have but I think in a spectrum analyser you also want wider bandwidths available. In particular, if you are digitally generating your sweep voltage, and trying to cover the whole 100MHz, you need of the order of 100,000 / 20 = 5,000 discrete measurement intervals. You can't display that many horizontal pixels on screen. You could average them in software, but at the low 20KHz bandwidth, you're going to need quite a slow sweep rate. 5,000 measurements are a lot and will take a long time.

It's a nice idea but I don't think it will work as it stands.

My recommendation would be to add a 2nd IF to your design, 2nd IF amp and logarithmic detector. In my design I used a 145MHz 1st IF, so the VCO sweeps 145 - 290MHz. The 2nd local oscillator is at 153MHz for an 8MHz 2nd IF, amplified then passed into an AD8307 logarithmic amplifier. Anything similar would work well. I used an SA602 front end for simplicity, but a diode ring mixer would give potentially better performance than the 65-70dB dynamic range I achieved.

You can still use the PC for a nice display, rather than an oscilloscope. Just feed the log output into your PC sound card, and have the PC sound card control the sweep as you suggest. I think you'll solve a lot of problems by adding these few extra modules to the analogue front end before introducing the PC. Incidentally, this is exactly what I'm doing with my Mk2 analyser, see
http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/index.htm.

Now I'm hoping for someone to put it all more clearly and professionally than I have here ;-)

73
Hans G0UPL
http://www.HansSummers.com

2647. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 08:22:30 UTC
From: Roger Barker <roger@peaksys.co.uk>
Message-ID: <+WXcrpAGJ7i$EwCX@peaksys.co.uk>
Source record: 31814
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

In article <3F8B4D6D.31D19695@ix.netcom.com>, David Stinson
<arc5@ix.netcom.com> writes
>Thanks for reading this.
>I have today submitted an article to QST magazine entitled
>"Virtual Spectrum: Beating BPL at its own game,"
>detailing a concept that can greatly impact our radio hobby.
>I wanted to "put down a marker" to date the introduction
>of a new ham-radio innovation, and to officially place
>the idea in the public domain, so the maximum amount of
>"tinkering" with it can happen.
>
>This concept uses the bandwidth available on the Internet
>and some simple circuitry to create a replica of a segment of
>the radio spectrum, stream it live or prerecorded to another
>internet-connected computer and reconstruct that radio spectrum
>at your location.
[snip]

Dave, this is a fantastic idea. It opens up great possibilities for international co-operation between radio hams. When your spectrum in the USA is wiped out by BPL, we hams in the UK could lend you some of ours. I'm sure the ARRL and RSGB could negotiate an agreement, and sort out the reciprocal licensing issues.

Also, by the use of spectrum transformation, which you touched on in your follow-up posting, it would allow hams with restricted licences to experience propagation on bands on which they are not allowed to operate.

--
Roger Barker, G4IDE - roger@peaksys.co.uk
For UI-View go to - http://www.UI-View.com
For WinPack go to - http://www.peaksys.co.uk

2648. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 08:40:32 UTC
From: "No Spam"
Message-ID: <ifgU75G3LLdo-pn2-3Q4I7YXIxdNd@localhost>
Source record: 31815
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

On Tue, 14 Oct 2003 03:07:30 UTC, "James Nipper"
<jnipper@nospam.fdn.com> wrote:

>
>
>
> Just what would this internet communicating have to do with Ham Radio ?
>
> Again, why would you need the ham equipment , considering you can do all the
> communicating to begin with just by being on the internet?
>
> Not to be personally offensive (I mean it), but this sounds rather silly to
> me.
>
> Ham Radio is communication over the airwaves using ham gear. Websurfing is
> connecting to other pc's and servers etc using the telephone line or cable,
> and the internet.
>
> They both are FUN but they ain't the SAME !!
>
>
> 73 de Jim K4PYT
>

Yeah, I don't see the point either. There's a fellow near me (I'm
in Northern Virginia) who operates a remoted HF rig via the
Internet.

He calls it "Internet Radio". I honestly don't see the point of it.

de ah6gi/4

2649. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 09:43:07 UTC
From: charlesb <n5pvl@sbcglobal.net>
Message-ID: <LyPib.419$Re3.43@newssvr25.news.prodigy.com>
Source record: 31816
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"James Nipper" <jnipper@nospam.fdn.com> wrote in message
news:Al2dnV5oibhI9RaiXTWJig@comcast.com...
>
> Just what would this internet communicating have to do with Ham Radio ?
>

It's another way for Internet junkies to undermine the hobby by attempting to blur the line between amateur radio and Internet communications.

The idea is to talk hams into being content to *pretend* that they are using radio when in fact they are stuck off in an elaborate Internet chat. These people get a big "charge" every time they hear that they have succeeded in talking a ham into going off the air, this way.

To these "Amateur Telephone" devotees, the hobby would be meaningless without the non-ham stuff. Packet/Internet gateways, EchoLink, you name it: As long as it takes hams off the air and puts them on the Internet instead, they are all for it, 100%.

Many of the most outspoken advocates of "Amateur Telephone" just happen to work for corporations that stand to gain financially if Hams lose spectrum. Isn't that special? An amazing coincidence, isn't it?

So it it really a bit early to tell, but all the signs point toward good old Dave Stinson AB5S being another "Amateur Telephone" idiot, out to denigrate and undercut the hobby with an offer to "help out" amateur radio with the Internet.

I guess it will be best to wait and see... And if good old Dave manages to denigrate and undercut the hobby with his new proposal, maybe we will get an opportunity to see if he can pick a telephone out of his ass.

Charles Brabham, N5PVL

2650. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 10:01:01 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8BC59D.503D7C65@ix.netcom.com>
Source record: 31817
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

charlesb wrote:

> I guess it will be best to wait and see... And if good old Dave manages to
> denigrate and undercut the hobby with his new proposal, maybe we will get an
> opportunity to see if he can pick a telephone out of his ass.
>
> Charles Brabham, N5PVL

Thanks for the paranoid hillbilly rant.
When BPL gets cranking, there won't *BE*
any hobby if we don't have a "work-around."
As for "picking things out of my ass,"
I'd like to start with your nose.
D.S.

2651. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 10:53:00 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <8pinovogjd9h709al9pq9tcckgss2mciui@4ax.com>
Source record: 31818
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On Tue, 14 Oct 2003 01:27:32 GMT, David Stinson <arc5@ix.netcom.com>
wrote:

>This concept uses the bandwidth available on the Internet
>and some simple circuitry to create a replica of a segment of
>the radio spectrum, stream it live or prerecorded to another
>internet-connected computer and reconstruct that radio spectrum
>at your location. *Any* radio equipment you wish to use
>(given an Internet connection with sufficent bandwidth)-
>from modern PSK-31 rigs, SSB nets, WW-II modulated oscillators
>all the way back to ancient spark transmitters
>with crystal receivers; all can legally communicate just as though
>you were on-the-air.

Assuming that the intention is to allow multiple simultaneous users to independently tune around the band, the problem is the dynamic range (both in the analog RF front end and in the ADC) and high sample frequency required to transfer e.g. the whole 80 m or 2 m band over the internet. For the 2 m band, 5-10 MHz sampling rate is required, depending on region, and at least 16 bits/sample, so we are talking of data rates 160 Mbit/s, so even the 100baseT Ethernet is not sufficient to carry the signal, not to mention any ADSL connections.

And before anyone asks, no, you can not use (lossy) compression, since this would prevent decoding some of the signals at the user site.

However, a linear satellite transponder has a quite limited dynamic range and a modest bandwidth, so the requirement are far less demanding.

>The system is bi-directional, allowing
>QSOs between stations that normally could not communicate.

It does not make much sense to transfer the whole frequency band to the transmitter. It is much simpler to use a remotely controlled transmitter for each user at some separate location (far away from the receiving site to avoid blocking) and only transfer the base band over the internet.

>If you can't hear weak signals because of noise in your area,
>the concept allows you to build a "remote front end" and
>transport the radio spectrum in a quiet area right to your rig,
>bypassing the problems in your location.
>

>I believe this concept can be the answer to BPL,

If the reason is simply to avoid the local noise problems due to BPL/PLT/PLC and other electric interference when receiving, the transmitter is not affected by the power lines (carrying BPL) running parallel with your transmitter antenna, so why not simply run the transmitter manually from home and monitoring the band using a remote receiver at a quiet rural site.

However, it might not be a good idea to use the BPL to carry the signal from the remote receiver, since the BPL might be blocked during your transmissions and you could not run QSK :-(, which otherwise would be possible using a remote receiver site.

Paul OH3LWR

2652. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 11:13:08 UTC
From: Gene Storey <nospam@cox.net>
Message-ID: <8TQib.228$ZE1.108@news1.central.cox.net>
Source record: 31819
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"David Stinson" <arc5@ix.netcom.com> wrote
> charlesb wrote:
>
> > I guess it will be best to wait and see... And if good old Dave manages to
> > denigrate and undercut the hobby with his new proposal, maybe we will get an
> > opportunity to see if he can pick a telephone out of his ass.
> >
> > Charles Brabham, N5PVL
>
> Thanks for the paranoid hillbilly rant.
> When BPL gets cranking, there won't *BE*
> any hobby if we don't have a "work-around."
> As for "picking things out of my ass,"
> I'd like to start with your nose.
> D.S.

Don't worry about BPL. The ARRL, as with Morse Code, is making
a mountain out of a mole hill. If the military isn't worried about its HF
assets, why should Hams be worried?

2653. Yaesu MD-100A8X and Heil HC-5 insert

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 11:40:46 UTC
From: Andy <dx90@blueyonder.co.uk>
Message-ID: <3hRib.11860$jF3.2981@news-binary.blueyonder.co.uk>
Source record: 31820

Im about to buy a Yaesu MD-100A8X mic to use with my Yaesu FT-1000MP MK5 Field.
I want to know if anyone has fitted the Heil HC-5 mic insert into the MD-100A8X and was it a good match and did it inprove the audio from this michrophone?

Thanks
Andy

2654. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 14:04:34 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8BFEA6.1D89C994@ix.netcom.com>
Source record: 31821
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Paul Keinanen wrote:
> the problem is the dynamic range
> (both in the analog RF front end and in the ADC) and high sample
> frequency required to transfer e.g. the whole 80 m or 2 m band over
> the internet.
I never said anything about transferring the entire band.
At this early stage, I'm only talking about streaming
about 25 KC of any band at any one time.
I'm limiting it so people can use the hardware they already have.
But the concept is "scalable" to larger bandwidths.

> If the reason is simply to avoid the local noise problems due to
> BPL/PLT/PLC...why not simply run the
> transmitter manually from home and monitoring the band using a remote
> receiver at a quiet rural site...
Avoiding BPL is only one aspect of very many.

I guess I wasn't clear-
For those who like Echo Link and what the rude Mr. Blabham
calls "Amateur Telephone," please have at it. Enjoy.
But frankly, I don't give two cents for using an
Internet chat room to talk over *someone else's* radio.

I restore ancient and military radios to original condition
and I want to talk on *them.* Some of them aren't even
capable of being used on ham bands. You'd be surprised;
there's a lot of us out here. With this system, like minded
people can use these radios to QSO completely legally.
If we wanted, we could have a real spark-gap to spark-gap QSO
with crystal detector receivers- in fact,
a whole bunch of such stations in a net-
because we are literally on our own, private ether.

Here's another:
I live in an apartment; I can't have an antenna.
My neighbors have strict restrictions; they can't have outside antennas.
If I use this system, I don't NEED an antenna.
Nor do I need a big, power-hungry amplifier.

Here's another (For Peter's sake):
I love listening to shortwave radio. The power
company installs BPL, and now all my carefully-tended radio
will say to me is: "BSSSSSSSSSSSSSSSSSRRRRRRRRRRRRRRRRPPPPPP!!"
Do I give up, put my favorite radio on the shelf and listen

to them on the Internet "phone?" Hell, no.
I log into a server that's streaming the 31 meter band in chunks
of 25 KC from a quiet location in Itchyarmpit, Idaho.
I pipe that into my V.S. transverter and into the antenna
connection of my radio. Once again I have evenings of
enjoyment listening to Radio Gabbabootoo.
If I want to hear Radio Binga Boinga
and the five other stations around that frequency,
I select the correct stream and enjoy.

I'm not an electronics engineer, guys- just a tinkerer like most of you.
I don't know "47th Order IMD products" from beans,
nor do I know all your wonderful engineering reasons why it won't work.
All I know is I built the simple circuits and it DOES work.
The fact that it's still crude is actually a big plus,
since it opens a new field in which the average,
none-genius amateur can do some meaningful work,
and that's something we haven't had in awhile.

The point is we are using our radios, not a blasted telephone.
And I'll say it again: When BPL is activated, if we don't have
a "work-around," there won't BE a hobby.

There's a quote out there somewhere that says any
new idea will always be met with nay-sayers and
hecklers. That's fine- comes with the territory.

73 DE Dave AB5S

2655. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 15:30:54 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net.invalid>
Message-ID: <MPG.19f5e0bb8a7fa67c98999f@news.east.earthlink.net>
Source record: 31822
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 13 Oct 2003 14:05:57 +0100, Paul Burridge, said...
>
> Hi,
>
> Let's say I'm trouble-shooting a circuit board with several stages of
> RF amplification in addition to a primary source in the form of a
> VCXO. I'd like to be able to bypass certain parts of the signal path
> by the use of a jumper wire. This wire may need to be up to 4 inches
> in length to have sufficient reach between stages. Can anyone see a
> problem with this? I mean, rather than a single wire, should I use
> some sort of grounded outer lead like coax to carry the signal?
>

i don't usually have to bypass anything to shoot. you look for last
known good, first known bad, with your RF probe/scope/sniffer/whatever
and go from there. lift an input component leg, terminate an output,
check signal, if good, plug it back in. find the stage that's bad and
check transistor DC levels first.

> at HF
a wire might work
> at VHF
getting dangerous. 50 ohm systems and coax looking good
> at UHF
same as above but remove "getting"

you don't mention max allowed power out and freq. i know what your up
to, but can't remember the rules.

have you considered Mini-Circuits MMIC amps? 50 ohms in and out. if you
need more power, just put them in parallel fed with a wilkinson divider
and flip the divider around on the output for a combiner. alternately,
if the divider legs are too long at your freq, use the coil version. you
could probably get away with tearing open those 75 ohm CATV splitters
and hacking them. you'll loose a little power, but it's doable. a quick
solution.

too much time on radios and not enough on bot killing weapory. quick
solution for that... shotgun?

HTH,
mike
>

2656. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 16:01:54 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bmh6li$7e$1@freenet9.carleton.ca>
Source record: 31823
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

W7TI (noway@nohow.com) writes:
> On Tue, 14 Oct 2003 01:27:32 GMT, David Stinson <arc5@ix.netcom.com>
> wrote:
>
>>I have today submitted an article to QST magazine entitled
>>"Virtual Spectrum: Beating BPL at its own game,"
>
> ____
>
> Is it April already? Dang, how time flies.
>
>
> Bill, W7TI
>

I wondered that myself. Take note that it's already been done.

Back in the sixties, there were a number of pseudo-academic articles
that appeared in CQ in the April issue, I think under the same pseudonym.
There was one about using phone lines for amateur radio, complete with
"DXpeditions" to exotic countries. It was voice, but it had an odd
similarity to the internet. I can't remember, though, if this was in
the early sixties, my guess 1964, or the late sixties, likely 1968.
It's not like therre were a lot of April issues in that decade, so someone
with a complete set (and in order) could check. They threw in some archive
photos, and plenty of official sounding titles and committee names, so
it came across really well (unless you got suckered).

Michael VE2BVW

2657. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 17:20:44 UTC
From: K7JEB <k7jeb@qsl.remove.net>
Message-ID: <TmWib.25929$Rd4.16160@fed1read07>
Source record: 31824
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

David Stinson, AB5S, posted:

(about piping narrow-band RF from legacy (and other) radios
over the Internet).

> I restore ancient and military radios to original condition
> and I want to talk on *them.* Some of them aren't even
> capable of being used on ham bands. You'd be surprised;
> there's a lot of us out here. With this system, like minded
> people can use these radios to QSO completely legally.
> If we wanted, we could have a real spark-gap to spark-gap QSO
> with crystal detector receivers- in fact,
> a whole bunch of such stations in a net-
> because we are literally on our own, private ether.

Actually, Dave, something like this idea was proposed by
George Gilder back when "TV over the Internet" was a hot
topic.

Gilder proposed that the Internet providers simply bring
a fiber-optic cable to one's doorstep and stop there. The
fiber would be "dark". But any light you launched into it
would come out the ends of all the other "dark" fibers -
all over the world. In effect, the Internet would become
an extremely wideband virtual ionosphere for optical waves.
And, of course, at optical wavelengths, there are huge
frequecy bandwidths available, so everybody could have
their own TV channel, or ham band, or whatever. The trick
would be that you had to provide your own optical terminal
equipment to interface to the fiber.

The point is, your scheme isn't as far-fetched as it at
first sounds. I still like the "old-fashioned" iononsphere
for radio propagation. But your observation about the
increasing number of restrictions and interference sources
amateur operators are encountering in pursuit of their
avocation is quite relevant to the current state of affairs.

Jim, K7JEB

2658. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 17:56:37 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <r3doovcnsop9j4l1lrk1q58fjise6m30cu@4ax.com>
Source record: 31825
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 14 Oct 2003 15:30:54 GMT, Active8
<mTHISREMOVEcolasono@earthlink.net.invalid> wrote:

>i don't usually have to bypass anything to shoot. you look for last
>known good, first known bad, with your RF probe/scope/sniffer/whatever
>and go from there. lift an input component leg, terminate an output,
>check signal, if good, plug it back in. find the stage that's bad and
>check transistor DC levels first.

Agreed. And that's what I'd do in practice.
I'm just curious, however as to what effect jumping RF from point A in
a circuit to point B with just a single wire has on the signal. IOW,
will the integrity of the signal be preserved by this quick and simple
expedient? The great and the good here seem to believe it shouldn't be
a problem up into VHF.

>you don't mention max allowed power out and freq. i know what your up
>to, but can't remember the rules.

Mike, I do do *other* stuff apart from build killer robots! :-D

>too much time on radios and not enough on bot killing weapory. quick
>solution for that... shotgun?

Actually it's been the other way around lately. But the new
disemboweler is quite impressive, though I do say so myself. I'll
upload some pix of it when they're available.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2659. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 18:27:54 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310141027.7a6be49a@posting.google.com>
Source record: 31826

"Hans Summers" <Hans.Summers@Tudor.Com> wrote in message news:<bmgam6
> I also tried a direct conversion receiver initially. It doesn't work on in
> analogue (i.e. non-PC) analyser, because there are all sorts of heterodynes
> of the sweep frequency against the directly converted incoming signal. Of
> course I kicked myself afterwards for not thinking of it in advance to save
> myself the time of the experiment.
>

a) i am not proposing a direct direct conversion. i am proposing an up
conversion exactly like han's MK1. for the second conversion, i am
suggesting a direct conversion to base-band from the high IF. as you
rightly point out harmonic mixing is a problem with broad-band direct
conversion receivers, therefore, you need to have a low-pass or a
band-pass ahead of a diode mixer working as a product detector.
b) my second suggestion is to do the logarithmic calculations
digitally on the PC. that will simplify the design.
c) as for the granuality of the sweep, for finer resolution the sweep
range will be decreased. that is one way to get higher resolution, the
other is to slow down the sweep.

what kind of a VCO are you using? and how are you ensuring that the
vco output remains constant throughout the sweep? i expect that the
VCO's amplitude will also effect the first mixer gain.

- farhan

2660. simple diode switching query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 18:28:15 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f8c402c.132284025@news.freeserve.net>
Source record: 31830

ok folks..
I'm getting a headache thinking about this so I'm passing it to you lot for 'peer review' while I go to the pub ... I forsee pints of luverly bitter.

http://www.qsl.net/g8nxd/diodesw.gif (8k)

describes a train of thought.. Am I having an abberation here or will it work as I intend?.

ie. switch between the IF strip on RX and MOD source on TX and route relevant signals IN/OUT of the filter and mixer in the correct way.

Obviously blocking C's are not shown

cheers Mike W

2661. V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 18:38:29 UTC
From: abcdstutzer@evard.ch
Message-ID: <aca3ec4c.0310141038.3bf669cd@posting.google.com>
Source record: 31827
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

Hi,
Well, I'm really confused.
I simulate a simple serial R-C-L-Network (all in series).

As far as I know the total (input-)Impedance of the network is:
Z = R + jwL - j/(wC) resp. the resonance frequency (where Zin=R) is
1/sqrt(L*C).
At resonance frequency, the Impedance should be real and therefore in
my hummel opinion Voltage and Current schould be in phase.

The funny thing is, when i build up such a network in Schematics
(Cadence PSD 14.1/Orcad 9.2) and simulate it with the PSpice A/D
Simulator, the current is displaced (relative to the voltage) about
lambda/4 - obviously not in phase!?

Can anyone tell my where I made a mistake?
Or why this Problem is showing up?
Thanks to anyone reading this and especially to those who post
answers.
D. Stutzer

2662. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 18:56:43 UTC
From: Don Pearce <dxoxnxaxlxd@pearce.uk.com>
Message-ID: <glhoov8osp3ek940ls749ol56jfbppt94e@4ax.com>
Source record: 31828
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On 14 Oct 2003 11:38:29 -0700, abcdstutzer@evard.ch (Diego Stutzer)
wrote:

>Hi,
>Well, I'm really confused.
>I simulate a simple serial R-C-L-Network (all in series).
>
>As far as I know the total (input-)Impedance of the network is:
>Z = R + jwL - j/(wC) resp. the resonance frequency (where Zin=R) is
>1/sqrt(L*C).
>At resonance frequency, the Impedance should be real and therefore in
>my hummel opinion Voltage and Current schould be in phase.
>
>The funny thing is, when i build up such a network in Schematics
>(Cadence PSD 14.1/Orcad 9.2) and simulate it with the PSpice A/D
>Simulator, the current is displaced (relative to the voltage) about
>lambda/4 - obviously not in phase!?
>
>Can anyone tell my where I made a mistake?
>Or why this Problem is showing up?
>Thanks to anyone reading this and especially to those who post
>answers.
>D. Stutzer

The impedance should be R + jwL + 1/(jwC)

d

--

http://www.pearce.uk.com

2663. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 19:02:28 UTC
From: John Fields <jfields@austininstruments.com>
Message-ID: <fphoovs7j6ph1mvglt2khmqn912679q4qf@4ax.com>
Source record: 31829
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On 14 Oct 2003 11:38:29 -0700, abcdstutzer@evard.ch (Diego Stutzer)
wrote:

>Hi,
>Well, I'm really confused.
>I simulate a simple serial R-C-L-Network (all in series).
>
>As far as I know the total (input-)Impedance of the network is:
>Z = R + jwL - j/(wC) resp. the resonance frequency (where Zin=R) is
>1/sqrt(L*C).
>At resonance frequency, the Impedance should be real and therefore in
>my hummel opinion Voltage and Current schould be in phase.
>
>The funny thing is, when i build up such a network in Schematics
>(Cadence PSD 14.1/Orcad 9.2) and simulate it with the PSpice A/D
>Simulator, the current is displaced (relative to the voltage) about
>lambda/4 - obviously not in phase!?
>
>Can anyone tell my where I made a mistake?

$$f = \frac{1}{2\pi\sqrt{LC}}$$

--
John Fields

2664. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 19:29:25 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net.invalid>
Message-ID: <MPG.19f6189ceb48f8759899a1@news.east.earthlink.net>
Source record: 31831
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 14 Oct 2003 18:56:37 +0100, Paul Burridge, said...
> On Tue, 14 Oct 2003 15:30:54 GMT, Active8
> <mTHISREMOVEcolasono@earthlink.net.invalid> wrote:
<snip>
[...]The great and the good here seem to believe it shouldn't be
> a problem up into VHF.

where is here? W7EL stated it might be. if it's just to jump a signal
over, a wire or piece of RG-58 might be ok.
>
> >you don't mention max allowed power out and freq. i know what your up
> >to, but can't remember the rules.
>
> Mike, I do do *other* stuff apart from build killer robots! :-D

why?!!! :-)
>
> >too much time on radios and not enough on bot killing weapory. quick
> >solution for that... shotgun?
>
> Actually it's been the other way around lately. But the new
> disemboweler is quite impressive, though I do say so myself. I'll
> upload some pix of it when they're available.

good name. i saw a beast in with the educational exhibits at the state
fair recently. can't remember which competition it was in, Battle Bots
or what. it had a thick piece of steel cut as a lawnmower blade on top.
i'd love to see it up against a bot that just got under the blade and
ran it through with a skewer, but it was some pretty thick plate.
couldn't see much in the way of electronics, just a bunch of thick metal
partitions with heavy wiring going to the hulking motors. it looked like
a lot of other bots with the sloped sides to get under the enemy.

brs,
mike

2665. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 19:30:18 UTC
From: Pawel Stobinski <sq9nry@wp.pl>
Message-ID: <bmhf7n$d95$1@julia.coi.pw.edu.pl>
Source record: 31832
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Don Pearce wrote:
> The impedance should be R + jwL + 1/(jwC)

1/j = j/j*j = j/-1 = -j

-j/wC = 1/jwC

--
Pawel Stobinski
Republic of Poland

2666. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 20:14:43 UTC
From: Ed Wilson <rattlehead@computron.net>
Message-ID: <9kioov04f7a26leftvutjd3tedbd0sgnpa@4ax.com>
Source record: 31833
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

David,

Your idea is certainly technically feasible, and would provide a way for folks to continue to 'use' obsolete radio equipment in a post-BPL era. Similar in many ways to the micro AM transmitter that I use to broadcast old-time radio programs to my antique radios, for demonstration purposes.

Somehow, though, it wouldn't be the same. DX-ing and shortwave listening are, for me, pursuits which are made interesting by the sheer randomness of long distance radio communication. Things like building a better antenna or tuner, or waiting for the window to open to that country in order to catch an elusive transmission - that's where the fun is!

Internet communications, however, are carried over the same high-reliability global networks as telephone calls. From my keyboard, I can DXCC in probably under half an hour - which would be a very unfulfilling task, given the certainty of the medium. And that's why I have no interest in some of the existing Internet/Amateur Radio interfaces, such as IRLP - sure, I can talk to some guy over in England on my 5 watt 2-meter HT using a local repeater and dialling an access code to his local repeater - but it isn't DX, its more like a telephone call to a random party at the destination over the Internet. More like using VOIP to call a pay phone in England, then talking to whomever answers. To me, that ain't radio. It's a phone call. Nothing more.

Your proposed interface would provide a way to simulate real QSOs on the old equipment - but it would not be 'real'. Not much different, really, than building a Telco interface for the radio, dialling up the far end, and pretending to have a radio QSO using the mike and speaker instead of the handset. A radio simulator of sorts, with a real boatanchor configured like a speakerphone at each end - but just a simulation nevertheless. Not a true radio QSO. I could wire up my electric pencil sharpener with a mike and speaker, and establish a QSO over the Net with somebody on an ARC-5. That don't make it a radio, though!.....but it would look kinda cool ;)

Some will find this interface quite acceptable - if conversation with others is what the hobby is about for them, this will provide a nostalgic way to continue to QSO with familiar radio equipment. 'Whatever floats their boat'.

For those of us who chase DX and foreign broadcasts through the ether or thrive on overcoming technical obstacles, however, I suspect that our interest would not be held for long by such an interface. Just like piping 1941 Jack Benny programs to my AK-55 - cute, but it doesn't make it seem like it's 1941. Great for demonstrating the set to guests, though - after half a minute or so, their interest is dissipating and the AK is switched back off.

If BPL becomes a reality, my HF gear will be going up on the shelf with the other old radio equipment - to make room for the satellite and moonbounce equipment that will take its place.

YMMV, of course...

73, Leo

On Tue, 14 Oct 2003 14:04:34 GMT, David Stinson <arc5@ix.netcom.com> wrote:

>snip

>Here's another (For Peter's sake):
>I love listening to shortwave radio. The power
>company installs BPL, and now all my carefully-tended radio
>will say to me is: "BSSSSSSSSSSSSSSSSRRRRRRRRRRRRRRRPPPPPP!!"
>Do I give up, put my favorite radio on the shelf and listen
>to them on the Internet "phone?" Hell, no.
>I log into a server that's streaming the 31 meter band in chunks
>of 25 KC from a quiet location in Itchyarmpit, Idaho.
>I pipe that into my V.S. transverter and into the antenna
>connection of my radio. Once again I have evenings of
>enjoyment listening to Radio Gabbabootoo.
>If I want to hear Radio Binga Boinga
>and the five other stations around that frequency,
>I select the correct stream and enjoy.

2667. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 21:16:29 UTC
From: averyfineman@aol.com
Message-ID: <20031014171629.11022.00001430@mb-m14.aol.com>
Source record: 31835

In article <bmgam6$mgi8n$1@ID-61331.news.uni-berlin.de>, "Hans Summers"
<Hans.Summers@Tudor.Com> writes:

>"Ashhar Farhan" <farhan@hotfoon.com> wrote in message
>news:8331b126.0310132158.4a53459c@posting.google.com...
>> here is a spectrum analyser design that i would like the group to
>> comment upon.
>> 1) we take the input via a low pass filter, up convert it to an IF of
>> 100Mhz or so, and follow it up with a direct conversion receiver at
>> 100 Mhz with 20 khz bandwidth.
>> 2) the upconverting local oscillator is a VCO that is controlled by a
>> sweep generator. the sweep is controlled by a PWM modulated signal in
>> the audio range.
>> 3) the sweep generator input is connected to the output of a PC sound
>> card. the output of the direct conversion receiver is connected to the
>> input of the PC sound card.
>>
>> Now, by clever programming of the sound card on the PC, we can make
>> the VCO sweep our passband of interest. The sound is often digitsed at
>> 16 bit levels (in the better systems at 32-bit level). This will
>> effectively give us 90db range. the lograithmic scale can be
>> implemented in software. DSP can be used to set the bandwidth to any
>> particular size.
>>
>> the most important benefit of this design will be that even hams
>> without expensive oscilloscopes will be able to easily make a PC based
>> analyser that is easy to assemble and use.
>>
>> if there isn't any glaring problem with this design, i would like to
>> pull out my soldering iron and take a go. is anyone here with spectrum
>> analyser experience willing to share knowledge?
>
>I have recently completed a spectrum analyser, see
>http://www.hanssummers.com/electronics/equipment/spectrumanalyser/index.htm.
>It is
>awaiting possible magasine publication so there are not yet any circuit or
>construction details on the page above. If you want the full details, email
>me privately and I'll show them to you.
>
>I also tried a direct conversion receiver initially. It doesn't work on in
>analogue (i.e. non-PC) analyser, because there are all sorts of heterodynes
>of the sweep frequency against the directly converted incoming signal. Of
>course I kicked myself afterwards for not thinking of it in advance to save
>myself the time of the experiment.

>
>I think broadly speaking the final IF should be substantially higher than
>the frequency of the sweep waveform, so that the final filtering works
>faster than the sweep. There are lots of people in this forum far more
>advanced than me who will probably be able to explain it better in terms of
>filter response times or group delays or something.
>
>Though there might be a way of untangling everything in software so it may
>work. Being direct conversion you'll also have both sidebands present, which
>will create further complications. Again, clever software might untangle it
>but I think it's far from straightforward.
>
>Another problem is the narrow bandwidth. 20KHz is a nice bandwidth to have
>but I think in a spectrum analyser you also want wider bandwidths available.
>In particular, if you are digitally generating your sweep voltage, and
>trying to cover the whole 100MHz, you need of the order of 100,000 / 20 =
>5,000 discrete measurement intervals. You can't display that many horizontal
>pixels on screen. You could average them in software, but at the low 20KHz
>bandwidth, you're going to need quite a slow sweep rate. 5,000 measurements
>are a lot and will take a long time.
>
>It's a nice idea but I don't think it will work as it stands.
>
>My recommendation would be to add a 2nd IF to your design, 2nd IF amp and
>logarithmic detector. In my design I used a 145MHz 1st IF, so the VCO sweeps
>145 - 290MHz. The 2nd local oscillator is at 153MHz for an 8MHz 2nd IF,
>amplified then passed into an AD8307 logarithmic amplifier. Anything similar
>would work well. I used an SA602 front end for simplicity, but a diode ring
>mixer would give potentially better performance than the 65-70dB dynamic
>range I achieved.
>
>You can still use the PC for a nice display, rather than an oscilloscope.
>Just feed the log output into your PC sound card, and have the PC sound card
>control the sweep as you suggest. I think you'll solve a lot of problems by
>adding these few extra modules to the analogue front end before introducing
>the PC. Incidentally, this is exactly what I'm doing with my Mk2 analyser,
>see
>http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/index.htm.
>
>Now I'm hoping for someone to put it all more clearly and professionally
>than I have here ;-)

I'm not sure that it is necessary considering the base of information
on spectrum analyzers of all kinds that have been available for over
a half century, nearly all built for military/commercial markets..

22 years ago, Intel had a nice little audio range spectrum analyzer
as a laboratory development breadboard-trial thing. Used NO "sweep
oscillator" but simply sampled the audio input and did the necessary
math calculations to convert from time domain to frequency domain.
Quite obviously Intel was promoting their microprocessors in a (then)

new niche application. However, that little spectrum analyzer was about as direct-conversion as could be possible. Many, many home entertainment market music systems now build in such spectrum analyzers and show the coarse bar-graphs on front panels in real-time displays.

Given that time now is two decades later with companies such as Analog Devices marketing a number of very fast analog-to-digital converters AND wide dynamic range true logarithmic detectors, a single-conversion spectrum analyzer with a personal computer as the control and read-out can be a viable home project.

To Ashhar Farhan:

..."warming up the soldering iron" and getting going on it is NOT a good thing without a lot of other considerations. First of all, one must have some personal computer program development capability to write the GUI program to show the output display. That is NOT for beginners in programming. Secondly, any sort of DSP program set MUST be done according to DSP math and with known levels of input to a digitizer. Understanding the guts of DSP processing is a prodigious project all by itself.

Third, one has to have some sort of planning ahead of time on what is expected in performance of this spectrum analyzer: Range, band-width, dynamic range, resolution, accuracy. Performance of ANY of those criteria will be affected by the ability to design them into the project AND at what cost. Such things do not assemble like Lego blocks.

Fact: Direct, real-time spectrum analysis exists in audio/music system equipment and has for at least a decade. House-number single IC packages exist to do that analysis and drive simple displays at relatively low cost.

Fact: Digital sampling oscilloscopes today handle 500 MEGA samples per second with resolution exceeding 8 bits per sample. Display of stored digitized information is integral to the oscilloscope, now commonly done on an LCD flat screen. Cost is releatively high.

Fact: DSP techniques, algorithms, ICs exist today to enable frequency conversion, sampling, filtering to be done at releatively moderate to high cost.

Combination of any of the above is possible to make a truly direct spectrum analyzer or single-conversion analyzer with an input range up to VHF. The concept of truly direct spectrum analysis has already been done as a consumer market item accessory. DSOs of today from Tektronix and LeCroy already contain varying degrees of DSP built in. The development of such a spectrum analyzer will be time-consuming and not, in my estimation, an easy project for the casual home hobbyist.

Len Anderson
retired (from regular hours) electronic engineer person

2668. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 21:16:31 UTC
From: averyfineman@aol.com
Message-ID: <20031014171631.11022.00001431@mb-m14.aol.com>
Source record: 31834

In article <r3doovcnsop9j4l1lrk1q58fjise6m30cu@4ax.com>, Paul Burridge
<pb@osiris.notthisbit.co.uk> writes:

>On Tue, 14 Oct 2003 15:30:54 GMT, Active8
><mTHISREMOVEcolasono@earthlink.net.invalid> wrote:
>
>>i don't usually have to bypass anything to shoot. you look for last
>>known good, first known bad, with your RF probe/scope/sniffer/whatever
>>and go from there. lift an input component leg, terminate an output,
>>check signal, if good, plug it back in. find the stage that's bad and
>>check transistor DC levels first.
>
>Agreed. And that's what I'd do in practice.
>I'm just curious, however as to what effect jumping RF from point A in
>a circuit to point B with just a single wire has on the signal. IOW,
>will the integrity of the signal be preserved by this quick and simple
>expedient? The great and the good here seem to believe it shouldn't be
>a problem up into VHF.

Paul, there seems to be some disagreement on the practical
aspects of breadboarding tests...if what you are doing is such.

First, there is always the possibility of "trouble" with "long leads"
at HF or higher. Without knowing more exact nature of a particular
circuit/system under development, it is IMPOSSIBLE for others to
predict what will happen. Too many variables to allow quick solution.

In the consideration of PRACTICAL bench work during development
(my assumption), AND of having a circuit board with a "good" (large,
inclusive) ground plane, it is quite probable that one would not
experience undue upset of a circuit/system under development
involving frequencies on up to UHF with "long leads" of up to 4 inches
length. That is my particular experience from longer than four
decades of working "on the bench" both at work and at home.

Others may wish to take exception to my statements and engage
in long, convoluted intellectual arguments about the whichness of
the what. That's okay with me. But, on the subject of ACTUAL
development, especially getting something DONE, all the jawing
about the whichness of the what isn't helping much. No time on
the bench. Trying out things may involve bypassing stages or
similar. Fine, sometimes that is the only way to discover what is
not quite right, troubleshoot, or just see alternate possibilites.

It's rather obvious that a single wire elevated above any ground
plane that may be an eighth of a wavelength long or so is NOT

going to be of the same impedance as the same wire laid down
next to the ground plane. But, will that matter? Depends. If the
load end has a low impedance near the source impedance value,
probably not. If the load end has a high impedance relative to
source, there might be some nasty effect. One has to THINK in
all cases, all situations, in terms relating to the particular project
in work. In development work with limited time available, one goes
ahead and tries something out...and looking, learning, discovering
what happens and getting a handle on the differences of the longish
jumper versus short-lead connection. Each and every project is
going to be different, unique, and none will have any ironclad rules
of "this is the one and only way to do it."

A case in point, mentioned in here before: Hans Summers' spectrum
analyzerS (plural). His first version was point-to-point using relatively
"ugly" (top foil of a PCB only, no etching) structure. That worked, but
no doubt he had some individual, spot problems here and there. For
the second version he went into modular style separation of basic
blocks connected with little coax cable assemblies. That modular
style can be considered the "best" for shielding, maintenance of Z
between stages (important for broadbandedness), and ability to
localize troubles should one module not behave. That's excellent, but
with a qualifier: It isn't practical unless one has a low-cost ready
source of coax cable assemblies and mating conntectors. Hans had
that from finding a local bargain in them. Already assembled, no extra
time required for those, quality control could be expected to be good,
not a lot of worry about open center contductors, and so forth. The end
result was neat, tidy, with less problems from construction compared
to the first. Development time could be concentrated on the interior
of each module and those characteristics rather than a lot of relatively
open hook-ups.

There's one rule that all have to keep in mind: Electroncs, fields, and
waves don't recognize "neat" or "pretty" or "approved ways." They
work with conductors, insulators, impedances, etc., on THEIR terms,
not humans. Everyone has to get acquainted with electrons, fields,
and waves' rules FIRST.

"Ugly" circuit board structures are just fine if the solder makes good
conductive intermetallic bonds, doesn't short out to other lines, doesn't
have a potential for near-future trouble from oxidation, coming loose, etc.
Neat it ain't, but electrons don't work on neat.

Sorry to get on the philosophical lecture pulpit. Other things locally
got me on a roll and I slipped in the butter...

Len Anderson
retired (from regular hours) electronic engineer person

2669. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 21:32:10 UTC
From: Diego Stutzer <abcdstutzer@evard.ch>
Message-ID: <bmhprglka1@rex.ip-plus.net>
Source record: 31836
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

John Fields <jfields@austininstruments.com> schrieb in im Newsbeitrag:
fphoovs7j6ph1mvglt2khmqn912679q4qf@4ax.com...
> On 14 Oct 2003 11:38:29 -0700, abcdstutzer@evard.ch (Diego Stutzer)
> wrote:
>
> >Hi,
> >Well, I'm really confused.
> >I simulate a simple serial R-C-L-Network (all in series).
> >
> >As far as I know the total (input-)Impedance of the network is:
> >Z = R + jwL - j/(wC) resp. the resonance frequency (where Zin=R) is
> >1/sqrt(L*C).
> >At resonance frequency, the Impedance should be real and therefore in
> >my hummel opinion Voltage and Current schould be in phase.
> >
> >The funny thing is, when i build up such a network in Schematics
> >(Cadence PSD 14.1/Orcad 9.2) and simulate it with the PSpice A/D
> >Simulator, the current is displaced (relative to the voltage) about
> >lambda/4 - obviously not in phase!?
> >
> >Can anyone tell my where I made a mistake?
>
> ---
>
> 1
> f = -------------
> 2pi(sqrt(LC))
>
>
> --
> John Fields

WOW!! Thank you soo much. The world is sound and the laws of physics apply
again. I just confused w (omega) and f.
Best Regards
D. Stutzer

2670. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 21:33:50 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20031014173350.17322.00000310@mb-m03.aol.com>
Source record: 31837

Let me get this staright.
I have Internet with "terminal" - my computer which can display color movies, sound, etc.
Now "Virtual Spectrum" will allow me to use piece of crappy radio over Internet?
Why?
Seems like having Rolls-Royce, but instead of riding in it, I'd rather just push it around?
Far out!

Yuri

2671. 60 Meters on a 102 inch whip

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 21:39:47 UTC
From: David <pdr14@comcast.net>
Message-ID: <uOmdnSbnEZ388BGiU-KYuA@comcast.com>
Source record: 31838

I did a little experimenting today with my assortment of Iron Powder Torrid cores. For those who care;
39 turns on a T-157-2 core got my 102 inch CB whip on the 60 Meter band. SWR was about 2.5:1. A 2 - 20 pf cap from the antenna side of the inductor to GND will probably get it to 1:1 though I haven't bothered to try this yet.

Have fun

David -- KG2LI --

2672. Re: 100W HF power amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 21:58:21 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <1k_ib.471106$2x.189122@rwcrnsc52.ops.asp.att.net>
Source record: 31839

"Pawe&#65533; Stobi&#65533;ski" <sq9nry@wp.pl> wrote in message
news:bmc465hm1@julia.coi.pw.edu.pl...
> Mike W wrote:
> > Have you looked at Motorola's website?. There are a good number of
> > Application Notes there with amps from 10w to Kw's for HF to uWave
> > described in detail. There is also a company in US that stocks the
> > 'hard to find' bits, and Kits, for them. Sadly I can't find the URL at
> > the moment.
>
> Thanks!
>
> --
> Pawe&#65533; Stobi&#65533;ski SQ9NRY
> Republic of Poland
>
You should start with the books and Motorola Applicaiton notes by Helge
Genberg (sk).
Some libraries may have it, or you can order from RF Parts.
http://www.rfparts.com/tranbook.html

RADIO FREQUENCY TRANSISTORS, Principles and Practical Applications
Co-authored with Norman Dye should be your bible for this project.
2nd edition &#65533; 290 pages &#65533; 1.25 lbs Part #: RFT &#65533; Price: $44.95

Adobe Acrobat copies of the Motorola Application Notes
http://www.communication-concepts.com/application_notes.htm

w9gb

2673. Navy radarman question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 21:59:55 UTC
From: hexter@blazenet.net
Message-ID: <voosersb3faa6@corp.supernews.com>
Source record: 31840

Did radar operators fall under 'radioman' rate, or was there a 'radarman' rating? I don't see it as a separate specialty anymore. Is it now in the 'information technologist' rating?

What letters would have been on a Chief's name badge?

Such as

RMCPO K. Smith

or would it be more like

RMC K. Smith

Full first and last name, or just first initial?

Thanks for your help, and also your service to our country.

2674. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 22:24:25 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8C73B1.55886523@ix.netcom.com>
Source record: 31841
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Ed Wilson wrote:
>
> David,
>
> Your idea is certainly technically feasible, and would provide a way
> for folks to continue to 'use' obsolete radio equipment in a post-BPL
> era. Similar in many ways to the micro AM transmitter that I use to
> broadcast old-time radio programs to my antique radios, for
> demonstration purposes.
>
> Somehow, though, it wouldn't be the same. DX-ing and shortwave
> listening are, for me, pursuits which are made interesting by the
> sheer randomness of long distance radio communication. Things like
> building a better antenna or tuner, or waiting for the window to open
> to that country in order to catch an elusive transmission - that's
> where the fun is!
>
> Internet communications, however, are carried over the same
> high-reliability global networks as telephone calls. From my
> keyboard, I can DXCC in probably under half an hour - which would be a
> very unfulfilling task, given the certainty of the medium. And that's
> why I have no interest in some of the existing Internet/Amateur Radio
> interfaces, such as IRLP - sure, I can talk to some guy over in
> England on my 5 watt 2-meter HT using a local repeater and dialling an
> access code to his local repeater - but it isn't DX, its more like a
> telephone call to a random party at the destination over the Internet.
> More like using VOIP to call a pay phone in England, then talking to
> whomever answers. To me, that ain't radio. It's a phone call.
> Nothing more.
>
> Your proposed interface would provide a way to simulate real QSOs on
> the old equipment - but it would not be 'real'. Not much different,
> really, than building a Telco interface for the radio, dialling up the
> far end, and pretending to have a radio QSO using the mike and speaker
> instead of the handset. A radio simulator of sorts, with a real
> boatanchor configured like a speakerphone at each end - but just a
> simulation nevertheless. Not a true radio QSO. I could wire up my
> electric pencil sharpener with a mike and speaker, and establish a QSO
> over the Net with somebody on an ARC-5. That don't make it a radio,
> though!.....but it would look kinda cool ;)
>
> Some will find this interface quite acceptable - if conversation with

> others is what the hobby is about for them, this will provide a
> nostalgic way to continue to QSO with familiar radio equipment.
> 'Whatever floats their boat'.
>
> For those of us who chase DX and foreign broadcasts through the ether
> or thrive on overcoming technical obstacles, however, I suspect that
> our interest would not be held for long by such an interface. Just
> like piping 1941 Jack Benny programs to my AK-55 - cute, but it
> doesn't make it seem like it's 1941. Great for demonstrating the set
> to guests, though - after half a minute or so, their interest is
> dissipating and the AK is switched back off.
>
> If BPL becomes a reality, my HF gear will be going up on the shelf
> with the other old radio equipment - to make room for the satellite
> and moonbounce equipment that will take its place.

Not mine. Not if I can possibly help it.
I can't stop BPL, but I *can* get around it.
And what I'm proposing does not preclude what you want.
Let's say BPL does come to your area, and
all HF sounds like a buzz saw.
In your case, you still have your transmitter there at your house.
You use a remote front end, and stream the portion of the DX band
you want to work from a friend's house out in the quiet country.
The only difference is that your receiver is effectively offset in
location
by a few miles. That isn't going to make finding that weak
DXpedition any less challenging, but it *will* make it possible.
Otherwise, it's give up the ship entirely. There's no need
to give up your enjoyment; You just have to be a little flexible
to work around the problems these numbskulls throw at us.
Afterall- haven't we hams been doing that for a century?
73 Dave S.

2675. Re: Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 22:26:40 UTC
From: MVR <rmrusso1@optonline.net>
Message-ID: <3F8C7871.BD0E632C@optonline.net>
Source record: 31842
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

Bob,
Jezzzz, give the guy a break. He just lost his friend and your bitching about a covers, mic and manuals.
Maybe Jim will come over and install them for you also.
Offer the guy's family $5.00 bucks. You just want the stuff for nothing.
I see it time and time again. Slime like you hang around waiting for a ham to pass on
and then you want the equipment for practicly nothing. Then you sell off the stuff for a profit.
You make me sick.

And Jim, Sorry about your friend. You should take some digital pics of the equipment and put the stuff on Ebay. There you will get the most money for the family.

73 and good luck!!

Bob wrote:

> What happened to the covers? Without covers, these radios are reduced to
> the status of parts rigs. What about microphones and manuals and mobile
> brackets?
>
> I have an IC-751 I like but I wonder what you mean by the back cover.
>
> Perhaps you can guess at a price for everything and I might take it all, in
> hopes of fixing up some of the stuff to get my money back and then having
> the rest gratis.
>
> Let me know.
>
> 73, Bob K6DDX

2676. Re: Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 22:27:06 UTC
From: MVR <rmrusso1@optonline.net>
Message-ID: <3F8C788E.C8969E7C@optonline.net>
Source record: 31843
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

Bob,
Jezzzz, give the guy a break. He just lost his friend and your bitching about a covers, mic and manuals.
Maybe Jim will come over and install them for you also.
Offer the guy's family $5.00 bucks. You just want the stuff for nothing.
I see it time and time again. Slime like you hang around waiting for a ham to pass on
and then you want the equipment for practicly nothing. Then you sell off the stuff for a profit.
You make me sick.

And Jim, Sorry about your friend. You should take some digital pics of the equipment and put the stuff on Ebay. There you will get the most money for the family.

73 and good luck!!

Bob wrote:

> What happened to the covers? Without covers, these radios are reduced to
> the status of parts rigs. What about microphones and manuals and mobile
> brackets?
>
> I have an IC-751 I like but I wonder what you mean by the back cover.
>
> Perhaps you can guess at a price for everything and I might take it all, in
> hopes of fixing up some of the stuff to get my money back and then having
> the rest gratis.
>
> Let me know.
>
> 73, Bob K6DDX

2677. Re: Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 22:27:32 UTC
From: MVR <rmrusso1@optonline.net>
Message-ID: <3F8C789E.8BFB954A@optonline.net>
Source record: 31844
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

Bob,
Jezzzz, give the guy a break. He just lost his friend and your bitching about a covers, mic and manuals.
Maybe Jim will come over and install them for you also.
Offer the guy's family $5.00 bucks. You just want the stuff for nothing.
I see it time and time again. Slime like you hang around waiting for a ham to pass on
and then you want the equipment for practicly nothing. Then you sell off the stuff for a profit.
You make me sick.

And Jim, Sorry about your friend. You should take some digital pics of the equipment and put the stuff on Ebay. There you will get the most money for the family.

73 and good luck!!

Bob wrote:

> What happened to the covers? Without covers, these radios are reduced to
> the status of parts rigs. What about microphones and manuals and mobile
> brackets?
>
> I have an IC-751 I like but I wonder what you mean by the back cover.
>
> Perhaps you can guess at a price for everything and I might take it all, in
> hopes of fixing up some of the stuff to get my money back and then having
> the rest gratis.
>
> Let me know.
>
> 73, Bob K6DDX

2678. Re: Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 22:32:55 UTC
From: Mark <rmrusso1@optonline.net>
Message-ID: <3F8C79E2.DCED8FCC@optonline.net>
Source record: 31845
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

Bob,
Jezzzz, give the guy a break. He just lost his friend and your bitching about a cover, mic and manuals.
Maybe Jim will come over and install them for you also.
Offer the guy's family $5.00 bucks.
You just want the stuff for nothing.
I see it time and time again. Slime like you hang around waiting for a ham to pass on
and then you want the equipment for practically nothing. Then you sell off the stuff for a profit.
You make me sick.

And Jim, Sorry about your friend. You should take some digital pics of the equipment and put the stuff on Ebay. There you will get the most money for the family.

73 and good luck!!

Bob wrote:

> What happened to the covers? Without covers, these radios are reduced to
> the status of parts rigs. What about microphones and manuals and mobile
> brackets?
>
> I have an IC-751 I like but I wonder what you mean by the back cover.
>
> Perhaps you can guess at a price for everything and I might take it all, in
> hopes of fixing up some of the stuff to get my money back and then having
> the rest gratis.
>
> Let me know.
>
> 73, Bob K6DDX

2679. Re: Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 22:36:38 UTC
From: jim <3carroll@optonline.net>
Message-ID: <3F8C7A92.1010207@optonline.net>
Source record: 31846
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

MVR wrote:
> Bob,
> Jezzzz, give the guy a break. He just lost his friend and your bitching about a
> covers, mic and manuals.
> Maybe Jim will come over and install them for you also.
> Offer the guy's family $5.00 bucks. You just want the stuff for nothing.
> I see it time and time again. Slime like you hang around waiting for a ham to
> pass on
> and then you want the equipment for practicly nothing. Then you sell off the
> stuff for a profit.
> You make me sick.
> ----------
> And Jim, Sorry about your friend. You should take some digital pics of the
> equipment and put the stuff on Ebay. There you will get the most money for the
> family.
>
> 73 and good luck!!
> _____
>
>
> Bob wrote:
>
>
>>What happened to the covers? Without covers, these radios are reduced to
>>the status of parts rigs. What about microphones and manuals and mobile
>>brackets?
>>
>>I have an IC-751 I like but I wonder what you mean by the back cover.
>>
>>Perhaps you can guess at a price for everything and I might take it all, in
>>hopes of fixing up some of the stuff to get my money back and then having
>>the rest gratis.
>>
>>Let me know.
>>
>>73, Bob K6DDX
>
>
Cheers MVR. Will do the ebay scenario.

2680. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 22:47:36 UTC
From: Robert Murrell <murrellr-dummy@ameritech.net>
Message-ID: <c2%ib.1567$P%1.1217140@newssvr28.news.prodigy.com>
Source record: 31847
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Its already been done. Its called 'telephone'.

"David Stinson" <arc5@ix.netcom.com> wrote in message
news:3F8B4D6D.31D19695@ix.netcom.com...
> Thanks for reading this.
> I have today submitted an article to QST magazine entitled
> "Virtual Spectrum: Beating BPL at its own game,"
> detailing a concept that can greatly impact our radio hobby.
> I wanted to "put down a marker" to date the introduction
> of a new ham-radio innovation, and to officially place
> the idea in the public domain, so the maximum amount of
> "tinkering" with it can happen.
>
> This concept uses the bandwidth available on the Internet
> and some simple circuitry to create a replica of a segment of
> the radio spectrum, stream it live or prerecorded to another
> internet-connected computer and reconstruct that radio spectrum
> at your location. *Any* radio equipment you wish to use
> (given an Internet connection with sufficent bandwidth)-
> from modern PSK-31 rigs, SSB nets, WW-II modulated oscillators
> all the way back to ancient spark transmitters
> with crystal receivers; all can legally communicate just as though
> you were on-the-air. The system is bi-directional, allowing
> QSOs between stations that normally could not communicate.
> If you can't hear weak signals because of noise in your area,
> the concept allows you to build a "remote front end" and
> transport the radio spectrum in a quiet area right to your rig,
> bypassing the problems in your location.
>
> I believe this concept can be the answer to BPL, "noise holes,"
> antenna restrictions, HF "jammers" and many other obstacles to
> using our radios. There is great potential for many uses,
> and a possible niche market for someone with the resources
> to develop the equipment.
> I have already built prototype equipment to prove the concept
> and it works splendidly. The article includes construction
> details. The circuits are simple and you can get
> 95% of the parts at Radio Shack.
> By the time QST publishes (assume they accept the work),
> we should have completed the first Virtual Spectrum QSO:
> two World War 2 BC-611 handie-talkies (output: about 60 milliwatts)
> will communicate over a path of about 2000 miles.
>

> If QST does not publish the concept,
> I will publish it myself on the web
> immediatly after hearing from them.
> I am indebted to Mike Hanz, aafradio@cox.net
> for invaluable suggestions and encouragement.
>
> TNX ES 73 DE Dave Stinson AB5S

2681. Re: Dumb question 'bout signal routing (RF)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-14 23:11:10 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <480povkq4lmu6c9d1mvh4m2v92u3npqnhj@4ax.com>
Source record: 31848

On 14 Oct 2003 21:16:31 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

[snip]

Thanks, Len. That pretty much covers everything I wanted to know, I
guess. Guess I'll extend the ground plane to minimise errors. Never
considered that before. Thanks again.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2682. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 00:25:18 UTC
From: michael@clift.com.au
Message-ID: <ec96e13a.0310141625.1943cc2e@posting.google.com>
Source record: 31849
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

> The impedance should be R + jwL + 1/(jwC)
>

You sure?, how do the j parts cancel at resonance if they are both added?

2683. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 00:51:11 UTC
From: k7itm@aol.com
Message-ID: <3200347.0310141651.4d9b3eba@posting.google.com>
Source record: 31850
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

Which voltage and which current? Clearly the voltage across the
capacitor will always be pi/2 relative to the current in that
capacitor, and the same (but opposite sign) for an inductor. Also,
are you doing an AC or a transient analysis? If transient, are the
transients settled, are you really on the resonance frequency, and are
you simulating with sufficient time resolution? Oh, and I'm not quite
sure what you mean by "lambda/4" phase shift. Is that degrees or
radians, and what's lambda?

Cheers,
Tom

abcdstutzer@evard.ch (Diego Stutzer) wrote in message
news:<aca3ec4c.0310141038.3bf669cd@posting.google.com>...
> Hi,
> Well, I'm really confused.
> I simulate a simple serial R-C-L-Network (all in series).
>
> As far as I know the total (input-)Impedance of the network is:
> Z = R + jwL - j/(wC) resp. the resonance frequency (where Zin=R) is
> 1/sqrt(L*C).
> At resonance frequency, the Impedance should be real and therefore in
> my hummel opinion Voltage and Current schould be in phase.
>
> The funny thing is, when i build up such a network in Schematics
> (Cadence PSD 14.1/Orcad 9.2) and simulate it with the PSpice A/D
> Simulator, the current is displaced (relative to the voltage) about
> lambda/4 - obviously not in phase!?
>
> Can anyone tell my where I made a mistake?
> Or why this Problem is showing up?
> Thanks to anyone reading this and especially to those who post
> answers.
> D. Stutzer

2684. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 00:51:27 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F8C9791.18E7654@gte.net>
Source record: 31851
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

Don Pearce wrote:

> On 14 Oct 2003 11:38:29 -0700, abcdstutzer@evard.ch (Diego Stutzer)
> wrote:
>
> >Hi,
> >Well, I'm really confused.
> >I simulate a simple serial R-C-L-Network (all in series).
> >
> >As far as I know the total (input-)Impedance of the network is:
> >Z = R + jwL - j/(wC) resp.

-j/wc= 1/jwc

2685. Re: 60 Meters on a 102 inch whip

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 00:53:24 UTC
From: Dale Parfitt <parinc@gte.net>
Message-ID: <3F8C9806.16B5440C@gte.net>
Source record: 31852

David wrote:

> I did a little experimenting today with my assortment of Iron Powder Torrid
> cores. For those who care;
> 39 turns on a T-157-2 core got my 102 inch CB whip on the 60 Meter band.
> SWR was about 2.5:1. A 2 - 20 pf cap from the antenna side of the inductor
> to GND will probably get it to 1:1 though I haven't bothered to try this
> yet.
>
> Have fun
>
> David -- KG2LI --

What do you imagine the radiation resistance (and therfore efficiency) to be?

Dale W4OP

2686. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 01:13:29 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <Za1jb.1091$_i.100686@nnrp1.ptd.net>
Source record: 31853
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"David Stinson" <arc5@ix.netcom.com> wrote in message
news:3F8B5B6B.8E5123D@ix.netcom.com...
> Roy Lewallen wrote:
> >
> > I apologize for being a little vague about this. Are you proposing
> > replacing wireless communication with wired communication (via the
> > Internet) as a way to communicate with inadequate radio equipment?
>
> "Wireless" doesn't always work, if you're in a "noise hole,"
> or if the mode or radio you want to use isn't "legit" anymore.
> So that's one use, yes.
> The idea is to use our own radios as source and sink,
> bypassing the vagaries of Mother Nature's propagation
> and local noise sources. Or, if you're in a "noise hole,"
> to bring spectrum to you from a "quiet" location.
> It also allows the use of heretofore prohibitied modes.
> For instance:
> In the article I detail how an old longwave maritime
> rig on 415 KC A2 can carry on a real-time CW QSO with
> someone using a modern rig on 40 meters.
> It will be a real boon for the "boatanchor" community.
> I do hope QST will consider it.
>
> TNX ES 73 DE Dave AB5S

Sounds like a perfect article for this coming April's edition of QST
to me :-)

Seriously - you can't be seriously suggesting that vulnerable infrastructure
be considered as a viable replacement for infrastructureless HF
communications?

Again ... perhaps in the April (fools) edition of QST ...

Carl - wk3c

2687. Help needed understanding the ANC-4 design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 01:34:56 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0310141734.5056d312@posting.google.com>
Source record: 31854
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.basics,sci.electronics.design,alt.engineering.electrical

http://www.timewave.com/Acrobat/ANC_4TW8x11a.pdf

The schematic is on the last page. Has anyone here worked with a similar circuit? I'll explain what little I do understand so you can build on this.

My questions:
1. What is the Q1 transistor for? Is Q1 an amplifier or just a buffer? At DC, I notice that it's fed by a supply voltage just under 12V (only 20 ohms and some inductance away from 12V). The CR1 and CR2 diodes, of course, are there to prevent overloading from unexpected large signals. Capacitors C3 and C2 couple the RF to ground. I assume that R3, R4, and R8 play a role in determining the gain. (I can't remember enough of FETs to show the exact relationship.) The RF output must be the voltage across T1 and is not connected to ground. The inductance provides RF impedance between Q1 and the power supply.
2. What does transformer T1 do? I notice that the not-quite-12V DC (I'll call it 11.8V DC) is connected to two of the T1 windings. So if the input of T1 is .01V RF, it extends from 11.79V DC to 11.80V DC. Then the output would extend from 11.80V DC to 11.81V DC. Until I get an answer from Timewave, any idea what the turns ratio and inductance values might be? Does it play a role in the noise phase adjuster? Do I need to treat this as a current transformer rather than a voltage transformer?
3. How does the noise phase shifter work? How does noise phase shifter work? Adjusting the value of potentiometer R6 is supposed to change the frequency response. The phase shift should vary between about -pi/2 and +pi/2 depending on how the pot is adjusted, but I'm not getting anywhere in the simulations. The FREQ RANGE switch should control where the phase shift equals 0, but I can't make any sense of this, either. Unfortunately, information on the transformers is not provided. But even assuming 1:1, 10:1, and 1:10 turns ratios on FT50-43 toroids isn't helping. I must be thinking about the circuit in the wrong manner. The adjustment for the noise gain seems straightforward enough to me - the pot controls a simple voltage divider.
4. What is the Q2 transistor for? It's also fed by a supply voltage just under 12V (only 10 ohms and 2 inductors away from the 12V power supply). Capacitor C8 seems to be like capacitor C2 - coupling capacitor. I guess R9 and R10 play a role in setting the gain, like R8, R3, and R4 in Q1.
5. What does transformer T2 do? The strange thing is that the DC power supply is connected to the OUTPUT winding. I'm lost.
6. How does the noise gain work? Is the R12 pot a simple voltage

divider? I notice that C11 lies between R12 and Q3, so it has no DC connection to it. I also notice that part of this pot is in parallel to R37.
7. What does Q3 do? I don't remember my BJT transistor theory very well either. The collector is 2 inductors away from the 12V power supply and is thus connected at DC but isolated at RF. C12 is a coupling capacitor, so R16 plays a DC role. R13, R14, R15, and R16 determine the gain.
8. How exactly does T3 work? Again, there is a DC supply voltage on the output side.
9. What does Zener diode CR12 do? Do it, CR4, and CR3 play a role in dealing with unexpected large RF signals, or am I off base here?

I don't yet understand the T/R switch at the bottom left of the page, but I'll save that for another post.

Jason Hsu, AG4DG
usenet AAAAAATTTTTTTTT jasonhsu.com

2688. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 02:03:05 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bmi9sp$b0k$1@hercules.btinternet.com>
Source record: 31855
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

Multiply top and bottom of 1/jwC by j (This does not change its value) and you get 1/jwC = minus j/wC.

Back to school with your algebra.

2689. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 02:12:08 UTC
From: me@privacy.net
Message-ID: <3f8caca2.8284559@news.individual.net>
Source record: 31856
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 15 Oct 2003 02:03:05 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@ZZZbtinternet.com> wrote:

>Multiply top and bottom of 1/jwC by j (This does not change its value) and
>you get 1/jwC = minus j/wC.
>
>Back to school with your algebra.

His algebra looks perfectly fine to me. But as others have pointed
out, he's left the 2pi out.

2690. Re: Help needed understanding the ANC-4 design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 02:35:50 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F8CB2AF.95E734AC@bellatlantic.net>
Source record: 31857
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.basics,sci.electronics.design,alt.engineering.electrical

Jason Hsu wrote:
>
> http://www.timewave.com/Acrobat/ANC_4TW8x11a.pdf
>
> The schematic is on the last page. Has anyone here worked with a
> similar circuit? I'll explain what little I do understand so you can
> build on this.
>
> My questions:
> 1. What is the Q1 transistor for? Is Q1 an amplifier or just a
> buffer? At DC, I notice that it's fed by a supply voltage just under
> 12V (only 20 ohms and some inductance away from 12V). The CR1 and CR2
> diodes, of course, are there to prevent overloading from unexpected
> large signals. Capacitors C3 and C2 couple the RF to ground. I
> assume that R3, R4, and R8 play a role in determining the gain. (I
> can't remember enough of FETs to show the exact relationship.) The RF
> output must be the voltage across T1 and is not connected to ground.
> The inductance provides RF impedance between Q1 and the power supply.
> 2. What does transformer T1 do? I notice that the not-quite-12V DC
> (I'll call it 11.8V DC) is connected to two of the T1 windings. So if
> the input of T1 is .01V RF, it extends from 11.79V DC to 11.80V DC.
> Then the output would extend from 11.80V DC to 11.81V DC. Until I get
> an answer from Timewave, any idea what the turns ratio and inductance
> values might be? Does it play a role in the noise phase adjuster? Do
> I need to treat this as a current transformer rather than a voltage
> transformer?
> 3. How does the noise phase shifter work? How does noise phase
> shifter work? Adjusting the value of potentiometer R6 is supposed to
> change the frequency response. The phase shift should vary between
> about -pi/2 and +pi/2 depending on how the pot is adjusted, but I'm
> not getting anywhere in the simulations. The FREQ RANGE switch should
> control where the phase shift equals 0, but I can't make any sense of
> this, either. Unfortunately, information on the transformers is not
> provided. But even assuming 1:1, 10:1, and 1:10 turns ratios on
> FT50-43 toroids isn't helping. I must be thinking about the circuit
> in the wrong manner. The adjustment for the noise gain seems
> straightforward enough to me - the pot controls a simple voltage
> divider.
> 4. What is the Q2 transistor for? It's also fed by a supply voltage
> just under 12V (only 10 ohms and 2 inductors away from the 12V power
> supply). Capacitor C8 seems to be like capacitor C2 - coupling
> capacitor. I guess R9 and R10 play a role in setting the gain, like
> R8, R3, and R4 in Q1.

> 5. What does transformer T2 do? The strange thing is that the DC
> power supply is connected to the OUTPUT winding. I'm lost.
> 6. How does the noise gain work? Is the R12 pot a simple voltage
> divider? I notice that C11 lies between R12 and Q3, so it has no DC
> connection to it. I also notice that part of this pot is in parallel
> to R37.
> 7. What does Q3 do? I don't remember my BJT transistor theory very
> well either. The collector is 2 inductors away from the 12V power
> supply and is thus connected at DC but isolated at RF. C12 is a
> coupling capacitor, so R16 plays a DC role. R13, R14, R15, and R16
> determine the gain.
> 8. How exactly does T3 work? Again, there is a DC supply voltage on
> the output side.
> 9. What does Zener diode CR12 do? Do it, CR4, and CR3 play a role in
> dealing with unexpected large RF signals, or am I off base here?
>
> I don't yet understand the T/R switch at the bottom left of the page,
> but I'll save that for another post.
>
> Jason Hsu, AG4DG
> usenet AAAAAATTTTTTTTT jasonhsu.com

Is this part of your research for your post graduate work,
or were you doing something on DSP? In any event, thanks
for posting the schematic! I'll look at it in detail when
I can, but I'll comment on the xsistors: for the FETs, the
voltage (signal) at the gate controls the current thru the
source-drain. For the bipolar, the current at the base
controls the current thru the emitter-collector. All of
them are amps that drive the transformers. At a glance,
the xformers appear to be auto-transformers to boost the
signal voltage.

2691. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 02:43:27 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bmic8f$dr9$1@hercules.btinternet.com>
Source record: 31858
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

"budgie" <me@privacy.net> wrote in message
news:3f8caca2.8284559@news.individual.net...
> On Wed, 15 Oct 2003 02:03:05 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@ZZZbtinternet.com> wrote:
>
> >Multiply top and bottom of 1/jwC by j (This does not change its value)
and
> >you get 1/jwC = minus j/wC.
> >
> >Back to school with your algebra.
>
> His algebra looks perfectly fine to me. But as others have pointed
> out, he's left the 2pi out.

Yes. I apologise for my remark about school. I gained the incorrect
impression from the previous replies.

The w in wC stands for omega = 2*Pi*F, the angular frequency.

2692. Re: simple diode switching query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 03:31:34 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F8CBFBE.527EF2CE@bellatlantic.net>
Source record: 31859

Mike W wrote:
>
> ok folks..
> I'm getting a headache thinking about this so I'm passing it to you
> lot for 'peer review' while I go to the pub ... I forsee pints of
> luverly bitter.
>
> http://www.qsl.net/g8nxd/diodesw.gif (8k)
>
> describes a train of thought.. Am I having an abberation here or will
> it work as I intend?.
>
> ie. switch between the IF strip on RX and MOD source on TX and route
> relevant signals IN/OUT of the filter and mixer in the correct way.
>
> Obviously blocking C's are not shown
>
> cheers Mike W

I can't see a receive path from the antenna through the
circuit to the if amp. - looks like the back to back diodes
on the right side of the mixer block the path. On TX,
I can't find a path from the DSB sig to get to the input
of the mixer - the back to back red diodes block that.

2693. Re: Navy radarman question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 04:23:59 UTC
From: Bob McConnell <rmcconne@NOSPAM.lightlink.com>
Message-ID: <blipovsj71187lae3lbmbrngq087d0h4lf@4ax.com>
Source record: 31860

On Tue, 14 Oct 2003 21:59:55 -0000, hexter@blazenet.net (gudmundur)
wrote:

>Did radar operators fall under 'radioman' rate, or was there a 'radarman'
>rating? I don't see it as a separate specialty anymore. Is it now in the
>'information technologist' rating?
>
>What letters would have been on a Chief's name badge?
>
> Such as
>
> RMCPO K. Smith
>
> or would it be more like
>
> RMC K. Smith
>
>
>Full first and last name, or just first initial?
>
>Thanks for your help, and also your service to our country.

Radio and Radar were separate ratings back in 69-77 while I was in.
Both were primarily operators and the ETs (Electronic Technicians) did
all the repair work.

I was never stationed anywhere that used name tags. But RMC K. Smith
would be the normal mode of address.

Bob McConnell (Ex-RM2 NFIT)
N2SPP

2694. Re: Items FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 04:59:34 UTC
From: neil sly - kc9cjl <no@thanks.com>
Message-ID: <3F8CD435.5060300@thanks.com>
Source record: 31861
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

jim wrote:
> Sorry for the xpost. A good friend of mine, John WB2ISI recently passed
> away and his widow w/3 kids under 18 asked me to try and dispose of his
> equipment as follows:
> AIM 20 amp power supply
> Kenwood 2 meter transceiver TR-7850 slight wear, missing rt side panel.
> Yeasu YS200 Watt/SWR meter w/mic No dents/dings, slight paint wear.
> National NC-33 receiver, fair appearance, no dents/dings, power cord
> needs work.

sorry for the dumb question. About the receiver, does the entire thing
need work, or just the power cord? If so, how much?

I'm interested in purchasing assuming it's nothing too big, that is
unless you're already listed everything on ebay.

-neil KC9CJL
e-mail: neil AT sly DOT us

2695. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 05:04:11 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <fz4jb.1558$7a4.895@newsread4.news.pas.earthlink.net>
Source record: 31862

Yuri Blanarovich <k3bu@aol.comnoSaddam> wrote in message .
> Now "Virtual Spectrum" will allow me to use piece of crappy radio over
> Internet?
> Why?

It's similar to something Lewis Armstrong once said, Yuri:
If you have to ask "why," you'll never understand.
David S.

2696. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 05:40:35 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <4rhpovgdp6bm17l8vnla8321s7u3hp9k76@4ax.com>
Source record: 31863
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

On Tue, 14 Oct 2003 01:27:32 GMT, David Stinson <arc5@ix.netcom.com>
wrote:

>I have today submitted an article to QST magazine entitled
>"Virtual Spectrum: Beating BPL at its own game,"
>detailing a concept that can greatly impact our radio hobby.
>I wanted to "put down a marker" to date the introduction
>of a new ham-radio innovation, and to officially place
>the idea in the public domain, so the maximum amount of
>"tinkering" with it can happen.

With a less pompous start, you might have gotten some more favourable
comments :-).

The problems with high noise levels is of course real for many radio
amateurs and shortwave listeners living in urban areas.

For a few years there have been remotely connected receivers connected
to the internet which can be remotely tuned to any desired frequency
and the audio is transferred over the net. The problem is that only
one user at a time can control the receiver.

However, in order to create a shared receiving station in some quiet
location without huge hardware duplication for each user, would
require that entire bands are digitised (with dynamic range problems)
and the whole band is then transferred to each user. Some DSP software
running in each end user computer would then do the filtering and
detection. If some kind of multicasting is used from the receiving
site, this would give an unlimited number of shared user for each
band.

The other approach would be to digitise the whole band and run
multiple virtual receivers in software, individually controlled by the
remote user, producing a baseband signal, which is then transferred to
the user. The number of simultaneous users would be limited by the
number of virtual receivers (limited by the hardware computational
power) and the throughput of the shared receiving station internet
connection, requiring 10-100 kbit/s for each active user.

A shared remote receiving station is not very compatible with
transmitters on the same site, so the users would have to use their
transmitters at home or pool a number of transmitters on a separate
transmitter site, at least a few kilometers from the receiving site.

Of course the simplest, but not always the most cost effective solution is to have a summer cottage with a broadband connection in some quiet rural location. Move your station to the cottage and when not at the cottage, connect a remotely controllable transceiver to a computer (audio in and out, serial data and PTT) and control the station from your urban home. A remotely controlled antenna rotator also helps a lot. In this way you do not have to suffer from noise, antenna restrictions and neighbours complaining about interference:-). Using some watchdog timers is a good idea, in case the computer or internet connection crashes.

Paul OH3LWR

2697. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 05:52:32 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net.invalid>
Message-ID: <MPG.19f6aaaa721b6ca89899af@news.east.earthlink.net>
Source record: 31864
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 14 Oct 2003 19:56:43 +0100, Don Pearce, said...
> On 14 Oct 2003 11:38:29 -0700, abcdstutzer@evard.ch (Diego Stutzer)
> wrote:
>
> >Hi,
> >Well, I'm really confused.
> >I simulate a simple serial R-C-L-Network (all in series).
> >
> >As far as I know the total (input-)Impedance of the network is:
> >Z = R + jwL - j/(wC) resp. the resonance frequency (where Zin=R) is
> >1/sqrt(L*C).
> >At resonance frequency, the Impedance should be real and therefore in
> >my hummel opinion Voltage and Current schould be in phase.
> >
> >The funny thing is, when i build up such a network in Schematics
> >(Cadence PSD 14.1/Orcad 9.2) and simulate it with the PSpice A/D
> >Simulator, the current is displaced (relative to the voltage) about
> >lambda/4 - obviously not in phase!?
> >
> >Can anyone tell my where I made a mistake?
> >Or why this Problem is showing up?
> >Thanks to anyone reading this and especially to those who post
> >answers.
> >D. Stutzer
>
> The impedance should be R + jwL + 1/(jwC)
>
> d
>
> _____________________________
>
> http://www.pearce.uk.com
>
now that were all done playing with j...

Z = sqrt[R^2 + (jwL)^2 - (1/jwC)^2] = sqrt[R^2 + (jwL)^2 + (j/wC)^2]

this is scary shit.

mike

2698. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 06:11:13 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net.invalid>
Message-ID: <MPG.19f6af0e79f065329899b1@news.east.earthlink.net>
Source record: 31865
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 15 Oct 2003 02:43:27 +0000 (UTC), Reg Edwards, said...
>
> "budgie" <me@privacy.net> wrote in message
> news:3f8caca2.8284559@news.individual.net...
> > On Wed, 15 Oct 2003 02:03:05 +0000 (UTC), "Reg Edwards"
> > <g4fgq.regp@ZZZbtinternet.com> wrote:
> >
> > >Multiply top and bottom of 1/jwC by j (This does not change its value)
> and
> > >you get 1/jwC = minus j/wC.
> > >
> > >Back to school with your algebra.
> >
> > His algebra looks perfectly fine to me. But as others have pointed
> > out, he's left the 2pi out.
>
> --
>
> Yes. I apologise for my remark about school. I gained the incorrect
> impression from the previous replies.
>
> The w in wC stands for omega = 2*Pi*F, the angular frequency.
>
now that were all done playing with j...

don't forget

Z = sqrt{R^2 + [(wL) - (1/wC)]^2]}

and

Z(s) = R + Ls + 1/Cs

which is just plain easier to deal with 'til you need to journey back
into time domain land. no need to leave it f(t) for this deal, though.

all that j stuff... that was scary shit. so easy to make a mistake.
swapping w and f is another good one. only works for f/f stuff.

mike

2699. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 06:33:04 UTC
From: Don Pearce <dxoxnxaxlxd@pearce.uk.com>
Message-ID: <fgqpovsobrtqk06b9m0n7rl9eaasu2nns7@4ax.com>
Source record: 31866
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Tue, 14 Oct 2003 21:30:18 +0200, "Pawel Stobinski" <sq9nry@wp.pl>
wrote:

>Don Pearce wrote:
>> The impedance should be R + jwL + 1/(jwC)
>
>
>1/j = j/j*j = j/-1 = -j
>
>-j/wC = 1/jwC

Quite right - the unusual format fooled me.

d

---

http://www.pearce.uk.com

2700. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 08:18:51 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <pbupovo9l735mdhhpm409866v5qkcj56h5@4ax.com>
Source record: 31867
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 15 Oct 2003 06:11:13 GMT, Active8
<mTHISREMOVEcolasono@earthlink.net.invalid> wrote:

>now that were all done playing with j...
>
>don't forget
>
>Z = sqrt{R^2 + [(wL) - (1/wC)]^2]}
>
>and
>
>Z(s) = R + Ls + 1/Cs
>
>which is just plain easier to deal with 'til you need to journey back
>into time domain land. no need to leave it f(t) for this deal, though.
>
>all that j stuff... that was scary shit. so easy to make a mistake.

Especially so given the limited typography of this particular medium.
I suspect few of us would have a problem if we could only view these
formulae in a suitably appropriate typeface!!!
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2701. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 08:37:57 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmj116$n60fk$1@ID-61331.news.uni-berlin.de>
Source record: 31868

"Ashhar Farhan" <farhan@hotfoon.com> wrote in message
news:8331b126.0310141027.7a6be49a@posting.google.com...
> "Hans Summers" <Hans.Summers@Tudor.Com> wrote in message news:<bmgam6
> > I also tried a direct conversion receiver initially. It doesn't work on
in
> > analogue (i.e. non-PC) analyser, because there are all sorts of
heterodynes
> > of the sweep frequency against the directly converted incoming signal.
Of
> > course I kicked myself afterwards for not thinking of it in advance to
save
> > myself the time of the experiment.
> >
>
> a) i am not proposing a direct direct conversion. i am proposing an up
> conversion exactly like han's MK1. for the second conversion, i am
> suggesting a direct conversion to base-band from the high IF. as you
> rightly point out harmonic mixing is a problem with broad-band direct
> conversion receivers, therefore, you need to have a low-pass or a
> band-pass ahead of a diode mixer working as a product detector.

That wasn't the effect I was worrying about... after all your up mixing and
direct conversion of the VHF IF down to baseband, and low pass filtered it,
you'll end up with say 20KHz of audio baseband to feed into your soundcard.
Unfortunately your sweep rate is also down in the same range. Which is a
problem because whatever method you use for envelope detection of the
baseband will have to react faster than the sweep rate. Though as I say, if
you do it all in software you might be able to untangle it.

> b) my second suggestion is to do the logarithmic calculations
> digitally on the PC. that will simplify the design.

It simplifies the analogue design and complicates the software. 16 bits of
resolution should give adequate dynamic range. Depends what you want to
spend time on... The AD8307 chip is very easy to use, if a little on the
expensive side.

If you have to use the PC to unwrap the envelope detection mess as mentioned
above then you have to do the logarithmic bit in PC anyway.

> c) as for the granuality of the sweep, for finer resolution the sweep
> range will be decreased. that is one way to get higher resolution, the
> other is to slow down the sweep.

Agreed, but if the widest resolution is only 20KHz, then you have to do
5,000 samples to cover 0-100MHz input bandwidth. This fine resolution is

imposed by the relatively narrow bandwidth, otherwise you will suffer significant loss of accuracy on your displayed result. The way I think of it is in terms of frequency spikes falling into the holes between samples. In the extreme imagine taking a VCO going in 100 steps, so making an amplitude measurement at each 1MHz of the range 1-100MHz. Your bandwidth 20KHz. Signals exactly on the MHz will be no problem. But what about a signal at say 12.5MHz... what does it look like on the analyser? It's 500KHz away from the centre of the 20KHz passband for both adjacent measurement points 12MHz and 13MHz. It's fallen into the hole. What you'd see on your display depends on the skirt selectivity of your filters. If you're using a 20KHz soundcard as the filter, the skirts will be quite sharp, so it's likely you'd see almost nothing at 500KHz baseband. This would mean the majority of frequencies in your input spectrum would be absent from your display or at entirely the wrong amplitude.

>
> what kind of a VCO are you using? and how are you ensuring that the
> vco output remains constant throughout the sweep? i expect that the
> VCO's amplitude will also effect the first mixer gain.

I'm just using the internal oscillator of the SA602 mixer/oscillator chip. As you suggest, probably not at all constant ;-)

Hans
http://www.HansSummers.com

2702. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 08:59:12 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmj291$nac5j$1@ID-61331.news.uni-berlin.de>
Source record: 31869

"Avery Fineman" <averyfineman@aol.com> wrote in message
news:20031014171629.11022.00001430@mb-m14.aol.com...
> In article <bmgam6$mgi8n$1@ID-61331.news.uni-berlin.de>, "Hans Summers"
> <Hans.Summers@Tudor.Com> writes:
>
> >"Ashhar Farhan" <farhan@hotfoon.com> wrote in message
> >news:8331b126.0310132158.4a53459c@posting.google.com...

[SNIP!]

>
> Combination of any of the above is possible to make a truly direct
> spectrum analyzer or single-conversion analyzer with an input range
> up to VHF. The concept of truly direct spectrum analysis has already
> been done as a consumer market item accessory. DSOs of today
> from Tektronix and LeCroy already contain varying degrees of DSP
> built in. The development of such a spectrum analyzer will be time-
> consuming and not, in my estimation, an easy project for the casual
> home hobbyist.

Interesting ideas Len. I guess the idea of an all-digital spectrum analyser is similar to that of an all-digital HF amateur radio tranceiver. It can be done but at the current state of the art, it's a difficult proposal for the hobbyist and certainly difficult to obtain the same level of performance as the equivalent analogue device for the same amount of cost and/or effort.

I think it is feasible to use an analogue RF front end under computer control, the a PC controlling the VCO and sampling the logarithmic output. In essence just replacing the oscilloscope as the display system.

Which does return to Farhan's original benefit mentioned, of making a PC based analyser that's easy to assemble and use for hams without expensive oscilloscopes.... which I have to say I'm doubtful of. My analyser works very nicely with a cheap low bandwidth (5MHz) oscilloscope, no expensive one needed. Such scopes are extremely cheap on eBay and elsewhere, practically considered scrap metal. Definitely cheaper than a PC, and without all the attendant problems of software installation, maintenance, virus protection etc etc., that you have with a PC. My oscilloscope works from the moment I switch it on (well, after a few seconds for the tube to warm up!), without any need to run any installed software etc. I don't think you can get easier than that! Like my "old-fashioned" paper based log book. It's always there ready to use, its hard disk never crashes and its more portable than the lightest of laptop PC's. Just some of the reasons why here at G0UPL I have a computer-free shack ;-)

Hans
http://www.HansSummers.com

2703. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 09:46:04 UTC
From: nojunk.c.a.m@banthespam.blueyonder.co.uk
Message-ID: <kh5qovcs2gbqg8je8fa36ql08qaqfnhmeo@4ax.com>
Source record: 31870

I say go for it !

Ignore the doubters and those that don't like the idea. just go for it I say.

It's a good idea and a fully workable one, I've been a hardware/software designer for years and theirs nothing that's so difficult in the idea.

Though what I'd do is for the unit to have its own fast ADC - at least 18-bit. and it's own little cpu - ATmega's are nice and easy to use. Then send the current freq and log level down the RS232 port to a PC.

Happy experimenting !

Clive

2704. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 10:12:38 UTC
From: "Laycock, Christopher" <chris@*nospam*laycock5.fsnet.co.*United-Kingdom*>
Message-ID: <bmj6inbdf1@jura.cc.ic.ac.uk>
Source record: 31871
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

```
R + jwL + 1/(jwC)
= R + jwL -j/(wC)
so at resonance wL=1/(wC)
ie w=1/sqrt(LC)

Chris

"Michael" <michael@clift.com.au> wrote in message
news:ec96e13a.0310141625.1943cc2e@posting.google.com...
> > The impedance should be R + jwL + 1/(jwC)
> >
>
> You sure?, how do the j parts cancel at resonance if they are both added?+
```

2705. Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 10:28:06 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <jt7qovsgjhmkasfgm9gfvcd3flars28ln9@4ax.com>
Source record: 31872
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hi chaps,

Heading sums it up. I'm using a 74HC04 to 'square-off' a sine wave,
but it's causing a fair amount of ringing on the output signal's highs
and lows which appears to be finding its way through to the eventual
final stage. How do I best eliminate (or at least drastically reduce)
this nuisance? The square wave frequency is 8Mhz., btw.

Thanks,

p.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2706. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 10:46:05 UTC
From: mike <spamme0@juno.com>
Message-ID: <3F8D256D.5080908@juno.com>
Source record: 31873
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:
> Hi chaps,
>
> Heading sums it up. I'm using a 74HC04 to 'square-off' a sine wave,
> but it's causing a fair amount of ringing on the output signal's highs
> and lows which appears to be finding its way through to the eventual
> final stage. How do I best eliminate (or at least drastically reduce)
> this nuisance? The square wave frequency is 8Mhz., btw.
>
> Thanks,
>
> p.

If you put a low inductance termination resistance right at the pin with
no wire and a low inductance bypass cap at the power supply and properly
introduce the signal to a scope, is the ringing still there? If it
ain't, the chip ain't causing it. Does the output ring with a square
wave input? Ringing is often more about the
interconnect than the chip...often...not always...
Oscillation, which can look like ringing is often about the input drive
for low dv/dt inputs.
Observed ringing, as opposed to Actual ringing can also be all about
measurement technique.

Can you be more numerical about "fair amount"? Amplitude and frequency
of the ring? Getting rid depends on how much you got and how much you
can stand and what you're driving.
mike

--
Bunch of stuff For Sale and Wanted at the link below.
laptops and parts Test Equipment
4in/400Wout ham linear amp.
Honda CB-125S
400cc Dirt Bike 2003 miles $550
Police Scanner, Color LCD overhead projector
Tek 2465 $800, ham radio, 30pS pulser
Tektronix Concept Books, spot welding head...
http://www.geocities.com/SiliconValley/Monitor/4710/

2707. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 10:47:40 UTC
From: Don Pearce <dxoxnxaxlxd@pearce.uk.com>
Message-ID: <499qov8toc61ir51dgv44nfrcsr6mtbh8k@4ax.com>
Source record: 31874
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 15 Oct 2003 11:28:06 +0100, Paul Burridge
<pb@osiris.notthisbit.co.uk> wrote:

>
>Hi chaps,
>
>Heading sums it up. I'm using a 74HC04 to 'square-off' a sine wave,
>but it's causing a fair amount of ringing on the output signal's highs
>and lows which appears to be finding its way through to the eventual
>final stage. How do I best eliminate (or at least drastically reduce)
>this nuisance? The square wave frequency is 8Mhz., btw.
>
>Thanks,
>
>p.

Layout, layout and layout.

Decouplers close to chips, short ground leads. Also be quite certain
that the ringing is really there. Ditch the ground lead from the scope
probe and make a very short one by wrapping stiff wire round the earth
ring at the end of the probe and leaving a piece as long as the probe
tip sticking out. Get up close to the chip signal and ground pins and
see if the ringing is gone.

d

----

http://www.pearce.uk.com

2708. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 11:42:03 UTC
From: John Fields <jfields@austininstruments.com>
Message-ID: <1dbqov4g64ff4mtulis3rjgrddcj8d0433@4ax.com>
Source record: 31875
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On 14 Oct 2003 17:51:11 -0700, k7itm@aol.com (Tom Bruhns) wrote:

>Which voltage and which current? Clearly the voltage across the
>capacitor will always be pi/2 relative to the current in that
>capacitor, and the same (but opposite sign) for an inductor. Also,
>are you doing an AC or a transient analysis? If transient, are the
>transients settled, are you really on the resonance frequency, and are
>you simulating with sufficient time resolution? Oh, and I'm not quite
>sure what you mean by "lambda/4" phase shift. Is that degrees or
>radians, and what's lambda?

Since he calculated the resonant frequency of the circuit using

f = 1/sqrt(L*C),

his answer will always be a frequency 6.28 times higher than it should
be, so the reactance of the inductor will be greater than the reactance
of the capacitor, making the phase angle positive.

"Lambda" is usually taken to mean wavelength, so "lambda/4" would mean a
quarter wavelength; in this context, 90ï¿½, the approximate phase
difference between his simulated voltage and current.

--
John Fields

2709. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 11:55:31 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmjcje$njqoo$1@ID-61331.news.uni-berlin.de>
Source record: 31876

<nojunk.c.a.m@banthespam.blueyonder.co.uk> wrote in message
news:kh5qovcs2gbqg8je8fa36ql08qaqfnhmeo@4ax.com...
>
> I say go for it !
>
> Ignore the doubters and those that don't like the idea. just go for it I
say.
>
> It's a good idea and a fully workable one, I've been a hardware/software
> designer for years and theirs nothing that's so difficult in the idea.
>
> Though what I'd do is for the unit to have its own fast ADC - at least
18-bit.
> and it's own little cpu - ATmega's are nice and easy to use. Then send the
> current freq and log level down the RS232 port to a PC.

If you have log before ADC I think you need a superhet conversion rather
than direct conversion to baseband, for the reasons I mentioned earlier. If
you just ADC'ed the lot there'd be some chance of sorting the confusion out
in software, though it'd take a brave heart to try it.

>
> Happy experimenting !
>
> Clive
>

2710. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 12:31:24 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net.invalid>
Message-ID: <MPG.19f7082caff2fc139899b4@news.east.earthlink.net>
Source record: 31877
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

On Wed, 15 Oct 2003 09:18:51 +0100, Paul Burridge, said...
> On Wed, 15 Oct 2003 06:11:13 GMT, Active8
> <mTHISREMOVEcolasono@earthlink.net.invalid> wrote:
>
> >now that were all done playing with j...
> >
> >don't forget
> >
> >Z = sqrt{R^2 + [(wL) - (1/wC)]^2]}
> >
> >and
> >
> >Z(s) = R + Ls + 1/Cs
> >
> >which is just plain easier to deal with 'til you need to journey back
> >into time domain land. no need to leave it f(t) for this deal, though.
> >
> >all that j stuff... that was scary shit. so easy to make a mistake.
>
> Especially so given the limited typography of this particular medium.
> I suspect few of us would have a problem if we could only view these
> formulae in a suitably appropriate typeface!!!
>
what pre tell, is a typeface that would make it hard? wing-dings?

i admit, even in HTML with arial or fixed-pitch, where you have sub and
super tags and greek letter codes, you can't do much. i tried a few free
math notation tools for HTML and wasn't happy. plus you need a plugin
for most if not all. W^3C has a standard. i'd like to see more math
capabiliies in browsers. we could attach formulae without violating the
no bianaries rule. of course microshaft and standards will probably
never be seen in the same line of code.

i still don't see why text based math legibility is font dependant. i
see i could have eliminated some clarifying parens by

--
| 2 1 2 |
sqrt | R + ----- | or a 1/2 power instead of sqrt
| jwC |
--
created by Andy's ASCII-Circuit v1.22.310103 Beta www.tech-chat.de

does that also foul up?

brs,
mike

2711. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 12:34:45 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <fheqov8ekcejfnmmbo7f8cgubsp9iv8t7h@4ax.com>
Source record: 31878
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 15 Oct 2003 11:47:40 +0100, Don Pearce
<dxoxnxaxlxd@pearce.uk.com> wrote:

>Layout, layout and layout.
>
>Decouplers close to chips, short ground leads. Also be quite certain
>that the ringing is really there. Ditch the ground lead from the scope
>probe and make a very short one by wrapping stiff wire round the earth
>ring at the end of the probe and leaving a piece as long as the probe
>tip sticking out. Get up close to the chip signal and ground pins and
>see if the ringing is gone.

Thanks Don. I'll try that suggestion. I've read Mike's reply but I
think he's pretty much saying the same thing as you.
I've ended up with a decoupling cap that straddles diagonally over the
top of the IC. For some reason, on this chip, the supply and gnd pins
are on opposite corners, which is a nuisance, so the cap's leads are
longer than I'd have liked. I suppose this sort of situation doesn't
help?
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2712. contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 12:56:47 UTC
From: w4pqw@cox.net
Message-ID: <84b5ffd4.0310150456.14ac357e@posting.google.com>
Source record: 31879

anyone have a formula to mix a good contact cleaner..tnx Harold W4PQW

2713. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 13:11:00 UTC
From: Frank Buss <fb@frank-buss.de>
Message-ID: <bmjh14eeg1@newsreader2.netcologne.de>
Source record: 31784
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge <pb@osiris.notthisbit.co.uk> wrote:

> I've ended up with a decoupling cap that straddles diagonally over the
> top of the IC. For some reason, on this chip, the supply and gnd pins
> are on opposite corners, which is a nuisance, so the cap's leads are
> longer than I'd have liked. I suppose this sort of situation doesn't
> help?

There are socket with integrated caps:

http://www.mill-max.com/images/products/pdf/021.pdf

--
Frank Buï¿½, fb@frank-buss.de
http://www.frank-buss.de, http://www.it4-systems.de

2714. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 13:38:53 UTC
From: Boris Mohar <borism@sympatico.ca>
Message-ID: <l2jqov4kh4kmnt657bq4ohmsg5n0qqc6hl@4ax.com>
Source record: 31880
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 15 Oct 2003 13:34:45 +0100, Paul Burridge <pb@osiris.notthisbit.co.uk>
wrote:

>On Wed, 15 Oct 2003 11:47:40 +0100, Don Pearce
><dxoxnxaxlxd@pearce.uk.com> wrote:
>
>>Layout, layout and layout.
>>
>>Decouplers close to chips, short ground leads. Also be quite certain
>>that the ringing is really there. Ditch the ground lead from the scope
>>probe and make a very short one by wrapping stiff wire round the earth
>>ring at the end of the probe and leaving a piece as long as the probe
>>tip sticking out. Get up close to the chip signal and ground pins and
>>see if the ringing is gone.
>
>Thanks Don. I'll try that suggestion. I've read Mike's reply but I
>think he's pretty much saying the same thing as you.
>I've ended up with a decoupling cap that straddles diagonally over the
>top of the IC. For some reason, on this chip, the supply and gnd pins
>are on opposite corners, which is a nuisance, so the cap's leads are
>longer than I'd have liked. I suppose this sort of situation doesn't
>help?

I was once called down to the production testing by a newly hired tech with a
similar complaint of excessive ringing. Turned out that the scope was grounded
to the circuit by a separate banana lead. The scope probe ground was removed
"because it was is not convenient" although there were plenty of local ground
point provided on the board. There was some residual ringing in his ears
afterwards.

--

Regards,

Boris Mohar

Got Knock? - see:
Viatrack Printed Circuit Designs http://www3.sympatico.ca/borism/
Aurora, Ontario

2715. Re: Help needed understanding the ANC-4 design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 13:56:39 UTC
From: "mkelly@powerup.com.au" <mkelly@powerup.com.au>
Message-ID: <3F8D5217.F068B9A3@powerup.com.au>
Source record: 31881
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.basics,sci.electronics.design,alt.engineering.electrical

I wonder if they use fets as variable capacitors to tune the
resonant circuits? Works well in VFOs.

I will study it. I have one but this is the 1st time I've
seen
a schematic. Thanks

Murray vk4aok

2716. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 14:05:08 UTC
From: James Beck <jim@reallykillersystems_INVALID_.com>
Message-ID: <MPG.19f71e17d318cc549898d6@news.east.earthlink.net>
Source record: 31882
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <fheqov8ekcejfnmmbo7f8cgubsp9iv8t7h@4ax.com>,
pb@osiris.notthisbit.co.uk says...
> On Wed, 15 Oct 2003 11:47:40 +0100, Don Pearce
> <dxoxnxaxlxd@pearce.uk.com> wrote:
>
> >Layout, layout and layout.
> >
> >Decouplers close to chips, short ground leads. Also be quite certain
> >that the ringing is really there. Ditch the ground lead from the scope
> >probe and make a very short one by wrapping stiff wire round the earth
> >ring at the end of the probe and leaving a piece as long as the probe
> >tip sticking out. Get up close to the chip signal and ground pins and
> >see if the ringing is gone.
>
> Thanks Don. I'll try that suggestion. I've read Mike's reply but I
> think he's pretty much saying the same thing as you.
> I've ended up with a decoupling cap that straddles diagonally over the
> top of the IC. For some reason, on this chip, the supply and gnd pins
> are on opposite corners, which is a nuisance, so the cap's leads are
> longer than I'd have liked. I suppose this sort of situation doesn't
> help?
>

How about swapping the '04 for a '14, AND make sure it is properly
decoupled?
Maybe the '04 is getting a little funky in the zone between a valid high
and low?

Jim

2717. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 14:23:58 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8D5876.42B57C45@ix.netcom.com>
Source record: 31883
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Paul Keinanen wrote:

> With a less pompous start, you might have gotten some more favourable
> comments :-).

I certainly don't mean to be pompous, at least on this matter.
I've tried to make clear in the body of the post that
I'm not the brightest candle on the cake, that I
want to get the idea out so people with more talent
than me can work with it.
As for the unkind comments of a few:
Hecklers, cynics and naysayers greet anyone who proposes something new.
It comes with the territory.

> For a few years there have been remotely connected receivers connected
> to the internet which can be remotely tuned to any desired frequency..

Yes, Yes... Am I just not being clear, or are people not
closely reading that to which they reply? Probably a little of both.

We don't WANT to talk over an Internet telephone line
to some remote base station.

That's not the point.
Please read it again:
That's NOT the point. < (repeat as necessary)

We want to *use our own equipment, right here.*
Noise, antenna bans and LEGAL restrictions
have kept us from the work we want to do.
This system gets around the obstacles by creating
a second "ether" (ionosphere, etc.; pick the term you like)
which you control and *you* regulate.
The two main points are:

1. To make possible radio operations of any kind that
were once impossible, for any number of reasons.

2. To "harvest" clean spectrum in a quiet location and
bring it to your receiver, so you can continue
your radio hobby regardless of what BPL or any
other interferance source does to your local radio environment.

The system is intentionally simple and limited,
so lots of people can tinker with it in short order.

I have faith that those many people
who are sharper than me will expand the concept.

I've had a heck of a lot of fun working on this.
Especially enjoy the ability to record radio spectrum.
I have one hour-long segment on CD centered on 3932 KC.
It contains seven separate, distinct and interesting SSB QSOs
that I can listen to at my leisure, plus many other stations.
And a lot of us military radio people think having a
nation-wide net of WWII BC-611 handie-talkies,
all able to talk to each other in real time,
would be an absolute gas.

Here's something cool: I've long been involved in longwave
work on the 1750 meter band (160-190 KC). This winter,
I plan to take a laptop and a V.S. remote front-end
to several locations and record an hour or so of the band
from 170 to 190 KC. I can then take them home, run
the recordings through a V.S. transverter, and hunt for
all those weak LOWFER signals in the comfort of my own home.
It's still just as challenging to find them, but I get some
major advantages. First, I'm not off on frequency "A" and
missing an opening to station "B;" I can "rewind" and go
look for him, too. Second, I'm not sitting in the dark,
freezing and trying to tune my audio filters with numb hands.

Anyway- it's a tool people can use if they want.
73 DE Dave AB5S

2718. Re: Navy radarman question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 14:38:07 UTC
From: KeyBoard In The Wilderness <Keyboard73@zilcha.com>
Message-ID: <jZcjb.66108$vj2.43966@fed1read06>
Source record: 31884

US NAvy WWII rates at URL:
http://www.cv6.org/company/muster/organization.htm

Sez:
Radarman RdM Stand radar watch and operate radar equipment.
Radio Electrician RE
Radio Technician RT Maintain radio equipment.
Radioman RM Transmit and receive radio messages. Encipher and decipher
messages.

For current ratings see URL;
http://www.history.navy.mil/faqs/faq78-2.htm#anchor17021

RD - Radarman

RdM - Radarman

RM - Radioman

RMN - Radioman (Radioman)

RMT - Radioman (Telegrapher)

RT - Radio Technician

RT(SR) - Radio Technician (Ship Repair)

"gudmundur" <hexter@blazenet.net> wrote in message
news:voosersb3faa6@corp.supernews.com...
> Did radar operators fall under 'radioman' rate, or was there a 'radarman'
> rating? I don't see it as a separate specialty anymore. Is it now in the
> 'information technologist' rating?
>
> What letters would have been on a Chief's name badge?
>
> Such as
>
> RMCPO K. Smith
>
> or would it be more like
>
> RMC K. Smith
>
>
> Full first and last name, or just first initial?

>
> Thanks for your help, and also your service to our country.
>

2719. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 17:54:14 UTC
From: nojunk.c.a.m@banthespam.blueyonder.co.uk
Message-ID: <592rovckhtvrjgashdje0it975s1o7hasj@4ax.com>
Source record: 31885

>If you have log before ADC I think you need a superhet conversion rather
>than direct conversion to baseband, for the reasons I mentioned earlier. If
>you just ADC'ed the lot there'd be some chance of sorting the confusion out
>in software, though it'd take a brave heart to try it.

So use 2 18-bit ADC's (sound card maybe 16-bit but you won't get 90dB range from it, you'll find a fair bit of noise from your average sound card - well the first 3 bits will be noisy), one with the I and the other with the Q (from the DC output) and do it that way ?

Clive

2720. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 18:11:44 UTC
From: Bob Stein <w6nbi@arrl.net>
Message-ID: <3F8D8DE0.4070801@arrl.net>
Source record: 31886

w4pqw@cox.net wrote:
> anyone have a formula to mix a good contact cleaner..tnx Harold W4PQW

Don't even try. Buy a small quantity of Deoxit, available at electrical supply houses. It is a bit pricey, but the smallest quantity will last for years (it is used VERY sparingly). It is unquestionably the best contact cleaner/lubricant that has ever been made.

Bob, W6NBI

2721. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 18:52:34 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310151052.3ec043ea@posting.google.com>
Source record: 31887

"Hans Summers" <Hans.Summers@Tudor.Com> wrote in message news:<bmj291

> Interesting ideas Len. I guess the idea of an all-digital spectrum analyser
> is similar to that of an all-digital HF amateur radio tranceiver. It can be
> done but at the current state of the art, it's a difficult proposal for the
> hobbyist and certainly difficult to obtain the same level of performance as
> the equivalent analogue device for the same amount of cost and/or effort.

I have a PC-based oscilloscope that does something pretty close. It
digitizes at the rate of 4ns per sample (taking 8bit samples
unfortunately) and generates an FFT display of magnitude/power
spectrum/power density).

> I think it is feasible to use an analogue RF front end under computer
> control, the a PC controlling the VCO and sampling the logarithmic output.
> In essence just replacing the oscilloscope as the display system.

I guess, it is not necessary to PC control the VCO. Sweep generators
are easy to come by. probably, if there is a way to feed the sweep
into the PC to generate the X-axis, then that might be a better
alternative.

- farhan

2722. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 19:06:19 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310151106.163545f5@posting.google.com>
Source record: 31888

i just ran a check with the sound card:

a) the sound card contributes noise. i shoved in a 50 ohms resistor into the mic input, cranked up the mic level, save a 'silent' wave file and saw it through a hex editor. There is a random noise of about 2-3 bits. That means, the effective range is not 16 bits but 12 bits. 12 bits can represent 4096-1 as the highest number. That means, the dynamic range is 4096 squared: about 16 million or 72db. A little low really for interesting work. there isnt enough 'roof' to resolve a spur about 60db down without touching the grass

b)the sampling is at 44khz. some of the posts got confused between 20khz b/w and 20khz sampling rate.

hans is right about the PC being a kludge when compared to an oscilloscope. I live in India and second-hand oscilloscopes are a rarity. The new ones cost an engineer's whole year's salary. I have purchased a tektronix 454 last month on ebay for $300, it is still on its way to India. So, while i can imagine that in a number of more developed countries oscilloscopes are not really a problem, they do remain a problem in many parts of the world.

More often than not, an amateur already has a PC. Adding a simple hardware to be able to do quick and dirty spectrum analysis might be an interesting option. As Wes writes in SSD and EMRFD, the purpose of test instruments is to help with the projects on hand, rather than be projects themselves (then he went on to homebrewing a spectrum analyser, hehe).

- farhan

2723. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 20:26:44 UTC
From: James Nipper <jnipper@nospam.fdn.com>
Message-ID: <d4ydnT2vI-wDMBCiRVn-vQ@comcast.com>
Source record: 31889
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Wouldn't it be more simple just to hook up all of your ham gear to a telephone line, and pretend that you are hamming via the telephone ?

Seems a much more simple approach to me, and the same outcome-- you would be **using** (hee hee hee) ham equipment, while talking on the phone !!!

73 de Jim K4PYT

2724. Trouble with squelching on HTX-100

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 21:14:18 UTC
From: Steve Kudrick <skudrick@ptdprolog.net>
Message-ID: <KMijb.1212$_i.108959@nnrp1.ptd.net>
Source record: 31890

My Radio Shack HTX-100 mutes when I press the CW button. Only VERY strong signals 'almost' break the squelch. The radio ws previously owned. Plesae email me at skudrick@ptd.net if any suggestions. Thanks! N3CNR

2725. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 21:25:30 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns9415E5094122kierenmail@195.129.110.131>
Source record: 31892

...snip
>
> i still don't see why text based math legibility is font dependant. i
> see i could have eliminated some clarifying parens by
>
> - -
> | 2 1 2 |
> sqrt | R + ----- | or a 1/2 power instead of sqrt
> | jwC |
> - -
> created by Andy's ASCII-Circuit v1.22.310103 Beta www.tech-chat.de
>
> does that also foul up?
>
> brs,
> mike
>

Oh, Mike. That's ugly!! Strangely, when I see it in this window I type replies in, it's much clearer! Hey, ho. I agree with you about viewing these things in browsers... always hard. For my money, the first ones in this chain were as good as any I've seen

2726. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 21:27:09 UTC
From: Spajky <Spajky##@volja.net>
Message-ID: <keerov88bro5nt531bgpqhep7nlrrckm6o@4ax.com>
Source record: 31891

On Wed, 15 Oct 2003 11:11:44 -0700, Bob Stein <w6nbi@arrl.net> wrote:

>w4pqw@cox.net wrote:
>> anyone have a formula to mix a good contact cleaner..tnx Harold W4PQW
>
>Don't even try. Buy a small quantity of Deoxit, available at electrical
>supply houses. It is a bit pricey, but the smallest quantity will last
>for years (it is used VERY sparingly). It is unquestionably the best
>contact cleaner/lubricant that has ever been made.

better than famous WD-40?

-- Regards, SPAJKY
& visit site - http://www.spajky.vze.com
Celly-III OC-ed,"Tualatin on BX-Slot1-MoBo!"
E-mail AntiSpam: remove ##

2727. Re: Taking apart Hustler mobile mast?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 21:39:18 UTC
From: Jake Donovan <jakedonovan_2nospam@cox.net>
Message-ID: <98jjb.76977$AH4.7339@lakeread06>
Source record: 31893
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Martin,

Why do you want to take it apart? Is the fold over cracked? (they are infamous for that.) I have 2 former fold over masts that I cut the knurl off and slid a tube up over the joint. A couple of rivets and a sprint load at the resonator end and I haven't bent one yet.

JD

"Martin" <marty123@optonline.net> wrote in message news:liiib.109121$Ri4.33496386@news4.srv.hcvlny.cv.net...
> While I'm waiting hopefully for some help from New-Tronics, I thought I
> would
> ask here if anyone would know how to take apart a Hustler mobile mast
> without wrecking it?
>
> The joint where the mast folds has two screws which I can remove, but the
> fit between the sections seems impossible to budge.
>
> Anyone have any actual experience with this?
>
> Marty K1FHR
>
>
>
>
>
>
>
>

2728. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 22:42:48 UTC
From: Bob Stein <w6nbi@arrl.net>
Message-ID: <3F8DCD68.5050306@arrl.net>
Source record: 31894

Spajky wrote:
> On Wed, 15 Oct 2003 11:11:44 -0700, Bob Stein <w6nbi@arrl.net> wrote:
>
>
>>w4pqw@cox.net wrote:
>>
>>>anyone have a formula to mix a good contact cleaner..tnx Harold W4PQW
>>
>>Don't even try. Buy a small quantity of Deoxit, available at electrical
>>supply houses. It is a bit pricey, but the smallest quantity will last
>>for years (it is used VERY sparingly). It is unquestionably the best
>>contact cleaner/lubricant that has ever been made.
>
>
> better than famous WD-40?
>
> -- Regards, SPAJKY
> & visit site - http://www.spajky.vze.com
> Celly-III OC-ed,"Tualatin on BX-Slot1-MoBo!"
> E-mail AntiSpam: remove ##

Infinitely better. Besides, WD-40 is not a lubricant, it is a solvent.
And it leaves a residue.

Bob, W6NBI

2729. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 22:48:59 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8DCEB7.23B6424D@ix.netcom.com>
Source record: 31895
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

When they install BPL in your neighborhood, Jim,
drop me a line. I'll explain it all to you.... again...
D.S.

James Nipper wrote:
>
> Wouldn't it be more simple just to hook up all of your ham gear to a
> telephone line, and pretend that you are hamming via the telephone ?
>
> Seems a much more simple approach to me, and the same outcome-- you would be
> **using** (hee hee hee) ham equipment, while talking on the phone !!!
>
> 73 de Jim K4PYT

2730. CQUAM stereo decoding

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 23:11:42 UTC
From: tech.stevea@talk21.com
Message-ID: <c5e0f038.0310151511.74796d21@posting.google.com>
Source record: 31896

I am looking to develop / build an AM stereo decoder, for 455kHz.

1. Can anyone point to a reference of how to decode CQUAM using standard RF building blocks (eg. multipliers, PLLs, filters).

2. Motorola seemed to make IC CQUAM stereo decoders (MC13320, MC13322, MC13328). Does anyone know if these are still available, and if so, WTB?

3. Does anyone have any datasheets on the chips mentioned above?

Cheers,

Steve A

2731. Electrolytic caps question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 23:37:21 UTC
From: mwh87120@yahoo.com
Message-ID: <d9ce95a5.0310151537.7f3029c2@posting.google.com>
Source record: 31747
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have obtained some surplus linear regulated power supplies. The
date code for the electrolytic caps in the filter section are late
1993. I've not powered these
supplies up. I know that these caps have a limited life. These caps
are also
harder to come by due to the proliferation of switch mode power
supplies and
their lower values. Any ideas/suggestions to minimize stress to these
caps
or even rejuvinate, if possible, these caps. I'm aware of inrush
current at
supply turn on and I plan to minimize that. Any other ideas or
suggestions???

2732. Re: Electrolytic caps question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 23:41:20 UTC
From: kludge@panix.com
Message-ID: <bmklv0$gs0$1@panix2.panix.com>
Source record: 31748
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Mark <mwh87120@yahoo.com> wrote:
>I have obtained some surplus linear regulated power supplies. The
>date code for the electrolytic caps in the filter section are late
>1993. I've not powered these
>supplies up. I know that these caps have a limited life. These caps
>are also
>harder to come by due to the proliferation of switch mode power
>supplies and
>their lower values. Any ideas/suggestions to minimize stress to these
>caps
>or even rejuvinate, if possible, these caps. I'm aware of inrush
>current at
>supply turn on and I plan to minimize that. Any other ideas or
>suggestions???

You have three choices:

1. Bring the things up slowly, on a variac. This allows the capacitors
to slowly reform.

2. Bring the things up for a while with a 60W light bulb in series, then
apply full power. Same basic principle, if you don't have a variac, but
slower.

3. Apply full power. If any caps blow, they were marginal and should have
been replaced anyway.

I tend to be a fan of method #3, but I can understand the arguments in favor
of the first two. But caps that are only a decade old? Don't sweat it.
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2733. Re: V and I not in phase at resonance Frequency in RLC network?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-15 23:59:47 UTC
From: michael@clift.com.au
Message-ID: <ec96e13a.0310151559.e9d01fd@posting.google.com>
Source record: 31749
Cross-posted to: sci.electronics,sci.electronics.basics,sci.electronics.design,rec.radio.amateur.homebrew

>
> all that j stuff... that was scary shit. so easy to make a mistake.
> swapping w and f is another good one. only works for f/f stuff.
>
> mike

I get a bit scared of all the j's too, I prefer polar. Usually you
want a magnitude and angle in the end result anyway.

2734. Re: HF SSB E mail/web portal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 02:18:44 UTC
From: Williams <willi6@erols.com>
Message-ID: <3F8E0004.E8138D5@erols.com>
Source record: 31750

Richard,

I don't know if you ever got the response you needed on this. In my quick scan of the responses, I did not see any references to the very common use of HF/SSB as a transport for E-Mail in the maritime services. Of course, I'm not sure how picky they are about your station being on a floating platform, so that may be a problem. That said, I believe INMARSAT started out as a tool for the high seas and is now used by everyone and everywhere. If that does not work, check out the available equipment and perhaps seek an experimental license to explore and invent a new service.

You might try the following:

http://www.marinenet.net/

http://www.cruiseemail.com/locations.html

http://www.sailmail.com/

http://www.yachtcom.co.uk/SSB-email/

http://www.shipcom.com/email.htm

http://www.hfradio.com/

http://www.rodgersmarine.com/links.htm

http://www.globewireless.com/

These are a few URLs that may point you in the right direction. Much of this is aimed at the casual sailor on a small sailboat or yacht with modest power (100-250 Watts) and a vertical whip antenna, so it is pretty basic stuff.

73, Dave

Dave Williams - K7HMP

= = = = = = = = = =

Richard Hosking wrote:
>
> No doubt this is an easy question, but is there a way of interfacing to the
> web via HF SSB/data?
> I want to be able to do this from a remote location portable/backpack with
> no mobile phone access and low power. The nearest infrastructure could be
> several hundred km away
> I could use amateur bands or possibly a commercial solution if available.

> What would be the data format and where would I get more info on this?
>
> Thanks
> Richard

2735. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 02:19:03 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F8E003F.80A8556B@bellatlantic.net>
Source record: 31751

w4pqw@cox.net wrote:
>
> anyone have a formula to mix a good contact cleaner..tnx Harold W4PQW

As Bob indicated, get Deoxit. You can order it from
the manufacturer (Caig). Their online store can be found at:
http://www.caig.com/

2736. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 02:32:46 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bml00g$1i0$1@bob.news.rcn.net>
Source record: 31752
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

David Stinson wrote:

>
> Here's something cool: I've long been involved in longwave
> work on the 1750 meter band (160-190 KC). This winter,
> I plan to take a laptop and a V.S. remote front-end
> to several locations and record an hour or so of the band
> from 170 to 190 KC. I can then take them home, run
> the recordings through a V.S. transverter, and hunt for
> all those weak LOWFER signals in the comfort of my own home.

This is in essence what NSA does with as much of the RF spectrum as they can, all over the globe. They have no idea what they have, but if you can tell them the time, the general location, and the frequency, they will hook up a receiver onto their data log, and look around for the signal. This is just what they did when that KAL plane was shot down, and NSA came up with the com signals of the fighters that did the deed.

-Chuck

2737. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 03:22:00 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <s9ojb.2646$s93.187@newsread3.news.pas.earthlink.net>
Source record: 31754

Actually, I'd be tempted to rig a phasing type conversion to baseband from the 300 MHz or whatever the first IF is....

At best it might get 40-50 dB of suppression of the other sideband, but it would remove most of the undesired spurs and something like an AD8307 log detector could be used to convert to a DC level.

After that, feed it into an A/D converter and into a PC using the printer port.

Given a dual channel A/D converter, I'd also sample the tuning voltage for the VCO and feed that into the PC as well.

All of this would move the programming from a possibly complex DSP problem to a relatively simple Parallel port input and then number crunching to a display.

There would be spur responses 40-50 dB down, but generally speaking, it should give useful information.

==========

Granted, one problem is how fast the data transfer is through the parallel port, that would limit how many samples/second the system could process.

There is the second issue, about maximum sweep speed Vs the IF bandwidth, and the maximum useful bandwidth would be a function of the Phase shift detector system. Still, I think this approach has some possibilities.

Almost forgot... WIN XP and WIN2000 make getting to the parallel port for something like this MUCH more difficult then it was under WIN 98.

You could use RS232 and perhaps two COM ports to allow getting the AD8307 and the VCO sweep voltage in parallel, so to speak. Once again, it would be a limit on how many samples per second the systme could provide.

If you want to be more complex, you could feed OUT commands to a synthesizer to tune the VCO and this would allow really slow sweeps and very precise accuracy, but it complicates the design.

I have to admit, I've been looking at the synthesizer design John Miles, KE5FX, did which tunes from 1 GHz to 2 GHz with very fine tuning steps and all osrts of ideas for various test gear built around it keep dancing in my mind. I suppose I should see if I can build one and get some idea as to the cost and so on. But it'd make a wonderful starting point for a digitally tuned spectrum analyzer !!!

Admitted, the close in phase noise could limit dynamic range 'way below the range pssible with an AD8307 detector, but even so the frequency accuracy of an analyzer would be fantastic.

=========

Overall, Avery is probably correct that the result may be a lot of work an less than perfect performance, but as a homebrewer it does seem like a fun way to get something fairly useful and learn a lot as the project goes on.

Jim Pennell
N6BIU

2738. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 04:25:33 UTC
From: Gene Storey <nospam@cox.net>
Message-ID: <15pjb.409$t65.145@news1.central.cox.net>
Source record: 31755
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"Chuck Harris" <cfharris@erols.com> wrote
>
> This is in essence what NSA does with as much of the RF spectrum
> as they can, all over the globe. They have no idea what they have,
> but if you can tell them the time, the general location, and the
> frequency, they will hook up a receiver onto their data log, and
> look around for the signal. This is just what they did when that
> KAL plane was shot down, and NSA came up with the com signals of
> the fighters that did the deed.

Not only that, they decrypted the secure voice! If you listen to the audio
you can tell it was originally narrow-band secure voice, which was common
in the Soviet Air Defense forces and interceptors.

2739. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 09:32:41 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmlojp$n9fm7$1@ID-61331.news.uni-berlin.de>
Source record: 31756

>
> > I think it is feasible to use an analogue RF front end under computer
> > control, the a PC controlling the VCO and sampling the logarithmic
output.
> > In essence just replacing the oscilloscope as the display system.
>
> I guess, it is not necessary to PC control the VCO. Sweep generators
> are easy to come by. probably, if there is a way to feed the sweep
> into the PC to generate the X-axis, then that might be a better
> alternative.

Having the PC control the VCO via a digital-to-analogue converter gives the PC a lot of control over the sweep rate etc. You could then control the sweep rate, and zoom in on areas of your choice, via the PC rather than analogue controls. But either way would work fine. You can feed the sweep into the PC with a simple analogue-to-digital converter no problem.

Hans

2740. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 09:38:03 UTC
From: Ian Buckner <Ian_Buckner@agilent.com>
Message-ID: <1066297085.216257@cswreg.cos.agilent.com>
Source record: 31757
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Paul Burridge" <pb@osiris.notthisbit.co.uk> wrote in message
news:fheqov8ekcejfnmmbo7f8cgubsp9iv8t7h@4ax.com...
> On Wed, 15 Oct 2003 11:47:40 +0100, Don Pearce
> <dxoxnxaxlxd@pearce.uk.com> wrote:
>
> >Layout, layout and layout.
> >
> >Decouplers close to chips, short ground leads. Also be quite
certain
> >that the ringing is really there. Ditch the ground lead from the
scope
> >probe and make a very short one by wrapping stiff wire round the
earth
> >ring at the end of the probe and leaving a piece as long as the
probe
> >tip sticking out. Get up close to the chip signal and ground pins
and
> >see if the ringing is gone.
>
> Thanks Don. I'll try that suggestion. I've read Mike's reply but I
> think he's pretty much saying the same thing as you.
> I've ended up with a decoupling cap that straddles diagonally over
the
> top of the IC. For some reason, on this chip, the supply and gnd
pins
> are on opposite corners, which is a nuisance, so the cap's leads are
> longer than I'd have liked. I suppose this sort of situation doesn't
> help?
> --
>
> "Windows [n.], A thirty-two bit extension and GUI shell to a sixteen
bit patch
> to an eight bit operating system originally coded for
a four bit
> microprocessor and produced by a two bit company."

The 'HC and 'AC families (at least the simpler parts) can be made to
give
extremely clean square wave outputs, but as Don and Mike say, you
have to be careful.

The decoupling cap you mention above sounds like a leaded part, with a
very substantial amount of lead inductance when mounted like that. For
good results, ideally you would have planes for power and ground on

adjacent
layers in the PCB under the chip. That allows you to put the decoupler
at
either end of the chip, and still retain low inductance. Adjacent
planes also
acts as a small but very good at HF capacitor.

Boris makes a good point about the size of the loop between probe tip
and
ground. You can get little socket adapters which you solder to the
board to
minimise this.

Regards
Ian

2741. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 09:39:34 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmlp0n$nmq1m$1@ID-61331.news.uni-berlin.de>
Source record: 31758

<nojunk.c.a.m@banthespam.blueyonder.co.uk> wrote in message
news:592rovckhtvrjgashdje0it975s1o7hasj@4ax.com...
>
> >If you have log before ADC I think you need a superhet conversion rather
> >than direct conversion to baseband, for the reasons I mentioned earlier.
If
> >you just ADC'ed the lot there'd be some chance of sorting the confusion
out
> >in software, though it'd take a brave heart to try it.
>
> So use 2 18-bit ADC's (sound card maybe 16-bit but you won't get 90dB
range from
> it, you'll find a fair bit of noise from your average sound card - well
the
> first 3 bits will be noisy), one with the I and the other with the Q (from
the
> DC output) and do it that way ?

I still think you stand a fair chance of problems, when essentially you're doing your signal strength measurement in baseband and sweeping at rates in the same frequency range. The aquisition time for the signal strength measurement needs to be much shorter than the sweep, or the signal strength will change while you're attmpting to measure it.

I guess it's a bit like the problem of designing audio-derived AGC in direct conversion receivers. It takes too many cycles to measure the audio volume at low frequencies to get a correction signal to control gain. Similar problem. There might be a way of disentangling it in software, I don't know the mathematics but I can intuitively imagine that it could work.

But I'm no expert on this, just a clown with soldering iron...

Hans G0UPL
http://www.hanssummers.com

2742. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 09:45:15 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmlpbc$nu1c1$1@ID-61331.news.uni-berlin.de>
Source record: 31759

>
> hans is right about the PC being a kludge when compared to an
> oscilloscope. I live in India and second-hand oscilloscopes are a
> rarity. The new ones cost an engineer's whole year's salary. I have
> purchased a tektronix 454 last month on ebay for $300, it is still on
> its way to India. So, while i can imagine that in a number of more
> developed countries oscilloscopes are not really a problem, they do
> remain a problem in many parts of the world.

That puts another angle on it. In that case I'd say you could produce a nice instrument by using a complete analogue analyser such as my design http://www.hanssummers.com/electronics/equipment/spectrumanalyser/index.htm or similar, and feeding the sweep (X-axis) and logarithmic output (Y-axis) into the PC via ADC's on the parallel port. 8-bit ADC's would probably be marginally good enough, 10 bit for sure.

>
> More often than not, an amateur already has a PC. Adding a simple
> hardware to be able to do quick and dirty spectrum analysis might be
> an interesting option. As Wes writes in SSD and EMRFD, the purpose of
> test instruments is to help with the projects on hand, rather than be
> projects themselves (then he went on to homebrewing a spectrum
> analyser, hehe).

It became a project in its own right for me. So much that it spawned a second project http://www.hanssummers.com/electronics/equipment/spectrumanalyser2/index.htm. But not wasted time - I learnt so much making it and got my first experience at VHF work etc, so it was time well spent.

Hans G0UPL
http://www.hanssummers.com

2743. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 09:48:11 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmlpgr$oc45t$1@ID-61331.news.uni-berlin.de>
Source record: 31760

>
> Granted, one problem is how fast the data transfer is through the
parallel
> port, that would limit how many samples/second the system could process.

I think a parallel port is easily fast enough for this application

>
> Almost forgot... WIN XP and WIN2000 make getting to the parallel port
for
> something like this MUCH more difficult then it was under WIN 98.

True enough. I had this problem with a different project. There's a shareware driver available which helps access the parallel port under XP etc. See http://www.hanssummers.com/electronics/clocks/matrix/index.htm for details of how it works.

Hans G0UPL
http://www.hanssummers.com

2744. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 10:54:45 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <jNujb.385$tU6.844@reggie.win.bright.net>
Source record: 31761
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

You might try using the schmitt trigger chip instead of an inverter.
Schmitt triggers are made for the purpose you are using the 7404 for. Can't
remember the 74XX number off hand, but a look through a Digi-Key catalog or
Mouser catalog will reveal it. Good luck with the project...

Scott
N0EDV
Tech by day, University student by night.
Fly by day, fly by night ;)

"Paul Burridge" <pb@osiris.notthisbit.co.uk> wrote in message
news:jt7qovsgjhmkasfgm9gfvcd3flars28ln9@4ax.com...
>
> Hi chaps,
>
> Heading sums it up. I'm using a 74HC04 to 'square-off' a sine wave,
> but it's causing a fair amount of ringing on the output signal's highs
> and lows which appears to be finding its way through to the eventual
> final stage. How do I best eliminate (or at least drastically reduce)
> this nuisance? The square wave frequency is 8Mhz., btw.
>
> Thanks,
>
> p.
> --
>
> "Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit
patch
> to an eight bit operating system originally coded for a
four bit
> microprocessor and produced by a two bit company."

2745. 1 Watt UHF Amplifier schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 11:35:14 UTC
From: abcdstutzer@evard.ch
Message-ID: <aca3ec4c.0310160335.7efeec51@posting.google.com>
Source record: 31762
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.basics,sci.electronics.design,sci.electronics.misc

Hi again,
I'm looking for a schematic of a uhf-amplifier with a gain of about
10. It shoud give about 1 W output power (to a 50 Ohm Load) at about
100mW input at the (preferably 50 ohm) input (impedance).
The frequency to be amplified is about 440-450 MHz.
Please post links to circuits matching my requirements and generally
all uhf-amplifier design related links here or send me schematics via
e-mail: abcdstutNOFRICKINGSPAMzer@evard.ch

Thanks in advance.
D. Stutzer

2746. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 13:45:51 UTC
From: nojunk.c.a.m@banthespam.blueyonder.co.uk
Message-ID: <pf7tov4bfht381e7hvvgqgr4es6dk733eb@4ax.com>
Source record: 31763

>I still think you stand a fair chance of problems, when essentially you're
>doing your signal strength measurement in baseband and sweeping at rates in
>the same frequency range. The aquisition time for the signal strength
>measurement needs to be much shorter than the sweep, or the signal strength
>will change while you're attmpting to measure it.

Yes Sweep rate can be a problem, but it's all down the baseband bandwidth and what kind of update rate you want/need.

If you want to sweep across a 100MHz within say a second, assuming your using 44100 sampling rate, that's 44100 samples you'll get across the 100MHz sweep in that one second - 2.26Khz wide freq segments (non-overlapping), but you'd need a baseband bandwidth of 1KHz to overcome the anti-alias problem.

Doesn't sound to bad really. A one second scan across the entire 100MHz is fine really (depending on what your doing) - the PC is a perfect storage scope.

To convert a linear I/Q baseband sample to a log scale is no problem at all in software.

The software cud easily deal with any variation in VCO/Mixer level differences across the whole band.

Best to have the PC control the vco though, then as you say, you can zoom in on a desired freq range etc.

Clive

2747. Re: 1 Watt UHF Amplifier schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 15:00:17 UTC
From: Lizard Blizzard <NOSPAM@rsccd.org>
Message-ID: <bmmbku$4g9b7$2@hades.csu.net>
Source record: 31764
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.basics,sci.electronics.design,sci.electronics.misc

Diego Stutzer wrote:

> Hi again,
> I'm looking for a schematic of a uhf-amplifier with a gain of about
> 10. It shoud give about 1 W output power (to a 50 Ohm Load) at about
> 100mW input at the (preferably 50 ohm) input (impedance).
> The frequency to be amplified is about 440-450 MHz.
> Please post links to circuits matching my requirements and generally
> all uhf-amplifier design related links here or send me schematics via
> e-mail: abcdstutNOFRICKINGSPAMzer@evard.ch

NOFRICKINGWAY. It's considered rude to ask for replies by email. Shows
you're too fricking lazy to check back in the newsgroup for replies.

> Thanks in advance.
> D. Stutzer

--
----------------(from OED Mini-Dictionary)----------------
PUNCTUATION - Apostrophe
Incorrect uses: (i) the apostrophe must not be used with a plural
where there is no possessive sense, as in ~tea's are served here~;
(ii) there is no such word as ~her's, our's, their's, your's~.

Confusions: it's = it is or it has (not 'belonging to it'); correct
uses are ~it's here~ (= it is here); ~it's gone~ (= it has gone);
but ~the dog wagged its tail~ (no apostrophe).
----------------(For the Apostrophe challenged)----------------
From a fully deputized officer of the Apostrophe Police!

<<Spammers use Weapons of Mass Distraction!>>

I bought some batteries, but they weren't included,
so I had to buy them again.
-- Steven Wright

FOR SALE: Nice parachute: never opened - used once.

(Problem) Evidence of leak on right main landing gear
(Solution) Evidence removed

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2748. Kenwood two-way "LMR" Dealer in Northern California

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 15:21:06 UTC
From: Skipp says hello <spammenotyeeinternet@yahoo.com>
Message-ID: <bmmd12$4o1$2@woodrow.ucdavis.edu>
Source record: 31788
Cross-posted to: rec.radio.swap,rec.radio.amateur.swap,rec.radio.amateur.homebrew

Hi there,

Just a shameless plug for my Authorized Kenwood Two-Way Radio Dealership in Northern California. If you need Service, Parts (all of which I keep in stock) or new (& refurbished) radios, drop me an Email using the Email Icon on the www.radiowrench.com web page. For references, my Ebay feedback as of today is almost 800 all positive.

thanks for looking

cheers
skipp

http://www.radiowrench.com

2749. Re: Electrolytic caps question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 15:37:25 UTC
From: Ken Finney <kenneth.c.finney@boeing.com>
Message-ID: <HMuwqD.8G7@news.boeing.com>
Source record: 31766
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Scott Dorsey" <kludge@panix.com> wrote in message
news:bmklv0$gs0$1@panix2.panix.com...
> Mark <mwh87120@yahoo.com> wrote:
> >I have obtained some surplus linear regulated power supplies. The
> >date code for the electrolytic caps in the filter section are late
> >1993. I've not powered these
> >supplies up. I know that these caps have a limited life. These caps
> >are also
> >harder to come by due to the proliferation of switch mode power
> >supplies and
> >their lower values. Any ideas/suggestions to minimize stress to these
> >caps
> >or even rejuvinate, if possible, these caps. I'm aware of inrush
> >current at
> >supply turn on and I plan to minimize that. Any other ideas or
> >suggestions???
>
> You have three choices:
>
> 1. Bring the things up slowly, on a variac. This allows the capacitors
> to slowly reform.
>
> 2. Bring the things up for a while with a 60W light bulb in series, then
> apply full power. Same basic principle, if you don't have a variac,
but
> slower.
>
> 3. Apply full power. If any caps blow, they were marginal and should have
> been replaced anyway.
>
> I tend to be a fan of method #3, but I can understand the arguments in
favor
> of the first two. But caps that are only a decade old? Don't sweat it.
> --scott
>
>

Many manufacturers of aluminum electrolytic caps recommend they be reformed
after 18 months of storage, others say 2 years, and others say 3 years.

2750. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 15:51:19 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bmmepo$nkb5m$1@ID-61331.news.uni-berlin.de>
Source record: 31765

<nojunk.c.a.m@banthespam.blueyonder.co.uk> wrote in message
news:pf7tov4bfht381e7hvvgqgr4es6dk733eb@4ax.com...
>
> >I still think you stand a fair chance of problems, when essentially
you're
> >doing your signal strength measurement in baseband and sweeping at rates
in
> >the same frequency range. The aquisition time for the signal strength
> >measurement needs to be much shorter than the sweep, or the signal
strength
> >will change while you're attmpting to measure it.
>
> Yes Sweep rate can be a problem, but it's all down the baseband bandwidth
and
> what kind of update rate you want/need.
>
> If you want to sweep across a 100MHz within say a second, assuming your
using
> 44100 sampling rate, that's 44100 samples you'll get across the 100MHz
sweep in
> that one second - 2.26Khz wide freq segments (non-overlapping), but you'd
need a
> baseband bandwidth of 1KHz to overcome the anti-alias problem.

The problem I'm having seeing how it can work is this. If you take 44100 measurements per second, that's one measurement every 27uS. But you've low pass filtered your baseband at 1KHz. It would take at least one of those cycles to measure the envelope amplitude with any degree of accuracy but you're allowing just 2.7% of a single 1KHz sample, how does that work? Or am I looking at it too simplistically?

I certainly agree that the PC can make a nice storage and display device, specially if 'scopes aren't so easily available. Seems to me a question of how much of the signal chain is implemented in analogue and how much in digital. I Just think it saves an awful lot of hassle to add that little extra analogue stage before you go digital, i.e. 2nd IF and detector. Log could be done on the digital side no problem if desired provided enough ADC resolution was available. VCO/Mixer level differences could still be compensated in software, and the PC control the VCO.

Hans G0UPL
http://www.hanssummers.com

2751. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 17:10:06 UTC
From: k7itm@aol.com
Message-ID: <3200347.0310160910.7d48a015@posting.google.com>
Source record: 31767
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Hmmmmm... It's interesting to speculate that you could get all
excited about doing this, build the required equipment, use your old
spark transmitter and coherer, and be talking with someone who is
using just the same equipment at the other end, except that his
equipment is "virtual". That is, he just uses processing power to
emulate a spark transmitter's emissions...

;-)

Thanks, but no thanks. I'd rather enjoy the challenge of
communicating through all the degradations that happen to waves
propagated through the air. It doesn't bother me one way or the other
if others adopt the technique, though.

Cheers,
Tom

David Stinson <arc5@ix.netcom.com> wrote in message
news:<3F8B5B6B.8E5123D@ix.netcom.com>...
> Roy Lewallen wrote:
> >
> > I apologize for being a little vague about this. Are you proposing
> > replacing wireless communication with wired communication (via the
> > Internet) as a way to communicate with inadequate radio equipment?
>
> "Wireless" doesn't always work, if you're in a "noise hole,"
> or if the mode or radio you want to use isn't "legit" anymore.
> So that's one use, yes.
> The idea is to use our own radios as source and sink,
> bypassing the vagaries of Mother Nature's propagation
> and local noise sources. Or, if you're in a "noise hole,"
> to bring spectrum to you from a "quiet" location.
> It also allows the use of heretofore prohibitied modes.
> For instance:
> In the article I detail how an old longwave maritime
> rig on 415 KC A2 can carry on a real-time CW QSO with
> someone using a modern rig on 40 meters.
> It will be a real boon for the "boatanchor" community.
> I do hope QST will consider it.

2752. Re: 1 Watt UHF Amplifier schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 19:08:40 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbotr5o.qf1.bit-bucket@localhost.config.com>
Source record: 31768
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.basics,sci.electronics.design,sci.electronics.misc

On 16 Oct 2003 04:35:14 -0700, Diego Stutzer hath writ:

> e-mail: abcdstutNOFRICKINGSPAMzer@evard.ch

Ha!
So, maybe you think the spam harvesters will ignore your
un-munged From: in your posting?
|From: abcdstutzer@evard.ch (Diego Stutzer)
Ha!
Your INBOX is toast.

Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

2753. ISS project ET Shadow needs VHF amateurs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 20:05:47 UTC
From: Dorothy Forbes <dorothyforbes@optusnet.com.au>
Message-ID: <3f8e0af1$0$15970$afc38c87@news.optusnet.com.au>
Source record: 31753

Greetings to all, please have a look, if it interests you to take part in an experiment with Electric Thruster Ion Plasma Engine tests onboard the Space Station.
The engine causes a VHF radio blackout on Earth and your help is need as part of ground receiving network to map the extent of the effect.
Please go to
http://www.qsl.net/vk3ukf/etshadowozindexqsl.html

My webpage is dedicated to the memory of Columbia and her Crew.
STS-107

My page is also for the Australia region, but I am sending this everywhere, so as to spread awareness about the project, It may not have started yet in your area.
Get on it, be the first in your area.

There are links to more information at the Russian site.
You don't have to be an amateur radio operator
Schools and S.W.L.'s (short wave listeners)are
also welcome.
Cheers, Kevin VK3UKF
vk3ukf@hotmail.com

2754. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 22:29:33 UTC
From: donrm@soco.agilent.com
Message-ID: <1066343373.676142@cswreg.cos.agilent.com>
Source record: 31770

ehsjr@bellatlantic.net wrote:
>
>
> w4pqw@cox.net wrote:
>>
>> anyone have a formula to mix a good contact cleaner..tnx Harold W4PQW
>
> As Bob indicated, get Deoxit. You can order it from
> the manufacturer (Caig). Their online store can be found at:
> http://www.caig.com/

Or Radio Shack has it under 910-3879 (special order). $7.95

Speaking of contact cleaner, anyone remember that Radio Shack
had two contact cleaners, one generic and another for color TV?

Don K6LTS

2755. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 23:12:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vou9frdiv47s56@corp.supernews.com>
Source record: 31771

Hey, it worked for Nike, why not Radio Shack? I imagine they have digital contact cleaner -- or maybe "digital ready" contact cleaner, too. Sorry, gotta go now. I'll be going into the next room, so I have to change out of my hardwood walking shoes into my rug walking shoes. If I can find 'em. . . let's see, . . . jogging shoes, running shoes, bicycling shoes, napping shoes, eating shoes. . .

Roy Lewallen, W7EL

donrm@soco.agilent.com wrote:
>
> Or Radio Shack has it under 910-3879 (special order). $7.95
>
> Speaking of contact cleaner, anyone remember that Radio Shack
> had two contact cleaners, one generic and another for color TV?
>
> Don K6LTS

2756. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 23:21:42 UTC
From: dplatt@radagast.org
Message-ID: <voua06ti89eg7d@corp.supernews.com>
Source record: 31772

>> Speaking of contact cleaner, anyone remember that Radio Shack
>> had two contact cleaners, one generic and another for color TV?

I have a vague recollection that one type of "tuner cleaner" actually included a small amount of a lightly-abrasive material, intended to clean oxidation and cigarette tar and etc. off of the contacts in old-style black-and-white television tuners. Some "tuner cleaner" products also include a lightweight oil to act as a residual lubricant. Then, there are the (preferred, IMHO) "zero-residue" contact cleaners.

>Hey, it worked for Nike, why not Radio Shack? I imagine they have
>digital contact cleaner -- or maybe "digital ready" contact cleaner,
>too.

That's probably part of it, too ;-)

> Sorry, gotta go now. I'll be going into the next room, so I have to
>change out of my hardwood walking shoes into my rug walking shoes. If I
>can find 'em. . . let's see, . . . jogging shoes, running shoes,
>bicycling shoes, napping shoes, eating shoes. . .

http://www.ucomics.com/foxtrot/2003/10/15/

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2757. Re: 1 Watt UHF Amplifier schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-16 23:56:08 UTC
From: Baphomet <fandaDEATH2SPAMMERS@catskill.net>
Message-ID: <vou1f9e3e4a2f9@corp.supernews.com>
Source record: 31769
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.basics,sci.electronics.design,sci.electronics.misc

"Diego Stutzer" <abcdstutzer@evard.ch> wrote in message
news:aca3ec4c.0310160335.7efeec51@posting.google.com...
> Hi again,
> I'm looking for a schematic of a uhf-amplifier with a gain of about
> 10. It shoud give about 1 W output power (to a 50 Ohm Load) at about
> 100mW input at the (preferably 50 ohm) input (impedance).
> The frequency to be amplified is about 440-450 MHz.
> Please post links to circuits matching my requirements and generally
> all uhf-amplifier design related links here or send me schematics via
> e-mail: abcdstutNOFRICKINGSPAMzer@evard.ch

[Now why do both Lizzard Blizzard and Allodoxaphobia sound like Dark Matter?
I think the case is just being made stronger daily for a minimally moderated
newsgroup.]

2758. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 00:50:39 UTC
From: charlesb <n5pvl@sbcglobal.net>
Message-ID: <z1Hjb.1544$dZ4.196@newssvr27.news.prodigy.com>
Source record: 31773
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0310160910.7d48a015@posting.google.com...
>
>snip<
>
> Thanks, but no thanks. I'd rather enjoy the challenge of
> communicating through all the degradations that happen to waves
> propagated through the air. It doesn't bother me one way or the other
> if others adopt the technique, though.
>

It should bother you, Tom. This guy's response to the BPL problem was to give us software that simulates being on the air. Not only is it contrary to the spirit and purpose of the hobby, but worst of all, it encourages us all to be discouraged. It gives the weakesat among us an easy out, at the cost of adding still more to the hobby's difficulties.

So far, the idea of using non-ham links in order to "improve" the performance of amateur radio has been 100% consistent. In every case where it has been applied, it has managed to set back and denigrate the hobby, to some extent or another.

I am sorry to hear that this invasion of non-ham stuff into the hobby does not bother you. It sure should.

Charles Brabham, N5PVL

2759. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 00:57:13 UTC
From: --exray-- <no@no.no>
Message-ID: <voufif2unsndaf@corp.supernews.com>
Source record: 31774
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

charlesb wrote:

>
>
> It should bother you, Tom. This guy's response to the BPL problem was to
> give us software that simulates being on the air. Not only is it contrary to
> the spirit and purpose of the hobby, but worst of all, it encourages us all
> to be discouraged. It gives the weakesat among us an easy out, at the cost
> of adding still more to the hobby's difficulties.
>
> So far, the idea of using non-ham links in order to "improve" the
> performance of amateur radio has been 100% consistent. In every case where
> it has been applied, it has managed to set back and denigrate the hobby, to
> some extent or another.
>
> I am sorry to hear that this invasion of non-ham stuff into the hobby does
> not bother you. It sure should.
>
> Charles Brabham, N5PVL

Thats exactly what the guys were saying on the repeater the other day.
-Bill

2760. Re: contact cleaner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 01:41:15 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F8F48B2.930C6694@earthlink.net>
Source record: 31776

Dave Platt wrote:
>
> I have a vague recollection that one type of "tuner cleaner" actually
> included a small amount of a lightly-abrasive material, intended to
> clean oxidation and cigarette tar and etc. off of the contacts in
> old-style black-and-white television tuners. Some "tuner cleaner"
> products also include a lightweight oil to act as a residual
> lubricant. Then, there are the (preferred, IMHO) "zero-residue"
> contact cleaners.
>
> Dave Platt

There was a foam pad with a gelled cleaner you put in the cover of
drum type TV tuners to wipe the contacts as they passed under the pad.
The were good on old, almost worn out tuners. The pad would last about
two years before it crumbled, and you had to service the tuner again.
--

Michael A. Terrell
Central Florida

2761. Re: CQUAM stereo decoding

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 02:16:44 UTC
From: "Bob G. Mahrenholz" <bobm@edge.net>
Message-ID: <3F8F50FD.6BE5624F@edge.net>
Source record: 31777

Try:
http://users.hfx.eastlink.ca/~amstereo/
Bob

Steve A wrote:

> I am looking to develop / build an AM stereo decoder, for 455kHz.
>
> 1. Can anyone point to a reference of how to decode CQUAM using
> standard RF building blocks (eg. multipliers, PLLs, filters).
>
> 2. Motorola seemed to make IC CQUAM stereo decoders (MC13320, MC13322,
> MC13328). Does anyone know if these are still available, and if so,
> WTB?
>
> 3. Does anyone have any datasheets on the chips mentioned above?
>
> Cheers,
>
> Steve A

2762. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 03:47:28 UTC
From: Tom Nelson <nelsonca@stormnet.com>
Message-ID: <3F8F664F.8030207@stormnet.com>
Source record: 31780
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Am I to understand that we are all going belly-up and cave in to BPL? Perhaps Mr. Stinson is trolling for the power companies. I, for one, have not given up the fight against BPL. Perhaps all the good Republican HAMS and SWLrs should write their congressmen and the President who has appointed the majority of the FCC and suggest that their right to the spectrum is on a par with that to bear arms. The FCC is effectively limiting our free speech by jamming our frequencies.

I view BPL as a means of restricting my access to shortwave freqs in much the same way the Chinese jam freqs from Nepal. But, of course, the present administration would never do anything to restrict our access to global views which may call their agenda into question.

I propose that we start sending electricity through our TV cables as a backup to our outdated electrical system. I am "putting down the marker" for PCTV, Power through Cable TV! We would only need one connection for our TVs, and VCRs.

Sorry Dave, your idea lacks the purity derived from the radio - ether - radio connection. Let's not divert our energy away from stopping BPL before it gets out of control. BTW, you wouldn't be a BPL advocate, would you?

Tom
KD6EVM

David Stinson wrote:

>Thanks for reading this.
>I have today submitted an article to QST magazine entitled
>"Virtual Spectrum: Beating BPL at its own game,"
>detailing a concept that can greatly impact our radio hobby.
>I wanted to "put down a marker" to date the introduction
>of a new ham-radio innovation, and to officially place
>the idea in the public domain, so the maximum amount of
>"tinkering" with it can happen.
>
>This concept uses the bandwidth available on the Internet
>and some simple circuitry to create a replica of a segment of
>the radio spectrum, stream it live or prerecorded to another
>internet-connected computer and reconstruct that radio spectrum
>at your location. *Any* radio equipment you wish to use
>(given an Internet connection with sufficent bandwidth)-
>from modern PSK-31 rigs, SSB nets, WW-II modulated oscillators

>all the way back to ancient spark transmitters
>with crystal receivers; all can legally communicate just as though
>you were on-the-air. The system is bi-directional, allowing
>QSOs between stations that normally could not communicate.
>If you can't hear weak signals because of noise in your area,
>the concept allows you to build a "remote front end" and
>transport the radio spectrum in a quiet area right to your rig,
>bypassing the problems in your location.
>
>I believe this concept can be the answer to BPL, "noise holes,"
>antenna restrictions, HF "jammers" and many other obstacles to
>using our radios. There is great potential for many uses,
>and a possible niche market for someone with the resources
>to develop the equipment.
>I have already built prototype equipment to prove the concept
>and it works splendidly. The article includes construction
>details. The circuits are simple and you can get
>95% of the parts at Radio Shack.
>By the time QST publishes (assume they accept the work),
>we should have completed the first Virtual Spectrum QSO:
>two World War 2 BC-611 handie-talkies (output: about 60 milliwatts)
>will communicate over a path of about 2000 miles.
>
>If QST does not publish the concept,
>I will publish it myself on the web
>immediatly after hearing from them.
>I am indebted to Mike Hanz, aafradio@cox.net
>for invaluable suggestions and encouragement.
>
>TNX ES 73 DE Dave Stinson AB5S
>
>

2763. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 03:57:57 UTC
From: Dick Carroll <dixie@NOSPAM.townsqr.com>
Message-ID: <bmnpc5$9h6$1@208.206.142.114>
Source record: 31779
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

charlesb wrote:

> "Tom Bruhns" <k7itm@aol.com> wrote in message
> news:3200347.0310160910.7d48a015@posting.google.com...
>
>>snip<
>>
>>Thanks, but no thanks. I'd rather enjoy the challenge of
>>communicating through all the degradations that happen to waves
>>propagated through the air. It doesn't bother me one way or the other
>>if others adopt the technique, though.
>>
>
>
> It should bother you, Tom. This guy's response to the BPL problem was to
> give us software that simulates being on the air. Not only is it contrary to
> the spirit and purpose of the hobby, but worst of all, it encourages us all
> to be discouraged.

I'm not discouraged. If BPL eats up the HF spectrum I'll be one of
those still able to communicate by listening to the CW signals change
the noise and copy the changes as code.
Don't laugh, I've done it before.
>

2764. AD9850 DDS - Help prevent suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 05:20:37 UTC
From: Tim <th@nospam.lakeoriongroup.com>
Message-ID: <_MudnR092fy72RKiRVn-vA@comcast.com>
Source record: 31775

No, I'm tasting gun metal yet but if you are experienced with the AD9850 DDS please read on.

I am clocking out 40 bits serially to the unit, data word + control, for some reason the DDS only updates the output freq based on the results of the first 16 bits. When powered up the unit is stable, not misbehaving and seems to respond with the exception of the last 16 bit freq bits. If the last 16 bits are set to 0 the output results are the same as when they are vaild. It jumps about 600 hz or so instead of 10 hz

What has be scratching my head is that it must be "seeing" the last 16 bits and control word or it wouldn't come alive. Has anyone any input on what may be missing, similar problems? I clock out 32 bit freq control, then 8 bit control word then a 10us wide F_update pulse. Again, stable, working but ignoring last 16 bits.

Using a PIC 16F73 and simultaneously dumping the 4, 8 bit words out the serial port I get:

Changing freq starting with 7.10000 by 10 hz

freq 7.10001 %00101101%01110000%10101000%00001000
freq 7.10002 %00101101%01110000%10101100%00111010
freq 7.10003 %00101101%01110000%10110000%01101100
freq 7.10004 %00101101%01110000%10110100%10011101
freq 7.10005 %00101101%01110000%10111000%11001111
freq 7.10006 %00101101%01110000%10111101%00000001
freq 7.10007 %00101101%01110000%11000001%00110011
freq 7.10008 %00101101%01110000%11000101%01100100
freq 7.10009 %00101101%01110000%11001001%10010110
freq 7.10010 %00101101%01110000%11001101%11001000
freq 7.10011 %00101101%01110000%11010001%11111010
freq 7.10012 %00101101%01110000%11010110%00101011
freq 7.10013 %00101101%01110000%11011010%01011101
freq 7.10014 %00101101%01110000%11011110%10001111
freq 7.10015 %00101101%01110000%11100010%11000001
freq 7.10016 %00101101%01110000%11100110%11110010
freq 7.10017 %00101101%01110000%11101011%00100100
freq 7.10018 %00101101%01110000%11101111%01010110
freq 7.10019 %00101101%01110000%11110011%10001000
freq 7.10020 %00101101%01110000%11110111%10111001
freq 7.10021 %00101101%01110000%11111011%11101011
freq 7.10022 %00101101%01110001%00000000%00011101 - audible change heard here and again when bit 16 rollsover to 0 again
freq 7.10023 %00101101%01110001%00000100%01001111
freq 7.10024 %00101101%01110001%00001000%10000000

```
freq 7.10025 %00101101%01110001%00001100%10110010
freq 7.10026 %00101101%01110001%00010000%11100100
freq 7.10027 %00101101%01110001%00010101%00010110
freq 7.10028 %00101101%01110001%00011001%01000111
freq 7.10029 %00101101%01110001%00011101%01111001
freq 7.10030 %00101101%01110001%00100001%10101011
freq 7.10031 %00101101%01110001%00100101%11011100
freq 7.10032 %00101101%01110001%00101010%00001110
freq 7.10033 %00101101%01110001%00101110%01000000
freq 7.10034 %00101101%01110001%00110010%01110010
freq 7.10035 %00101101%01110001%00110110%10100011
freq 7.10036 %00101101%01110001%00111010%11010101
freq 7.10037 %00101101%01110001%00111111%00000111
freq 7.10038 %00101101%01110001%01000011%00111001
freq 7.10039 %00101101%01110001%01000111%01101010
freq 7.10040 %00101101%01110001%01001011%10011100
freq 7.10041 %00101101%01110001%01001111%11001110
freq 7.10042 %00101101%01110001%01010100%00000000
freq 7.10043 %00101101%01110001%01011000%00110001
freq 7.10044 %00101101%01110001%01011100%01100011
freq 7.10045 %00101101%01110001%01100000%10010101
freq 7.10046 %00101101%01110001%01100100%11000111
freq 7.10047 %00101101%01110001%01101000%11111000
freq 7.10048 %00101101%01110001%01101101%00101010
freq 7.10049 %00101101%01110001%01110001%01011100
freq 7.10050 %00101101%01110001%01110101%10001110
freq 7.10051 %00101101%01110001%01111001%10111111
freq 7.10052 %00101101%01110001%01111101%11110001
freq 7.10053 %00101101%01110001%10000010%00100011
freq 7.10054 %00101101%01110001%10000110%01010101
freq 7.10055 %00101101%01110001%10001010%10000110
freq 7.10056 %00101101%01110001%10001110%10111000
freq 7.10057 %00101101%01110001%10010010%11101010
freq 7.10058 %00101101%01110001%10010111%00011100
freq 7.10059 %00101101%01110001%10011011%01001101
freq 7.10060 %00101101%01110001%10011111%01111111
freq 7.10061 %00101101%01110001%10100011%10110001
freq 7.10062 %00101101%01110001%10100111%11100010
freq 7.10063 %00101101%01110001%10101100%00010100
freq 7.10064 %00101101%01110001%10110000%01000110
freq 7.10065 %00101101%01110001%10110100%01111000
freq 7.10066 %00101101%01110001%10111000%10101001
freq 7.10067 %00101101%01110001%10111100%11011011
freq 7.10068 %00101101%01110001%11000001%00001101
freq 7.10069 %00101101%01110001%11000101%00111111
freq 7.10070 %00101101%01110001%11001001%01110000
freq 7.10071 %00101101%01110001%11001101%10100010
freq 7.10072 %00101101%01110001%11010001%11010100
freq 7.10073 %00101101%01110001%11010110%00000110
freq 7.10074 %00101101%01110001%11011010%00110111
```

```
freq 7.10075 %00101101%01110001%11011110%01101001
freq 7.10076 %00101101%01110001%11100010%10011011
freq 7.10077 %00101101%01110001%11100110%11001101
freq 7.10078 %00101101%01110001%11101010%11111110
freq 7.10079 %00101101%01110001%11101111%00110000
freq 7.10080 %00101101%01110001%11110011%01100010
freq 7.10081 %00101101%01110001%11110111%10010100
freq 7.10082 %00101101%01110001%11111011%11000101
freq 7.10083 %00101101%01110001%11111111%11110111
freq 7.10084 %00101101%01110010%00000100%00101001 - again audible change in
rx
freq 7.10085 %00101101%01110010%00001000%01011011
freq 7.10086 %00101101%01110010%00001100%10001100
freq 7.10087 %00101101%01110010%00010000%10111110
freq 7.10088 %00101101%01110010%00010100%11110000
```

2765. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 05:26:43 UTC
From: --exray-- <no@no.no>
Message-ID: <vouvbom4i9cp03@corp.supernews.com>
Source record: 31781
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

Tom Nelson wrote:
>
> I view BPL as a means of restricting my access to shortwave freqs in
> much the same way the Chinese jam freqs from Nepal. But, of course, the
> present administration would never do anything to restrict our access to
> global views which may call their agenda into question.

I don't know if you are joking or if something that bizarre has really
crossed your mind. I love a good sense of humour.
>
> I propose that we start sending electricity through our TV cables as a
> backup to our outdated electrical system. I am "putting down the marker"
> for PCTV, Power through Cable TV! We would only need one connection for
> our TVs, and VCRs.

Maybe you weren't joking....
>
>
> Tom
> KD6EVM

-Bill WX4A

2766. Re: Direct conversion spectrum analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 07:00:05 UTC
From: richard <richardh@iinet.net.au>
Message-ID: <3F8F9375.5060007@iinet.net.au>
Source record: 31782

This is a very interesting discussion
I have thought about doing this in the past, but have never been brave
enough!
What about a scheme like:
Input -> attenuator -> LO/mixer->LPF/if amp ->Direct coversionLO/Mixer
-> switchable LPF to say 150KHz -> Log det (broadband)-> ADC -> software
/PC

For a 100MHz sweep you would probably need 300KHz bandwidth max which
would be achieved by a 150KHz DSB receiver.
You could go higher than 100MHz as the first IF - use ring diode mixer
to a helical filter as the roofing filter
I would be interested in a cooperative project

Richard

Ashhar Farhan wrote:
> "Hans Summers" <Hans.Summers@Tudor.Com> wrote in message news:<bmj291
>
>
>>Interesting ideas Len. I guess the idea of an all-digital spectrum analyser
>>is similar to that of an all-digital HF amateur radio tranceiver. It can be
>>done but at the current state of the art, it's a difficult proposal for the
>>hobbyist and certainly difficult to obtain the same level of performance as
>>the equivalent analogue device for the same amount of cost and/or effort.
>
>
> I have a PC-based oscilloscope that does something pretty close. It
> digitizes at the rate of 4ns per sample (taking 8bit samples
> unfortunately) and generates an FFT display of magnitude/power
> spectrum/power density).
>
>
>>I think it is feasible to use an analogue RF front end under computer
>>control, the a PC controlling the VCO and sampling the logarithmic output.
>>In essence just replacing the oscilloscope as the display system.
>
>
> I guess, it is not necessary to PC control the VCO. Sweep generators
> are easy to come by. probably, if there is a way to feed the sweep
> into the PC to generate the X-axis, then that might be a better
> alternative.
>
> - farhan

2767. Re: AD9850 DDS - Help prevent suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 07:39:52 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0310162339.6ba1242d@posting.google.com>
Source record: 31783

Hi Tim,
the serial data are clocked beginning with the LSB up to MSB and the
control word ends the sequence. It is legal to issue e.g. one or two
bytes followed by the FQ_UD pulse for fine tuning. Did you try it ?
I have had a similar experience with AD9851, which IMHO uses the same
protocol. The error was in the firmware routine sending serial data
and W_CLK to the port, not in the DDS chip.

BR from Ivan

"Tim" <th@nospam.lakeoriongroup.com> wrote in message
news:<_MudnR092fy72RKiRVn-vA@comcast.com>...
> No, I'm tasting gun metal yet but if you are experienced with the AD9850 DDS
> please read on.
>
> I am clocking out 40 bits serially to the unit, data word + control, for
> some reason the DDS only updates the output freq based on the results of the
> first 16 bits. When powered up the unit is stable, not misbehaving and seems
> to respond with the exception of the last 16 bit freq bits. If the last 16
> bits are set to 0 the output results are the same as when they are vaild.
> It jumps about 600 hz or so instead of 10 hz
>
> What has be scratching my head is that it must be "seeing" the last 16 bits
> and control word or it wouldn't come alive. Has anyone any input on what may
> be missing, similar problems? I clock out 32 bit freq control, then 8 bit
> control word then a 10us wide F_update pulse. Again, stable, working but
> ignoring last 16 bits.

2768. Re: AD9850 DDS - Help prevent suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 07:46:30 UTC
From: Tim <th@nospam.lakeoriongroup.com>
Message-ID: <8KGdnVNSeYz_-xKiRVn-gg@comcast.com>
Source record: 31778

"Tim" <th@nospam.lakeoriongroup.com> wrote in message
news:_MudnR092fy72RKiRVn-vA@comcast.com...

> What has be scratching my head is that it must be "seeing" the last 16
bits
> and control word or it wouldn't come alive. Has anyone any input on what
may
> be missing, similar problems? I clock out 32 bit freq control, then 8 bit
> control word then a 10us wide F_update pulse. Again, stable, working but
> ignoring last 16 bits.

Sorry to bother the group, a typo in the source code was the problem.
The DDS VFO is now smooth as silk... See you on 40m CW

Tim

2769. Re: help with 3-500z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 11:54:38 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <Qe_jb.513$Rc4.1651140@newsfep1-win.server.ntli.net>
Source record: 31791
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

> Also I know it is a 5 volt tube
> and 14.5 amp.do I really need that much to make it glow? Would 12 volt
work?
======
Having a 5 volts filament ,requiring 14.5 Amperes ,would make it a nice 70 +
Watts (anti-condensation) heater.

Applying 12V would turn it in a 'RIP state' within a few seconds.

Frank GM0CSZ / KN6WH

2770. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 14:00:23 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F8FF5F5.F862AA36@ix.netcom.com>
Source record: 31785
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors

Oh, my....*sigh*

No, I don't work for the power companies,
and no, I don't lobby for BPL.

charlesblabham wrote:

>..it encourages us all to be discouraged....
Now *that* is an interesting concept..

>
> I am sorry to hear that this invasion of non-ham stuff
> into the hobby does not bother you.
I thought innovating, finding new ways around problems, etc.
was "ham stuff." We used to do that alot.

> So far, the idea of using non-ham links in order to "improve" the
> performance of amateur radio has been 100% consistent. In every case where
> it has been applied, it has managed to set back
> and denigrate the hobby, to some extent or another.

When CW replaced spark, it was going to
"make the hobby too complicated and expensive to continue."

When SSB came on the ham scene, "Donald Duck"
was going to "destroy the hobby."

When FM and repeaters came along, they were
"against the spirit of ham radio. You might as well use a telephone!"

When Packet appeared, they brayed:
"those 'brrrrappp!' signals are denigrating the hobby!"

Throughout our history, hecklers and naysayers have been full of beans.
And they're full of beans now.

In the next rewrite, I'm taking out all references to BPL.
It was just one aspect of many; a way to dodge one giant
hairball the FCC is about to cough up on us.
But when you say "BPL," a few people go into some sort of "brain lock."
They can't even hear anything else.
Oh well... back to building the 611 QSO transverters...
73 Dave S.

2771. Heil Goldline Pro How good it it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 14:03:13 UTC
From: Andy <dx90@blueyonder.co.uk>
Message-ID: <yESjb.7191$tW2.5468@news-binary.blueyonder.co.uk>
Source record: 31786

I am after any feedback good or bad to do with the Heil Goldline Pro.
If you have used this microphone with your radio what is your opinion on it
compared to the Goldline and other microphones of the same class?

Thanks

2772. Re: Heil Goldline Pro How good it it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 14:12:27 UTC
From: KeyBoard In The Wilderness <Keyboard73@zilcha.com>
Message-ID: <fNSjb.69206$vj2.13014@fed1read06>
Source record: 31787

Andy -- there are nine user reviews at URL:
http://www.eham.net/reviews/detail/2993

--
73 From The KeyBoard In The Wilderness

--
73 From
"Andy" <dx90@blueyonder.co.uk> wrote in message
news:yESjb.7191$tW2.5468@news-binary.blueyonder.co.uk...
> I am after any feedback good or bad to do with the Heil Goldline Pro.
> If you have used this microphone with your radio what is your opinion on
it
> compared to the Goldline and other microphones of the same class?
>
> Thanks
>
>

2773. Re: Heil Goldline Pro How good it it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 16:50:46 UTC
From: Andy <dx90@blueyonder.co.uk>
Message-ID: <E5Vjb.8177$tW2.4315@news-binary.blueyonder.co.uk>
Source record: 31789

Hi
Thanks for your reply but I have read them already. I would like some more
in-depth opinions to help me decide.

73

"KeyBoard In The Wilderness" <Keyboard73@zilcha.com> wrote in message
news:fNSjb.69206$vj2.13014@fed1read06...
> Andy -- there are nine user reviews at URL:
> http://www.eham.net/reviews/detail/2993
>
> --
> 73 From The KeyBoard In The Wilderness
>
>
> --
> 73 From
> "Andy" <dx90@blueyonder.co.uk> wrote in message
> news:yESjb.7191$tW2.5468@news-binary.blueyonder.co.uk...
> > I am after any feedback good or bad to do with the Heil Goldline Pro.
> > If you have used this microphone with your radio what is your opinion on
> it
> > compared to the Goldline and other microphones of the same class?
> >
> > Thanks
> >
> >
>
>

2774. Re: Electrolytic caps question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-17 17:25:08 UTC
From: tangerame@earthlink.net
Message-ID: <ecb0f5f9.0310170925.3b634e4c@posting.google.com>
Source record: 31790
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Much has been written and published on the net on this topic but just to add my two cents and perhaps summarize. I've had good luck with a variable HV DC supply. I bring up the voltage, albeit slowly, while monitoring current with a microamp meter. It's nice to watch the current gradually go lower, then I step up about another 50 volts or so then watch it go lower again until I reach the rated voltage of the cap. I let it "Cook" there for awhile then use the cap. There's a formula for the "Cook Time" based on the age of the cap. Do a net search for that one. Someone in G land I think. I have restored and recapped a lot of older HF radios this way and it has saved me a tremendous amount of cash.The new Electrolytics are a lot smaller/better but we're talking about five bucks each here. I wait till they show up at the Flea Market or local surplus outlet then scoop em up for .25 each. Oooops! Maybe I shouldn't have told you about that.

Tony WA6LZH

mwh87120@yahoo.com (Mark) wrote in message news:<d9ce95a5.0310151537.7f3029c2@posting.google.com>...
> I have obtained some surplus linear regulated power supplies. The
> date code for the electrolytic caps in the filter section are late
> 1993. I've not powered these
> supplies up. I know that these caps have a limited life. These caps
> are also
> harder to come by due to the proliferation of switch mode power
> supplies and
> their lower values. Any ideas/suggestions to minimize stress to these
> caps
> or even rejuvinate, if possible, these caps. I'm aware of inrush
> current at
> supply turn on and I plan to minimize that. Any other ideas or
> suggestions???

2775. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 00:14:32 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <IB%jb.110177$qj6.5644730@news1.news.adelphia.net>
Source record: 31792
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors

David Stinson wrote:

> When CW replaced spark, it was going to
> "make the hobby too complicated and expensive to continue."

Who said that?

> When SSB came on the ham scene, "Donald Duck"
> was going to "destroy the hobby."

Who said that?

> When FM and repeaters came along, they were
> "against the spirit of ham radio. You might as well use a telephone!"

Who said that?

> When Packet appeared, they brayed:
> "those 'brrrrappp!' signals are denigrating the hobby!"

Who said that?

> Throughout our history, hecklers and naysayers have been full of beans.
> And they're full of beans now.

So if people are not "for" whatever comes along is full of beans?

> In the next rewrite, I'm taking out all references to BPL.

And when BPL appeared, those naughty naysayers thought it was a bad
thing too.

So I guess those who don't like BPL are full of beans?

- Mike KB3EIA -

2776. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 02:59:34 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F90AC94.A38F3F35@ix.netcom.com>
Source record: 31793
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors

Mike Coslo wrote:

>
> So I guess those who don't like BPL are full of beans?

See? Whaddya tell'ya... brain lock.

2777. Re: Navy radarman question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 04:19:02 UTC
From: Alfred Lorona <w6wqc@dslextreme.com>
Message-ID: <bmqf04$q1lih$1@ID-49117.news.uni-berlin.de>
Source record: 31794

Keyboard73@zilcha.com> wrote
> Radarman RdM Stand radar watch and operate radar equipment.
> Radio Electrician RE
> Radio Technician RT Maintain radio equipment.
> Radioman RM Transmit and receive radio messages. Encipher and decipher
> messages.
> For current ratings see URL;
> http://www.history.navy.mil/faqs/faq78-2.htm#anchor17021
> RD - Radarman
> RdM - Radarman
> RM - Radioman
> RMN - Radioman (Radioman)
> RMT - Radioman (Telegrapher)
> RT - Radio Technician
> RT(SR) - Radio Technician (Ship Repair)
> "gudmundur" <hexter@blazenet.net> wrote in message

I was an RT, Radio technician initially but the rating was shortly changed
to ET, Electronic Technician during my hitch in WW11, 1944 - 1946. Operators
were RM, Radioman and Radar guys were RDM, Radar Man.

2778. WTB: 100K 2 watt carbon resistors, NOS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 13:43:15 UTC
From: k9sqg@aol.com
Message-ID: <20031018094315.17551.00001061@mb-m26.aol.com>
Source record: 31795

Have a need for about 30, new 100K 2 watt carbon resistors. 10% or 5% tolerance are acceptable.

Thanks.

Evan

2779. ATS-909 RX Mod?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 14:01:11 UTC
From: KB1IBE <dslesh@ttlc.net>
Message-ID: <vp2ht7li4ro047@corp.supernews.com>
Source record: 31796

I have two Sangean ATS-909 receivers and was thinking of putting one into amateur radio service by using it with a small QRP (5 watt) transmitter. Is there any way of muting the receive functions during transmit periods? I would be willing to modify the receiver if necessary.

73's
Dave
KB1IBE

2780. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 14:43:27 UTC
From: fmmck@aol.com
Message-ID: <20031018104327.19761.00000596@mb-m07.aol.com>
Source record: 31697

<< Heading sums it up. I'm using a 74HC04 to 'square-off' a sine wave, but it's causing a fair amount of ringing on the output signal's highs and lows which appears to be finding its way through to the eventual final stage. >>

Paul-

Others have given good advice. Ringing is due to reactance, whether it is on the power supply side or the load side of the chip.

Consider that the path between the 74HC04 and the following stage is a kind of transmission line that has inductance and capacitance. It needs to be terminated. I'm not sure how or if you can calculate the value of a termination resistor, but you should be able to do it experimentally.

But, how do you know when you have reached your goal if the measuring instrument introduces reactance? Perhaps measuring beyond the following stage will provide sufficient isolation, in addition to using short leads as others have suggested.

One other thought - would a plain 74C04 work at 8 MHz? If so, its slower speed might reduce ringing.

73, Fred, K4DII

2781. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 15:44:49 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <n5m2pvg88avvc8qnsn9a5t4vt1fc81ulv7@4ax.com>
Source record: 31698

On 18 Oct 2003 14:43:27 GMT, fmmck@aol.com (Fred McKenzie) wrote:

>Others have given good advice. Ringing is due to reactance, whether it is on
>the power supply side or the load side of the chip

Thanks for that, Fred.

>Consider that the path between the 74HC04 and the following stage is a kind of
>transmission line that has inductance and capacitance. It needs to be
>terminated. I'm not sure how or if you can calculate the value of a
>termination resistor, but you should be able to do it experimentally.

I'm not sure what you mean by "terminated" actually. Do you mean it
must have its load connected when the measurement is carried out? If
so, this load which could be replaced by your suggestion of a
termination resistor, would simply constitute the input impedence of
the next stage, would it now? Hold on... are you suggesting that you
replace Zin of the next stage with its equivalent resistance in order
to eliminate any reactance present in that next stage? Is that the
idea? I'm afraid you'll have to indulge me a bit here as electronics
isn't really my field.

>But, how do you know when you have reached your goal if the measuring
>instrument introduces reactance? Perhaps measuring beyond the following stage
>will provide sufficient isolation, in addition to using short leads as others
>have suggested.

The short prods inplace of the flying ground clip certainly reduced
the ringing quite considerably. I'd be interested to know why a long
ground lead is a Bad Thing...

>One other thought - would a plain 74C04 work at 8 MHz? If so, its slower speed
>might reduce ringing.

Speed's quite critical to this application, unfortunately!
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2782. Re: WTB: 100K 2 watt carbon resistors, NOS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 15:44:51 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <fjm2pvssb78uvvaehfm9hevti64s18qr9n@4ax.com>
Source record: 31699

On 18 Oct 2003 13:43:15 GMT, k9sqg@aol.com (K9SQG) wrote:

>Have a need for about 30, new 100K 2 watt carbon resistors. 10% or 5%
>tolerance are acceptable.

I could use some myself, actually. They seem to be remarkably
difficult to come by these days. :-/
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2783. Re: Navy radarman question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 17:31:31 UTC
From: NetSurfers <mwsoft@ix.netcom.com>
Message-ID: <tqt2pvkmj8bc3n5559icvmkpjihfa85s1j@4ax.com>
Source record: 31700

On Tue, 14 Oct 2003 21:59:55 -0000, hexter@blazenet.net (gudmundur)
wrote:

>Did radar operators fall under 'radioman' rate, or was there a 'radarman'
>rating? I don't see it as a separate specialty anymore. Is it now in the
>'information technologist' rating?
>
>What letters would have been on a Chief's name badge?
>
> Such as
>
> RMCPO K. Smith
>
> or would it be more like
>
> RMC K. Smith
>
>
>Full first and last name, or just first initial?
>
>Thanks for your help, and also your service to our country.

Hi,

Judging by the responses I read t your initial post, its clear that
things changed over the years.

I was on active duty on a baby tin can, i.e., DE-644, a Destroyer
Escort in the pacific between 1956 and 1958. During that time period
there were Radiomen, Fire Control Radar technicians, and ET's
(Electronic Technicians). We didn't have any Radarmen on board. It was
customary for the ET's to "sit" at the radars during general quarters
or at watch while underway.

Jim

ex K6DGX / W6FHF

Posted Via Uncensored-News.Com - Accounts Starting At $6.95 -
http://www.uncensored-news.com
<><><><><><><><> The Worlds Uncensored News Source <><><><><><><><><>

2784. Re: WTB: 100K 2 watt carbon resistors, NOS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 17:35:14 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.19fb19af475aae19989a7f@192.168.42.131>
Source record: 31701

In article <fjm2pvssb78uvvaehfm9hevti64s18qr9n@4ax.com>,
pb@osiris.notthisbit.co.uk says...

> On 18 Oct 2003 13:43:15 GMT, k9sqg@aol.com (K9SQG) wrote:
>
> >Have a need for about 30, new 100K 2 watt carbon resistors. 10% or 5%
> >tolerance are acceptable.
>
> I could use some myself, actually. They seem to be remarkably
> difficult to come by these days. :-/

Both of you gents should give a call to Mike Quinn Electronics --
(510) 569-1539. Failing that, check with Excess Solutions, (408) 573-
7045. If that doesn't work out, check with (brrrr!) HSC Electronics at
(408) 732-1573. I hesitate to recommend them because of their
unfavorable review on this page --
http://www.bluefeathertech.com/technoid/calswap.html -- but they still
do OK for small parts.

Good hunting.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

2785. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 19:20:22 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <i9tkb.9479$pz5.5826562@newsfep2-win.server.ntli.net>
Source record: 31713
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

> Of course the simplest, but not always the most cost effective
> solution is to have a summer cottage with a broadband connection in
> some quiet rural location. Move your station to the cottage and when
> not at the cottage, connect a remotely controllable transceiver to a
> computer (audio in and out, serial data and PTT) and control the
> station from your urban home. A remotely controlled antenna rotator
> also helps a lot. In this way you do not have to suffer from noise,
> antenna restrictions and neighbours complaining about interference:-).
> Using some watchdog timers is a good idea, in case the computer or
> internet connection crashes.
==========
Perhaps not from a summer cottage ,but remote operation of HF stations has
been done in California and Hawaii
since the mid 90s .Access and operation is through a hand-held VHF radio.
Even a rotator can be operated remotely.
The brainchild of a aviator/engineer living in the Brea (California) area
it was/is called a Super-Station .
However in this scheme rx and tx are co-located.
The system was elaborately explained by its designer/implementor in 1995 at
a meeting of the Fullerton Amateur Radio Club.

I can understand that with antenna restrictions/ prohibition in urbun areas
and a possible emergence of BPL / PLC / PLT ,people are looking into
alternative ways to communicate on the HF bands.
Fortunately in a number of countries BPL et al has already been rejected by
the authorities , Japan and the Netherlands come to mind. I believe also in
the UK ,it is highly unlikely that powerline comms will be accepted.

ARRL's drive to block the introduction of power line comms in the USA ,by
means
of 'competent (engineering) reasoning' ,must be applauded.

Frank GM0CSZ / KN6WH

2786. Means of building low quality receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 21:06:36 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bmsa1joqc1@news.oregonstate.edu>
Source record: 31702

I've been toying around with the idea of digitizing the entire AM commercial broadcast band and -- mainly for my own edification -- doing demodulation in a microcontroller or DSP. Although on one hand I'd claim I can then do cool things like AM stereo demodulation, on the other hand I do recognize such coolness is lost in that digitizing the _entire AM band at once_ from 550-1600KHz only allows me to adjust the gain of an RF amplifier to the point where _the sum of the signals from all the stations_ doesn't overload an ADC. In other words, this approach will only work to pick out relatively strong stations if I still want anything resembling a decent SNR, correct?

To get around this problem, then, I was thinking of using an NE602 mixer to select just the station I wanted and then following its output with an adjustable RF amp. If I go for the direct conversion approach, then, I can follow it with a variable gain baseband amplifier and still hear the weak stations with relatively good fideilty.

Is this a reasonable approach? Is it true that low (...to moderate?) quality receivers can get away with just feeding an antenna's output to a fixed gain broadband amplifier (or even just a matching/bandpass filtering network) followed by a mixer and _then_ an adjustable gain element? (As opposed to high quality receivers that appear to have tuned RF amplifier front ends?)

The idea of digitizing an entire band at once seems to look far less promising if your goal is to dig out weak stations...

Thanks,
---Joel Kolstad

(I also find it quite amusing to think I can build an evelope detector in software to test things out prior to building fancy synchronous detection routines!)

2787. Mixer products every 5kHz to 30MHz on DX-394?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 21:34:35 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <48ikb.8262$Z_2.605732@news20.bellglobal.com>
Source record: 31703
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

I was startled when I hooked up a DX-394 radio (RX2) to the output of the 2nd mixer of another DX-394 (RX1) to find that the strong MW station RX1 was tuned to showed up not only at the 2nd IF of 455 kHz but at every 5kHz from around 200kHz to 30MHz! The strength varied with frequency, probably in part with the gain vs frequency curve of RX2. There were stronger signals at the 2nd and 3rd harmonics of 455kHz. Had to reduce the RX1's RF gain to the point where its AGC was inactive and the receiver was operating just above its threshold of detection to diminish the forest to just a few trees.

The 2nd mixer is preceded by a crystal filter at the 1st IF of 45MHz +/-2.5kHz so I expected to see spectrum of about 15-20kHz width across 455kHz and some 3rd and higher order products like 910 and 1365kHz. The 5kHz interval is suspiciously the same as the steps in the 1st LO VCO frequency (45.150 to 74.995 MHz), controlled by a digital PLL. The 2nd LO at 44.545MHz +/-2.5khz is a varactor tuned VCO.

To generate products every 5kHz, surely we need a 5kHz signal or two very strong signals that are 5kHz apart going into the mixer or some non-linear stage after the 1st IF filter. Am I seeing something unusual or is this what I should see? If it's an anomaly, can anyone suggest what the cause might be? I'm thinking this is a fault or a design weakness that with more complex signals gives rise to a lot of interference to good reception. Could it be possible that this is the result of the method of observation and is not really occurring in normal practise?

73 Tom

2788. Re: WTB: 100K 2 watt carbon resistors, NOS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-18 23:57:46 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <_rkkb.5813$At.4331@edtnps84>
Source record: 31704

Hi Paul,

OT: That's one of the coolest sigs I have seen in a while ;-)

--
Gregg
32 bits worthy - Debian Linux user ;-)

2789. Re: Mixer products every 5kHz to 30MHz on DX-394?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 00:01:25 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <pvkkb.2887$i92.866@clgrps13>
Source record: 31705
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Oy, RS receivers ::)

I had similar probs on a DX-200, solved by turning down the RF gain.
Ended up pulling the RF section out all together and running the first RF
tranny straight to the mixer. Best dang radio I ever had :-)

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

2790. Re: WTB: 100K 2 watt carbon resistors, NOS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 00:42:39 UTC
From: k9sqg@aol.com
Message-ID: <20031018204239.17326.00001378@mb-m16.aol.com>
Source record: 31706

Thanks for the sources, I will look into them.

Evan

2791. Memory Keyer plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 02:02:08 UTC
From: ogrowup@webtv.net
Message-ID: <2334-3F91F0A0-104@storefull-2236.public.lawson.webtv.net>
Source record: 31708

Is there, out there (preferably on the Net) any place I can acquire
plans/ schematic for a memory CW keyer to operate with a Radio Shack
HTX-100 xcvr as a 10-meter beacon?
Also, has anyone any experience with the MFJ-459 memory keyer,
especially in beacon operations?

"Stupidty is the only universal capital crime; the sentence is death.
There is no appeal, and execution is
carried out automatically and without pity."
Robert A. Heinlein
"TIme Enough For Love"

2792. Re: Means of building low quality receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 02:07:29 UTC
From: "Jim, N2VX" <see.mail.message@nospam.com>
Message-ID: <g5s3pv46kdcg3jnnlrqoa40i6k3698seqs@4ax.com>
Source record: 31707

On Sat, 18 Oct 2003 14:06:36 -0700, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> wrote:

>I've been toying around with the idea of digitizing the entire AM commercial
>broadcast band and -- mainly for my own edification -- doing demodulation in
>a microcontroller or DSP. Although on one hand I'd claim I can then do cool
>things like AM stereo demodulation, on the other hand I do recognize such
>coolness is lost in that digitizing the _entire AM band at once_ from
>550-1600KHz only allows me to adjust the gain of an RF amplifier to the
>point where _the sum of the signals from all the stations_ doesn't overload
>an ADC. In other words, this approach will only work to pick out relatively
>strong stations if I still want anything resembling a decent SNR, correct?
>
>To get around this problem, then, I was thinking of using an NE602 mixer to
>select just the station I wanted and then following its output with an
>adjustable RF amp. If I go for the direct conversion approach, then, I can
>follow it with a variable gain baseband amplifier and still hear the weak
>stations with relatively good fideilty.
>
>Is this a reasonable approach? Is it true that low (...to moderate?)
>quality receivers can get away with just feeding an antenna's output to a
>fixed gain broadband amplifier (or even just a matching/bandpass filtering
>network) followed by a mixer and _then_ an adjustable gain element? (As
>opposed to high quality receivers that appear to have tuned RF amplifier
>front ends?)
>
>The idea of digitizing an entire band at once seems to look far less
>promising if your goal is to dig out weak stations...
>
>Thanks,
>---Joel Kolstad
>
>(I also find it quite amusing to think I can build an evelope detector in
>software to test things out prior to building fancy synchronous detection
>routines!)
>

How about some front-end selectivity using a varactor tuned circuit?
That allows for tuning under software control using a D-A converter.

A GE SuperRadio 3 could be used as a pre-built prototype. It uses 3
varactors (one for tuned RF stage) instead of 3 mechanical variable
capacitors. You could take either the tuned RF stage output or IF
output.

Have fun,
Jim

2793. Re: Memory Keyer plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 02:48:29 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <YXmkb.309820$mp.249047@rwcrnsc51.ops.asp.att.net>
Source record: 31709

"Padraigh" <ogrowup@webtv.net> wrote in message
news:2334-3F91F0A0-104@storefull-2236.public.lawson.webtv.net...
> Is there, out there (preferably on the Net) any place I can acquire
> plans/ schematic for a memory CW keyer to operate with a Radio Shack
> HTX-100 xcvr as a 10-meter beacon?
> Also, has anyone any experience with the MFJ-459 memory keyer,
> especially in beacon operations?
>

You should look at the WE4S web site (10 meter beacon):
http://home.bellsouth.net/p/s/community.dll?ep=16&groupid=24395&ck=

Here is the K1EL K-ID Beacon / Identifier Chip (data sheet on web page)
http://k1el.tripod.com/kid.html

Other 10-meter beacons
http://members.mountain.net/~mtyler/beacon3.html

N2UHC beacon
http://www.geocities.com/n2uhc_2/beacon.html

NorCal keyer used for N2UHC message - $ 15
http://www.amqrp.org/kits/NCKeyer/index.html

WA1RAJ
http://www.mv.com/ipusers/cdwalker/10mbeacon.html
In the mean time, the beacon is running with my old AEA memory keyer from
sometime in the mid-1980's as the dedicated controller. The transmitter in
play at the moment is an old Radio Shack HTX-100 10 Meter mobile radio, with
the output power level set at one watt and a small fan added to the final
amplifier heatsink for cooling.

WA8RD beacon
http://my.core.com/~wa8rc/beacon.htm

w9gb

2794. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 03:39:14 UTC
From: Dean Arthur <dearthur@silverstar.com>
Message-ID: <3F920763.6037BC13@silverstar.com>
Source record: 31710
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

```
Fire & Brimstone wrote:
>
> "BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@
> BIG-AL -003894.5-LSB-75-METERS> wrote in
> news:vn6lk3dd6nrg62@corp.supernews.com:
>
> > PARIS, France (AP) -- The death toll in France from August's
> > blistering heat wave was nearly 15,000, according to a government
> > report released Thursday that exceeded prior official estimates by
> > 3,000 victims.
>
> No, Not good news, 30,000 would've been good news.
>
> 15,000 is a good start though.
>

Save the kids, though. Necessary material for cleaning sewer pipes.
Sent down with scrub brushes to keep pipe walls clean - but need test to
determine if doing job. Smell not good enough as they all smell like
s__t to begin with.
```

2795. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 03:44:51 UTC
From: fmmck@aol.com
Message-ID: <20031018234451.15806.00000936@mb-m13.aol.com>
Source record: 31711

<< I'm not sure what you mean by "terminated" actually. Do you mean it must have its load connected when the measurement is carried out? If so, this load which could be replaced by your suggestion of a termination resistor, would simply constitute the input impedence of the next stage, would it now? Hold on... are you suggesting that you replace Zin of the next stage with its equivalent resistance in order to eliminate any reactance present in that next stage >>

Paul-

The next stage has some kind of input impedance, whether it is a logic gate or an analog amplifier. I'm saying that you may be able to adjust that impedance for minimum ringing.

If it is a logic gate, can you add a pull-up resistor across the input? If it is an amplifier, can you add a resistor across the input without upsetting the bias? Trying several values, you may be able to make an improvement.

Why is a long ground lead a bad thing? Because wire has inductance. Above some frequency it can no longer be considered a short circuit. The longer the wire, the lower the frequency. Your ringing contains frequencies that are multiples of 8 MHz.

In addition to keeping scope probe wires short, have you compensated the probe? Many scopes have a square wave calibration source available for checking calibration. Another thing you can use it for, is to adjust the probe for minimum overshoot and rounding of the waveform. (The adjustment allows you to make the scope's probe-to-input capacitance ratio the same as its resistance ratio.)

Fred

2796. Re: Mixer products every 5kHz to 30MHz on DX-394?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 05:37:05 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f922361$0$23584$5a62ac22@freenews.iinet.net.au>
Source record: 31712
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Tom
What is the spectrum going into the mixer at the output of the crystal filter? If this is OK, then it must be the second mixer that is at fault. Look at the spectrum of the LO into the first mixer - does it have 5KHz reference sidebands, and at what level?
What is the 1st mixer and post mixer amp? Are they able to cope with the strong broadcast signal? If they are not something substantial like a ring diode mixer and a strong post mix amp, then the IM might be happening there. A typical bipolar mixer might only be able to cope with -20dBm without overload. If the RF gain doesnt help, then maybe it is the RF amp that is at fault, though I wouldnt expect all this to get through the crystal filter. (though even crystal filters can be nonlinear if driven hard enough...)

Richard

Tom Holden <holden_family@sympatico.ca> wrote in message news:48ikb.8262$Z_2.605732@news20.bellglobal.com...
> I was startled when I hooked up a DX-394 radio (RX2) to the output of the
> 2nd mixer of another DX-394 (RX1) to find that the strong MW station RX1 was
> tuned to showed up not only at the 2nd IF of 455 kHz but at every 5kHz from
> around 200kHz to 30MHz! The strength varied with frequency, probably in
> part with the gain vs frequency curve of RX2. There were stronger signals at
> the 2nd and 3rd harmonics of 455kHz. Had to reduce the RX1's RF gain to the
> point where its AGC was inactive and the receiver was operating just above
> its threshold of detection to diminish the forest to just a few trees.
>
> The 2nd mixer is preceded by a crystal filter at the 1st IF of 45MHz
> +/-2.5kHz so I expected to see spectrum of about 15-20kHz width across
> 455kHz and some 3rd and higher order products like 910 and 1365kHz. The 5kHz
> interval is suspiciously the same as the steps in the 1st LO VCO frequency
> (45.150 to 74.995 MHz), controlled by a digital PLL. The 2nd LO at 44.545MHz
> +/-2.5khz is a varactor tuned VCO.
>
> To generate products every 5kHz, surely we need a 5kHz signal or two very
> strong signals that are 5kHz apart going into the mixer or some non-linear
> stage after the 1st IF filter. Am I seeing something unusual or is this what
> I should see? If it's an anomaly, can anyone suggest what the cause might

> be? I'm thinking this is a fault or a design weakness that with more
complex
> signals gives rise to a lot of interference to good reception. Could it be
> possible that this is the result of the method of observation and is not
> really occurring in normal practise?
>
> 73 Tom
>
>
>

2797. Re: 60 Meters on a 102 inch whip

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 10:07:25 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bmtnvlpvu1@nic.grnet.gr>
Source record: 31714

lose the cb coil and make the coil again you will be happy with the results

--
http://www.qsl.net/sv1hao
"David" <pdr14@comcast.net> wrote in message
news:uOmdnSbnEZ388BGiU-KYuA@comcast.com...
> I did a little experimenting today with my assortment of Iron Powder
Torrid
> cores. For those who care;
> 39 turns on a T-157-2 core got my 102 inch CB whip on the 60 Meter band.
> SWR was about 2.5:1. A 2 - 20 pf cap from the antenna side of the inductor
> to GND will probably get it to 1:1 though I haven't bothered to try this
> yet.
>
> Have fun
>
> David -- KG2LI --
>
>

2798. Re: Means of building low quality receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 11:04:14 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bmtugg$s7v$1@bob.news.rcn.net>
Source record: 31717

> On Sat, 18 Oct 2003 14:06:36 -0700, "Joel Kolstad"
> <JKolstad71HatesSpam@Yahoo.Com> wrote:
>
> >I've been toying around with the idea of digitizing the entire AM
commercial
> >broadcast band and -- mainly for my own edification -- doing demodulation
in
> >a microcontroller or DSP. Although on one hand I'd claim I can then do
cool
> >things like AM stereo demodulation, on the other hand I do recognize such
> >coolness is lost in that digitizing the _entire AM band at once_ from
> >550-1600KHz only allows me to adjust the gain of an RF amplifier to the
> >point where _the sum of the signals from all the stations_ doesn't
overload
> >an ADC. In other words, this approach will only work to pick out
relatively
> >strong stations if I still want anything resembling a decent SNR,
correct?
> >
> >To get around this problem, then, I was thinking of using an NE602 mixer
to
> >select just the station I wanted and then following its output with an
> >adjustable RF amp. If I go for the direct conversion approach, then, I
can
> >follow it with a variable gain baseband amplifier and still hear the weak
> >stations with relatively good fideilty.
> >
> >Is this a reasonable approach? Is it true that low (...to moderate?)
> >quality receivers can get away with just feeding an antenna's output to a
> >fixed gain broadband amplifier (or even just a matching/bandpass
filtering
> >network) followed by a mixer and _then_ an adjustable gain element? (As
> >opposed to high quality receivers that appear to have tuned RF amplifier
> >front ends?)
> >
> >The idea of digitizing an entire band at once seems to look far less
> >promising if your goal is to dig out weak stations...

Shouldn't you look at the TenTec RX320? It superhets to 12kHz and then does the final selectivity and detection in DSP. TenTec will modify old RX320s to bring out the 12 kHz IF to allow playing using a sound card (say DRM).

Or maybe the Software Defined Radio articles by Youngblood in QEX almost a year ago. He is selling card sets. A lot of his complexity is in a bank of switchable filters to cover the "zero" to 50 MHz range.

Or the Motorola "Symphony" chipset for AM/FM broadcast.

Or similar software radio chips from Visteon/Ford.

Or a paper in the Proceedings of the 1999 Central States VHF Conference* by Bob Stenowski, Director, Advanced Comm Engineering, Rockwell Collins. He pointed out that you would need an AtoD converter with more than 25 bits resolution/linearity to build a "DC to Daylight" receiver without frontend tuning / filters. He shows block diagrams of the Collins 95S-1A which covers 5kHz to 2Ghz, but has 9 bandpass filters to cover the range. The 5kHz to 30MHz range is upconverted with a variable LO to 51.2MHz and then handled like the VHF signals.

* available from ARRL

You have an interesting project.

2799. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 11:34:46 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <q0s4pv8sk1vmc0e3punqlg1ub5st5p4372@4ax.com>
Source record: 31715

On 19 Oct 2003 03:44:51 GMT, fmmck@aol.com (Fred McKenzie) wrote:

>Paul-
>
>The next stage has some kind of input impedance, whether it is a logic gate or
>an analog amplifier. I'm saying that you may be able to adjust that impedance
>for minimum ringing.
>
>If it is a logic gate, can you add a pull-up resistor across the input? If it
>is an amplifier, can you add a resistor across the input without upsetting the
>bias? Trying several values, you may be able to make an improvement.
>
>Why is a long ground lead a bad thing? Because wire has inductance. Above
>some frequency it can no longer be considered a short circuit. The longer the
>wire, the lower the frequency. Your ringing contains frequencies that are
>multiples of 8 MHz.
>
>In addition to keeping scope probe wires short, have you compensated the probe?
> Many scopes have a square wave calibration source available for checking
>calibration. Another thing you can use it for, is to adjust the probe for
>minimum overshoot and rounding of the waveform. (The adjustment allows you to
>make the scope's probe-to-input capacitance ratio the same as its resistance
>ratio.)

Thanks, Fred. I'll make a mental note of that lot.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2800. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 11:37:06 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <qnt4pvss5n380koog4cneph6iciv146p2k@4ax.com>
Source record: 31716
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew

On 8 Oct 2003 18:02:11 -0500, "Fire & Brimstone" <Not.no.m@il.here>
wrote:

> During one of the many wars that the French and the British fought and
>the French usually lost, the French just happened to capture a British
>Major. An officer brought the Major to the French general for
>interrogation. The French general began ridiculing the Major for
>wearing "that stupid red tunic." The French general said, "Why to you
>wear that red uniform, it makes it easy for us to shoot you." The
>British major replied, "If I do get wounded, the blood will not show,
>and my soldiers will not get scared." The French general said, "That
>is a very good idea," The Frenchy turned to his orderly and said,
>"From now on all French officers will wear brown pants."

ROTFLMAO!
A touch of classic humour seldom goes amiss on Usenet.
:-)

--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2801. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 12:25:43 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vp50orftai0hb3@corp.supernews.com>
Source record: 31718
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

<Expeditereply@il.here.amenworld.com> wrote in message
news:745181656437342.Post@ithinknot.net...
> Fire & Brimstone" <Not.no.m@il.here> a crit dans le message de
news:3f8496b7$0$47053$45beb828@newscene.com...

>
> Congratulations you show us the kind of bastard you are .
>
> Your are probably the kind of people proud of himself assuming ideas
behind a computer !
>
> Shame on you .
>

<snip remainder of self-righteous indignation>

well, I have another perspective; did you ever stop to think that there
wouldn't be
such a prevailing anti-french notion if they would not only QUIT trying to
halt our
attempts to fight & end terrorism in the world, not only STOP being nothing
more
than a nation that uses the UN... (which, by the way, if you didn't know, we
fund
a quarter of the UN's budget; our total basic input, ASIDE of all the extra
few billions here and there we give, adds up to MORE than contribution of
France, Germany and Russian COMBINED?).... to thwart so many of our
righteous and morally correct war against the islamic extremists that, if
given thier
way, would have YOU killed? Did you ever stop to think that maybe if France
began standing up for herself and HELPING in this dreadful ordeal, along
with the
other sniveling weasel nations of europe, that we could wrap this up quicker
and
faster instead of them being a root cause of what is one of the darkest
periods
in human history to be stretched out FUTHER in terms of time and bloodshed?
Just what did all of France's attempts to thwart our removal of saddam and
put another knife in the back of terrorism GET them, huh? Another bomb in
Paris! And did you EVER think that that maybe if France finally began to
learn
her lesson about appeasement, along with all the other nations in Europe
that

had to bear the dreadful weight of world war II on thier backs, just *maybe* relations between that nation and a few others would improve with us? That just
maybe we would truly be the allies instead of this mass-perpetrated delusion
that we are already?

Kuddos to the axis of weasels for coming around on the last UN vote... I know
they didn't do it because of a change of heart, but at least it's a start in the right
direction. I'll give them *that* much. Now if they'll just open thier eyes and
wake up to the world as it really is and begin to help us, things will be much better
for everybody; Civilized Nations: 1, Islamic Extremist bloodthirsty murderers: ZERO.

Clint
A person who chooses to continue LIVING in the real world instead of dreaming
my way to a grave.

2802. Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 12:54:23 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vp520algr4s56@corp.supernews.com>
Source record: 31719
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Hi all,

I recently became interested in trying to build a small two-tube regen type receiver for broadcast and/or shortwave reception. I designed a simple chassis based on some vintage articles on the subject. This is the classic 'metal box with attched front faceplate' design. I was going to use cold-rolled steel since we have this at work and spot weld the face to the main chassis, but then I got to thinking that perhaps the steel might interfere with the coils. I noticed also after this that every old article that I've come across usually suggested aluminum for the chassis. They don't make mention of the reasons for this, however. I was wondering if ease of machinability for the amatuer working with simple hand tools, and perhaps also weight savings, were main factors, or was it mainly for lack of magnetic interation with the coils? We also have sheets of aluminum, brass, and stainless that I can use but I'm not sure if they can be resistance welded, so I would have to bolt the face onto the main chassis box. Anyone have any further ideas or insights?

thanks in advance,

Dave

2803. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 12:57:22 UTC
From: --exray-- <no@no.no>
Message-ID: <vp52ges9t989cf@corp.supernews.com>
Source record: 31720
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
> Hi all,
>
> I recently became interested in trying to build a small two-tube regen type
> receiver for broadcast and/or shortwave reception. I designed a simple
> chassis based on some vintage articles on the subject. This is the classic
> 'metal box with attched front faceplate' design. I was going to use
> cold-rolled steel since we have this at work and spot weld the face to the
> main chassis, but then I got to thinking that perhaps the steel might
> interfere with the coils. I noticed also after this that every old article
> that I've come across usually suggested aluminum for the chassis. They
> don't make mention of the reasons for this, however. I was wondering if
> ease of machinability for the amatuer working with simple hand tools, and
> perhaps also weight savings, were main factors, or was it mainly for lack of
> magnetic interation with the coils? We also have sheets of aluminum, brass,
> and stainless that I can use but I'm not sure if they can be resistance
> welded, so I would have to bolt the face onto the main chassis box. Anyone
> have any further ideas or insights?
>
> thanks in advance,
>
> Dave
>
>
Steel will be fine. Your suspicions about workability are correct but
there is also plating/painting to consider.
-Bill

2804. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 13:24:54 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <wCydnR-0duBlDg-iU-KYiw@ctc.net>
Source record: 31723
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

>
> I recently became interested in trying to build a small two-tube regen
type
> receiver for broadcast and/or shortwave reception. I designed a simple
> chassis based on some vintage articles on the subject. This is the
classic
> 'metal box with attched front faceplate' design. I was going to use
> cold-rolled steel since we have this at work and spot weld the face to the
> main chassis, but then I got to thinking that perhaps the steel might
> interfere with the coils. I noticed also after this that every old
article
> that I've come across usually suggested aluminum for the chassis. They
> don't make mention of the reasons for this, however. I was wondering if
> ease of machinability for the amatuer working with simple hand tools, and

Aluminum is usually easier for most to work with with simple hand tools.
Steel is fine but it might rust and look bad after a while. Make the
chassie out of whatever kind of metel that you think is the best for you to
work with . Electrically there will be little if any differance.

2805. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 13:25:50 UTC
From: Bill Hennessy <hennessy@281.com>
Message-ID: <3f929005$0$215$9a6e19ea@news.newshosting.com>
Source record: 31721
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Yes, I have found when building regenerative receivers wood is the best chassi. However a metal front panel is a must. However I only use battery tubes with low voltage. Never more than 45 volts. But when building solid-state regeneratives. A good ground plane helps. Build it the dead bug way.

2806. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 13:39:57 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vp54lnsqvkcf2d@corp.supernews.com>
Source record: 31722
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

The "dead bug" way? I'm not sure what this means - please forgive me I'm new to this :-)

Dave

"Bill Hennessy" <hennessy@281.com> wrote in message news:3f929005$0$215$9a6e19ea@news.newshosting.com...
> Yes, I have found when building regenerative receivers wood is the best
> chassi. However a metal front panel is a must. However I only use battery
> tubes with low voltage. Never more than 45 volts. But when building
> solid-state regeneratives. A good ground plane helps. Build it the dead
> bug way.
>
>

2807. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 14:01:40 UTC
From: Leon Heller <aqzf13@dsl.pipex.com>
Message-ID: <3f929946$0$264$cc9e4d1f@news.dial.pipex.com>
Source record: 31724
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:

> Hi all,
>
> I recently became interested in trying to build a small two-tube regen type
> receiver for broadcast and/or shortwave reception. I designed a simple
> chassis based on some vintage articles on the subject. This is the classic
> 'metal box with attched front faceplate' design. I was going to use
> cold-rolled steel since we have this at work and spot weld the face to the
> main chassis, but then I got to thinking that perhaps the steel might
> interfere with the coils.

Nothing wrong with steel. Altoid mint tin-plated steel boxes are very
popular for QRP projects, and tin-plated boxes are often used for
screening on commercial RF PCBs.

73, Leon

2808. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 15:28:07 UTC
From: Capoot <rlcap@xprt.net>
Message-ID: <vp5bcnb0ijb5aa@corp.supernews.com>
Source record: 31725
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"Dead bug" construction means components mounted with legs up. I have not
seen this done with vacuum tube projects.
More important than the chassis material is that ground connections come to
a common point rather than scattered about the chassis.
Ray

2809. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 15:59:11 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <Cjykb.158$VQ3.20345@news20.bellglobal.com>
Source record: 31726
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

My first Heathkit radio used copper-clad steel. I think this is a great combination for electro-magnetic shielding from low frequencies where you need the ferrous material to high frequencies where you need the highly conductive copper skin. Galvanised steel isn't a bad choice either. Steel is needed if you use the radio in the vicinity of CRT's, computers, etc.

Good luck,

Tom

2810. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 15:59:57 UTC
From: John Bartley <jcb@igs.net>
Message-ID: <3f92b59a_6@corp.newsgroups.com>
Source record: 31727
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
> The "dead bug" way? I'm not sure what this means - please forgive me I'm
> new to this :-)

Hehe, don't feel too bad. I have zero experience with solid state stuff, so when I was told to build my trial projects in DBSF format, I was left scratching my head. I laughed out loud when I was shown a "Dead Bug Squashed Flat" project. This is your components laid out flat on a perfboard and the wires run straight, point to point. It really does look like a DBSF!!

I'm not sure how to do the tubes in a DB format, but everything else should be straightforward.

"General Radio" used to sell tube sockets which were surface mount with side terminals. I've looked high and low for some of these, but haven't had any luck. They'd be ideal for breadboard tube projects.

cheers

--
regards from ::
John Bartley
43 Norway Spruce Street
Stittsville, Ontario
Canada, K2S1P5
(If you slow down it takes longer - does that apply to life also?)

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

2811. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 16:24:34 UTC
From: spam.for.the@buerotiger.de
Message-ID: <bmuds2$qrjj2$1@ID-31.news.uni-berlin.de>
Source record: 31728
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

In rec.radio.amateur.dx Clint <rattlehead at computron dot net> wrote:

> well, I have another perspective;

People without a brain rarely have a perspective, let alone two.

Peter Lemken
DF5JT
Berlin

--
Mail an die im From: angegebene Adresse stellt eine Beauftragung zur
ï¿œberpri¿œfung der Mailfunktion des Absenders dar und wird mit einer
Bearbeitungsgebï¿œhr von EUR 1000,- in Rechnung gestellt.

2812. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 17:05:44 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bmujmapqa1@bob.news.rcn.net>
Source record: 31733
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"David Forsyth" <foda01@ncx.com> wrote in message
news:vp520algr4s56@corp.supernews.com...

> I recently became interested in trying to build a small two-tube regen
type
> receiver for broadcast and/or shortwave reception. I designed a simple
> chassis based on some vintage articles on the subject. This is the
classic
> 'metal box with attched front faceplate' design. I was going to use
> cold-rolled steel since we have this at work and spot weld the face to the
> main chassis, but then I got to thinking that perhaps the steel might
> interfere with the coils. I noticed also after this that every old
article
> that I've come across usually suggested aluminum for the chassis.

Your articles aren't old enough. After real wooden breadboards went out of style, metal chassis were cadmium-plated steel. Aluminum chassis didn't appear in wide ham use until a few years after WW2.

Nowadays I prefer using PC board for mounting components. The Al chassis being upside-down used as a shielded base. In many cases the smaller components can be just soldered together in "basket weave" construction supported by the ones that need to be soldered to the PC-board ground plane. Decades ago Pete Sulzer did his prototypes in full basket-weave style without a ground plane - but few people can visualize ground loops well enough to build RF circuits that way. When you visited his company you'd see his prototypes hanging from nails on the wall.

For air-dielectric capacitors: two plates one centimeter on a side, separated by one centimeter equals one picofarad. That's forgetting fringing and other edge effects.

Bob C w3otc

2813. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 17:21:09 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bmuh65$n6h$1@freenet9.carleton.ca>
Source record: 31729
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"Ralph Mowery" (rmowery@ctc.net) writes:
>
> Aluminum is usually easier for most to work with with simple hand tools.
> Steel is fine but it might rust and look bad after a while. Make the
> chassie out of whatever kind of metel that you think is the best for you to
> work with . Electrically there will be little if any differance.
>
>
And of course, everyone did use steel (once things progressed beyond
wood and bakelite chassis) right up until aluminum because readily
available and/or cheap enough, at which point I doubt anyone used
steel except if what they were building was really really heavy, ie
a kilowatt modulator or final.

Michael VE2BVW

2814. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 17:37:47 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bmui5b$pe8$1@freenet9.carleton.ca>
Source record: 31731
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

John Bartley (jcb@igs.net) writes:
> I'm not sure how to do the tubes in a DB format, but everything else
> should be straightforward.
>
I'm not sure it completely translates to tubes, since "dead bug" seems
to suggest everything mounted on one side of the circuit board.

But people did take advantage of copper circuit board in tube circuits.
Invert the chassis, and use it merely to protect the circuitry.

Sometimes the tubes were mounted with a bracket (made of more circuit board,
and even soldered to the main board) on the copper side of the
board, the most obvious times were when the tubes were Nuvistors, but the
scheme was used sometimes when compact construction was desired. But usually,
the tube sockets were mounted in holes in the circuit board, and if aluminum
is easier than steel to work with, copper circuit board is even easier.

Once the tube sockets were in place, then everything would be wired up
as usual, with the difference being that it was really easy to drill a
hole for a coil, and every time a ground point was needed, it was a simple
matter of soldering the lead to the copper circuit board. No high wattage
iron or gun is needed, since the copper isn't really thick. If you need
to change things, it's relatively easy to disconnect that ground point,
and unlike with old methods, you don't have an extra hole if you do change
it. Leads could be short, because you could make ground connections where
they were needed rather than where there was a ground lug.

Because of the tube sockets, this tended to be a bit more formal than with
solid state devices, but it was still a neat way to build, and some of the
most busy builders used it because they were always trying to improve things.

Frank Jones did a lot of this sort of thing, at least after Nuvistors came
along. Even before that, many of his converter projects were built on an
inverted chassis, with a piece of aluminum for mounting the parts rather than
circuit board.

Bill Hoisington K1CLL wrote tons of articles in the sixties ane early
seventies, and pretty much everything was build on circuit board. He was
not concerned with looks, and the few times there were photographs, they
did look very "dead bug" like. He even built an amplifier with a 4CX250
or such on copper circuit board.

Michael VE2BVW

2815. Steel and etc....

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 17:38:31 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vp5il1rrt986c7@corp.supernews.com>
Source record: 31730
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Wow this is some really great info! Thanks Jim and to all others who took
the time to respond!

On a side note - I was trying to join the "Glowbugs" mailing list that I've
seen mentioned on a number of web sites, but I havent gotten any responses
to my to "subscribe" emails. Is this a dead list? If so, are there any
similar current alternatives?

On a second side note - does anyone happen to know what the formula would be
to calculate the capacitance between two metal plates of a given area and
given spacing, having an air dielectric?

thanks again to all!

Dave

"jim rozen" <jim_member@newsguy.com> wrote in message
news:bmug2101hke@drn.newsguy.com...
> In article <vp520algr4s56@corp.supernews.com>, David Forsyth says...
>
> > Anyone
> >have any further ideas or insights?
>
> Steel is cheap. This is one reason that
> one of the most famous two-tube (+ 1 audio)
> regenerative receivers - the national SW3 - was
> manufactured with a steel chassis, and a
> steel enclosure.
>
> Aluminum is easier to work with obviously.
>
> As a practical matter, I would try to keep
> your coils at least one coil diameter away
> from the metal chassis, steel or aluminum.
>
> In the SW3 they did this by putting the coils
> right in the center of the shield compartmets,
> and by standing the coil sockets up on standoffs.
>
> Jim
>
> ===
> please reply to:
> JRR(zero) at yktvmv (dot) vnet (dot) ibm (dot) com
> ===

>

2816. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 17:43:51 UTC
From: Howard Eisenhauer <aa988@REMOVECAPSchebucto.ns.ca>
Message-ID: <vvi5pvkpif38jp8cjg5ak92rvmn00u0ls6@4ax.com>
Source record: 31732

On Sun, 19 Oct 2003 11:59:57 -0400, John Bartley <jcb@igs.net> wrote:

>David Forsyth wrote:
>> The "dead bug" way? I'm not sure what this means - please forgive me I'm
>> new to this :-)
>
>Hehe, don't feel too bad. I have zero experience with solid state stuff,
>so when I was told to build my trial projects in DBSF format, I was left
>scratching my head. I laughed out loud when I was shown a "Dead Bug
>Squashed Flat" project. This is your components laid out flat on a
>perfboard and the wires run straight, point to point. It really does
>look like a DBSF!!
>
>I'm not sure how to do the tubes in a DB format, but everything else
>should be straightforward.
>
>"General Radio" used to sell tube sockets which were surface mount with
>side terminals. I've looked high and low for some of these, but haven't
>had any luck. They'd be ideal for breadboard tube projects.
>
>cheers

Omron has surface mount sockets for thier line of relays, can't
remember if they're 8 or 11 pin though. Check it out, you might get
lucky :).

2817. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 18:38:27 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vp5mhggr6k8p90@corp.supernews.com>
Source record: 31734
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Only one problem I ever had with a steel chassis was a project that used a rather sizable power transformer. The transformer induced currents into the steel chassis that caused metering problems. It was corrected by using a single-point ground to the chassis.

Steel chassis were the norm for much of the tube years, commercial and amateur.

2818. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 19:08:49 UTC
From: Engineer <notme@nowhere.com>
Message-ID: <7jBkb.3544$4Z3.29104@newscontent-01.sprint.ca>
Source record: 31735
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"Leon Heller" <aqzf13@dsl.pipex.com> wrote in message
news:3f929946$0$264$cc9e4d1f@news.dial.pipex.com...
>
>
> David Forsyth wrote:
>
> > Hi all,
> >
> > I recently became interested in trying to build a small two-tube regen
type
> > receiver for broadcast and/or shortwave reception. I designed a simple
> > chassis based on some vintage articles on the subject. This is the
classic
> > 'metal box with attched front faceplate' design. I was going to use
> > cold-rolled steel since we have this at work and spot weld the face to
the
> > main chassis, but then I got to thinking that perhaps the steel might
> > interfere with the coils.
>
> Nothing wrong with steel. Altoid mint tin-plated steel boxes are very
> popular for QRP projects, and tin-plated boxes are often used for
> screening on commercial RF PCBs.
>
> 73, Leon

Indeed, yes. As a youngster, a number of my tube radio and amplifier projects were built on cookie tins - thin tin plated steel (I lived in the UK where we called them 'biscuit tins'.) No adverse effect on coils in cans, nor on the open coils of an early TRF/regen experiment (about an inch off the chassis, IIRC.) When done, slip the tin lid on the bottom and even a flat cookie or chocolate tin becomes quite stiff. If they tend to "oil-can", just put wooden posts (dowel) in between top and lid.

A big advantage was the ability to solder good ground (UK "earth") connections with a 25 watt iron without getting cold joints - fine for audio and BC-band AM. For an FM tuner project I soldered little 'tin' fences at strategic points and paid more attention to the ground points.

Cheers,

Roger

Roger Jones, P.Eng.
Thornhill, Ontario

Canada

"Friends don't let friends vote Liberal"

2819. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 19:55:13 UTC
From: Clint <"rattlehead at computron dot net">
Message-ID: <vp5r3nmfhjpl34@corp.supernews.com>
Source record: 31736
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Peter Lemken" <spam.for.the@buerotiger.de> wrote in message
news:bmuds2$qrjj2$1@ID-31.news.uni-berlin.de...
> In rec.radio.amateur.dx Clint <rattlehead at computron dot net> wrote:
>
> > well, I have another perspective;
>
> People without a brain rarely have a perspective, let alone two.
>
> Peter Lemken
> DF5JT
> Berlin
>

I assume that remark stems from the fact that you live in one of the
yellow-bellied gutless coward nations over there. Hey, here's an idea;
why don't you guys start demanding your leaders quit bowing down
and kissing the rear end of terrorists and middle eastern dictators? Just
how can you *stomach* to live in a nation that just sits around and
gets hammered and attacked and blasted instead of standing up for
yourself and doing something about it? Or is making remarks about
newgroup people having no brains simply *safer* because you're
on the other side of the globe at a computer terminal and the terrorists
are right up in your face?

You'll have to excuse me, I just can't fathom why anybody would
take the path that you guys over there have. Perhaps that is why europe
is slowly being left behind economically in the world and the shift of
industrial & economic strength is headed away from you guys and towards
eastern asian nations. I guess they'll be the future, if you're going to be
*the
past* in your hemisphere.

2820. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 20:00:22 UTC
From: John Bartley <jcb@igs.net>
Message-ID: <3f92edf6_6@corp.newsgroups.com>
Source record: 31737
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

W7TI wrote:
>
> If you're using octal type tubes, there are sockets made for industrial
> relays which fit the tubes perfectly. They are as you describe; surface
> mount with side terminals. They no doubt add a small amount of
> inductance and capacitance which could affect VHF operation, something
> to keep in mind. McMaster-Carr has them on page 819 of their online
> catalog:
>
> http://www.mcmaster.com/
>

Very nicely done!!! Thank you. These are the ideal thing for an
experimenter.

--
regards from ::
John Bartley
43 Norway Spruce Street
Stittsville, Ontario
Canada, K2S1P5
(If you slow down it takes longer - does that apply to life also?)

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

2821. Re: Need Help: Audio Channel

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 22:06:48 UTC
From: Rob Judd <judd@ob-wan.com>
Message-ID: <3F930AF8.916E9ABA@ob-wan.com>
Source record: 31739
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space

Ashhar Farhan wrote:
>
> David Stinson <arc5@ix.netcom.com> wrote in message
news:<3F86AE8C.78B56B8F@ix.netcom.com>...
>
> > I need a Windows-compatable program or TSR
> > (can be DOS, as long as it will run on a Windows machine)
> > that will give me an open audio channel, sound card to sound card,
> > from one internet-connected computer to another.
>
> http://www.speakfreely.org/
> it is free, comes with source code and is GPL-ed.
> the voice quality is really excellent and
> it has choice of codecs to choose from.

Try Freetel as well.

Rob

2822. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-19 22:33:17 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <E7D9T1AtExk$EAHY@ifwtech.co.uk>
Source record: 31746
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Michael Black wrote:
>
>Sometimes the tubes were mounted with a bracket (made of more circuit
>board, and even soldered to the main board) on the copper side of the
>board, the most obvious times were when the tubes were Nuvistors, but
>the scheme was used sometimes when compact construction was desired.
>But usually, the tube sockets were mounted in holes in the circuit
>board, and if aluminum is easier than steel to work with, copper
>circuit board is even easier.
>
One thing I noticed on first trying circuit board as a "chassis" for
tubes was how hot the very thin layer of copper became. Until then, I'd
taken for granted how effective a solid aluminium chassis is at
conducting the heat away from the tube sockets and getting rid of it.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

2823. Re: WTB: 100K 2 watt carbon resistors, NOS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 00:08:11 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3F93278B.E4DFDEA0@bellatlantic.net>
Source record: 31738

K9SQG wrote:
>
> Have a need for about 30, new 100K 2 watt carbon resistors. 10% or 5%
> tolerance are acceptable.
>
> Thanks.
>
> Evan

Last time I needed them, I used 51K's in series instead.
Don't ask me why - I don't know - but I had a tough time
finding 100K's, but no problem finding 51K's.

2824. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 00:25:22 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F932B68.A197D3EA@earthlink.net>
Source record: 31740
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Michael Black wrote:
>
> "Ralph Mowery" (rmowery@ctc.net) writes:
> >
> > Aluminum is usually easier for most to work with with simple hand tools.
> > Steel is fine but it might rust and look bad after a while. Make the
> > chassie out of whatever kind of metel that you think is the best for you to
> > work with . Electrically there will be little if any differance.
> >
> >
> And of course, everyone did use steel (once things progressed beyond
> wood and bakelite chassis) right up until aluminum because readily
> available and/or cheap enough, at which point I doubt anyone used
> steel except if what they were building was really really heavy, ie
> a kilowatt modulator or final.
>
> Michael VE2BVW

I have seen a few nice layouts on Brass chassis, as well. Easier to
work than steel, and you can still solder to it. I built some tube RF
decks on 1/16" brass sheet stock, and mounted them into a steel cabinet
years ago.
--

Michael A. Terrell
Central Florida

2825. Re: Steel no good for chassis? (Which metal is best for old regendesigns?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 00:28:05 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F932C0F.AEC662CC@earthlink.net>
Source record: 31741
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

John Bartley wrote:
>
> W7TI wrote:
> >
> > If you're using octal type tubes, there are sockets made for industrial
> > relays which fit the tubes perfectly. They are as you describe; surface
> > mount with side terminals. They no doubt add a small amount of
> > inductance and capacitance which could affect VHF operation, something
> > to keep in mind. McMaster-Carr has them on page 819 of their online
> > catalog:
> >
> > http://www.mcmaster.com/
> >
>
> Very nicely done!!! Thank you. These are the ideal thing for an
> experimenter.
>
> --
> regards from ::
> John Bartley
> 43 Norway Spruce Street
> Stittsville, Ontario
> Canada, K2S1P5
> (If you slow down it takes longer - does that apply to life also?)
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 100,000 Newsgroups - 19 Different Servers! =-----

One thing to watch out for. Relay sockets are not made to run at
high temperatures, so you have to make sure they don't melt or burn.
--

Michael A. Terrell
Central Florida

2826. Re: Steel no good for chassis? (Which metal is best for old regendesigns?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 00:47:00 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bmven2$6es$1@bob.news.rcn.net>
Source record: 31742
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:3F932C0F.AEC662CC@earthlink.net...
>
> One thing to watch out for. Relay sockets are not made to run at
> high temperatures, so you have to make sure they don't melt or burn.

Yikes!!!!!!!!! Wherever are you going to find temperatures in a receiver
that would melt any plastic?

Polystyrene miniature tube sockets were used in "UHF" radio receiving
projects. Soldering to their contacts took some skill to avoid melting the
plastic, but there was no problem during operation.

I'll grant you that transmitting firebottles might bother a polystyrene
socket.

2827. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 01:55:09 UTC
From: kelly@dvol.com
Message-ID: <d22b54c3.0310191755.640729a6@posting.google.com>
Source record: 31743
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

"Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
news:<i9tkb.9479$pz5.5826562@newsfep2-win.server.ntli.net>...
> > Of course the simplest, but not always the most cost effective
> > solution is to have a summer cottage with a broadband connection in
> > some quiet rural location. Move your station to the cottage and when
> > not at the cottage, connect a remotely controllable transceiver to a
> > computer (audio in and out, serial data and PTT) and control the
> > station from your urban home. A remotely controlled antenna rotator
> > also helps a lot. In this way you do not have to suffer from noise,
> > antenna restrictions and neighbours complaining about interference:-).
> > Using some watchdog timers is a good idea, in case the computer or
> > internet connection crashes.
> ==========
> Perhaps not from a summer cottage ,but remote operation of HF stations has
> been done in California and Hawaii
> since the mid 90s .Access and operation is through a hand-held VHF radio.
> Even a rotator can be operated remotely.
> The brainchild of a aviator/engineer living in the Brea (California) area
> it was/is called a Super-Station .
> However in this scheme rx and tx are co-located.
> The system was elaborately explained by its designer/implementor in 1995 at
> a meeting of the Fullerton Amateur Radio Club.
>
> I can understand that with antenna restrictions/ prohibition in urbun areas
> and a possible emergence of BPL / PLC / PLT ,people are looking into
> alternative ways to communicate on the HF bands.
> Fortunately in a number of countries BPL et al has already been rejected by
> the authorities , Japan and the Netherlands come to mind. I believe also in
> the UK ,it is highly unlikely that powerline comms will be accepted.
>
> ARRL's drive to block the introduction of power line comms in the USA ,by
> means
> of 'competent (engineering) reasoning' ,must be applauded.

Good post Frank, right on the money!

>
> Frank GM0CSZ / KN6WH

w3rv

2828. Re: Steel no good for chassis? (Which metal is best for old regendesigns?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 01:56:50 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F9340DC.20EDFAB1@earthlink.net>
Source record: 31744
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

R J Carpenter wrote:
>
> "Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
> news:3F932C0F.AEC662CC@earthlink.net...
> >
> > One thing to watch out for. Relay sockets are not made to run at
> > high temperatures, so you have to make sure they don't melt or burn.
>
> Yikes!!!!!!!!! Wherever are you going to find temperatures in a receiver
> that would melt any plastic?
>
> Polystyrene miniature tube sockets were used in "UHF" radio receiving
> projects. Soldering to their contacts took some skill to avoid melting the
> plastic, but there was no problem during operation.
>
> I'll grant you that transmitting firebottles might bother a polystyrene
> socket.

That was what I was thinking. Someone trying to use a sweep tube to
build a small transmitter, and having heat problems with the socket.
--

Michael A. Terrell
Central Florida

2829. Re: Need Help: Audio Channel

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 03:54:17 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F935C68.E98F8A38@ix.netcom.com>
Source record: 31745
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space

Rob Judd wrote:

> Try Freetel as well.

Looks like Freetel is no longer available.
Homepage is gone (search holder there).
Download links on other sites inop.

2830. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 09:27:18 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vp7ak1lvnrkd02@corp.supernews.com>
Source record: 31647

An oscilloscope probe has capacitance between the probe tip and ground connection. Any inductance in series with this path makes a resoant circuit that rings when hit by a fast transition. I highly recommend reading Tek's "ABCs of Probes", which you can get at

http://www.tek.com/Measurement/App_Notes/ABCsProbes/60W_6053_7.pdf

It mentions the phenomenon on p. 10, but it would be very worthwhile to read the whole thing.

Roy Lewallen, W7EL

Paul Burridge wrote:
> . . .
> The short prods inplace of the flying ground clip certainly reduced
> the ringing quite considerably. I'd be interested to know why a long
> ground lead is a Bad Thing...
> . . .

2831. Re: Ringing on square wave: how to eliminate?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 11:40:26 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <obe7pv8jro7toarvp3603upilai8mbliif@4ax.com>
Source record: 31648

On Mon, 20 Oct 2003 02:27:18 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>An oscilloscope probe has capacitance between the probe tip and ground
>connection. Any inductance in series with this path makes a resoant
>circuit that rings when hit by a fast transition. I highly recommend
>reading Tek's "ABCs of Probes", which you can get at
>
>http://www.tek.com/Measurement/App_Notes/ABCsProbes/60W_6053_7.pdf
>
>It mentions the phenomenon on p. 10, but it would be very worthwhile to
>read the whole thing.

Many thanks, Roy. I will. I really need to get better acquainted with
these finer points.
--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2832. power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 12:28:06 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bn0kjcsql1@nic.grnet.gr>
Source record: 31649

Hi everyone I have made a power supply for my rigs

The schematic is the typical regulator with power transistor wrapped around it for the extra juice.

I need 40 amps continues ..

I tried 4 mj2955 which are rather nice for foot warming in the winter .

I also tried nte-180 which are very good. is there anything better at a logical price

I would like to keep the number of transistors down to 1 or 2.

Can someone advise my on what to use for power?

--
http://www.qsl.net/sv1hao

2833. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 12:33:51 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bn0l7u$t94$1@nic.grnet.gr>
Source record: 31650
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Aluminum= nice to work with+very light+dose not rust+not really that
expensive

--
http://www.qsl.net/sv1hao
"David Forsyth" <foda01@ncx.com> wrote in message
news:vp520algr4s56@corp.supernews.com...
> Hi all,
>
> I recently became interested in trying to build a small two-tube regen
type
> receiver for broadcast and/or shortwave reception. I designed a simple
> chassis based on some vintage articles on the subject. This is the
classic
> 'metal box with attched front faceplate' design. I was going to use
> cold-rolled steel since we have this at work and spot weld the face to the
> main chassis, but then I got to thinking that perhaps the steel might
> interfere with the coils. I noticed also after this that every old
article
> that I've come across usually suggested aluminum for the chassis. They
> don't make mention of the reasons for this, however. I was wondering if
> ease of machinability for the amatuer working with simple hand tools, and
> perhaps also weight savings, were main factors, or was it mainly for lack
of
> magnetic interation with the coils? We also have sheets of aluminum,
brass,
> and stainless that I can use but I'm not sure if they can be resistance
> welded, so I would have to bolt the face onto the main chassis box.
Anyone
> have any further ideas or insights?
>
> thanks in advance,
>
> Dave
>
>

2834. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 13:07:33 UTC
From: Capoot <rlcap@xprt.net>
Message-ID: <vp7ngnk0ucsv80@corp.supernews.com>
Source record: 31651

"Deos" <lineoffiretoday@yahoo.com> wrote in message
news:bn0kjcsql1@nic.grnet.gr...
> Hi everyone I have made a power supply for my rigs
>
> The schematic is the typical regulator with power transistor wrapped
around
> it for the extra juice.
>
> I need 40 amps continues ..
> I tried 4 mj2955 which are rather nice for foot warming in the winter .

The function of the pass transistor is to dissipate as heat the difference between input and output. Sounds like you need a bigger heat sink...or build a switching supply.
Ray

2835. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 13:57:46 UTC
From: clarke <clarke@nospam.net>
Message-ID: <3F93E9D8.8C2B7AF8@nospam.net>
Source record: 31652

Hi, check this link and see what you need to do,
one or two pass trans. will not do the job for you,
easier to use 6-10 pass trans to share the load.

http://www.mitedu.freeserve.co.uk/Circuits/Power/1230psu.htm

Is your transformer able to supply necessary power to this supply ?

regards,
clarke

Deos wrote:

> Hi everyone I have made a power supply for my rigs
>
> The schematic is the typical regulator with power transistor wrapped around
> it for the extra juice.
>
> I need 40 amps continues ..
>
> I tried 4 mj2955 which are rather nice for foot warming in the winter .
>
> I also tried nte-180 which are very good. is there anything better at a
> logical price
>
> I would like to keep the number of transistors down to 1 or 2.
>
> Can someone advise my on what to use for power?
>
> --
> http://www.qsl.net/sv1hao

2836. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 15:14:30 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <2%Skb.11540$pz5.8060648@newsfep2-win.server.ntli.net>
Source record: 31653
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

> The "dead bug" way? I'm not sure what this means - please forgive me I'm
> new to this :-)
=========
This is a method of construction where components are soldered to unetched
printed circuit board islands (made with a special rotary bit which only
removes a thin ring from the copper surface) or to insulated PCB patches
glued onto the unetched PCB ,with ICs glued to the PCB with the legs up
(hence dead bug) and connected to other components .
If permissible ,additional 'connecting points' are achieved by soldering
high value resistors (a number of MegaOhms) perpendicularly onto the PCB
with the other end serving as the connecting point.

It is also called ugly construction . Extensive info on these methods is
given in an excellent book for homebrewers :
"Experimental Methods in RF Design" Chapter 1. ; published by ARRL.

Frank GM0CSZ / KN6WH

2837. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 15:20:20 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <3F93FD34.5030104@infinet.com>
Source record: 31654

clarke wrote:
> Hi, check this link and see what you need to do,
> one or two pass trans. will not do the job for you,
> easier to use 6-10 pass trans to share the load.
>
> http://www.mitedu.freeserve.co.uk/Circuits/Power/1230psu.htm
>
> Is your transformer able to supply necessary power to this supply ?
>
> regards,
> clarke
>
>
> Deos wrote:
>
>
>>Hi everyone I have made a power supply for my rigs
>>
>>The schematic is the typical regulator with power transistor wrapped around
>>it for the extra juice.
>>
>>I need 40 amps continues ..
>>
>>I tried 4 mj2955 which are rather nice for foot warming in the winter .
>>
>>I also tried nte-180 which are very good. is there anything better at a
>>logical price
>>
>>I would like to keep the number of transistors down to 1 or 2.
>>
>>Can someone advise my on what to use for power?
>>
>>--
>>http://www.qsl.net/sv1hao
>
>
If you want to keep it to a couple transistors they would be expensive.
You are better off using either more NTE-180 or more mj2955, but I would
cut the voltage down to around 18 volts instead of 24 volts as this
higher voltage leads to more heat for the transistors. Rob

2838. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 15:29:22 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <8QTkb.558$Av3.539523@newsfep1-win.server.ntli.net>
Source record: 31656
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

> If you're using octal type tubes, there are sockets made for industrial
> relays which fit the tubes perfectly. They are as you describe; surface
> mount with side terminals. They no doubt add a small amount of
> inductance and capacitance which could affect VHF operation, something
> to keep in mind. McMaster-Carr has them on page 819 of their online
> catalog:
==========
These surface mount sockets have substantial screwed connections and are
made of PVC which as suggested might not be the optimum for VHF applications
,but also might not be able to cope with the heat produced by the relevant
valve (tube), especially when the valve is of the medium to high power
variety.

Frank GM0CSZ / KN6WH

2839. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 15:43:06 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <9QTkb.559$Av3.539523@newsfep1-win.server.ntli.net>
Source record: 31658
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

> Nowadays I prefer using PC board for mounting components. The Al chassis
> being upside-down used as a shielded base. In many cases the smaller
> components can be just soldered together in "basket weave" construction
> supported by the ones that need to be soldered to the PC-board ground
plane.
> Decades ago Pete Sulzer did his prototypes in full basket-weave style
> without a ground plane - but few people can visualize ground loops well
> enough to build RF circuits that way. When you visited his company you'd
> see his prototypes hanging from nails on the wall.
==========
Talking about nails ,some time ago in the dutch amateur radio mag.
'Electron' , there was an article describing a kid's radio.
,dubbed 'Nail Radio' . Its construction was on a piece of timber into
which copperclad nails had been hammered in circuit diagramme configuration
. The components (for this medium wave receiver) were subsequently soldered
to the nail heads.
A superb way to introduce newcomers to electronics and radio home-brewing.

Frank GM0CSZ / KN6WH

2840. [AD]: ATV Video Overlay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 15:46:59 UTC
From: sales@NOSPAM_STV5730A.co.uk
Message-ID: <941AAEE28salesblackboxcamerac@news.virgin.net>
Source record: 31655
Cross-posted to: rec.radio.amateur.misc, rec.radio.amateur.equipment, rec.radio.amateur.homebrew, uk.radio.amateur, uk.tech.broadcast

The PIC STV5730A on screen display project board provides a simple platform for the development of microcontroller driven text over video applications. It is ideal for creating on screen displays for ATV applications such as callsign generation.

For the non-programmer a PC keyboard interface version allows easy creation of on screen displays.

The PIC STV5730A on screen display project board is available from http://www.STV5730A.co.uk

Features:
* 16F628 microcontroller for flexible development
* STV5730A on screen display IC gives 28 character by 11 row screen
* 128 text and graphics characters defined in ROM
* Text over video or self generated video signal
* 10 i/o lines on the 16F84 for easy interface to sensors, keypads, etc
* Power supply 5V dc or 9 - 12dc via on board regulator
* Free PIC-STV5730A demo software in assembler & BASIC
* Screen display routines available
* Simple PC serial interface, ATV callsign and GPS display examples
* Enclosures available
* Accessories and connecters

Cut out the tedium of project development and get straight to the fun of making your idea work with proven hardware and well commented easy to understand example code.

Simon Blake

2841. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 16:00:16 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <aQTkb.560$Av3.539523@newsfep1-win.server.ntli.net>
Source record: 31657

> Hi everyone I have made a power supply for my rigs
>
> The schematic is the typical regulator with power transistor wrapped
around
> it for the extra juice.
>
> I need 40 amps continues ..
>
>
>
> I tried 4 mj2955 which are rather nice for foot warming in the winter .
>
> I also tried nte-180 which are very good. is there anything better at a
> logical price
>
> I would like to keep the number of transistors down to 1 or 2.
>
> Can someone advise my on what to use for power?
========
Assuming that so far you have only considered bi-polar transistors ,perhaps
it would be beneficial to look into the application of Power MOSFETs. In the
'on' state they have a very low resistance ,hence at high currents they
dissipate less heat .
Consequently you would need smaller heat sinks.

Frank GM0CSZ / KN6WH

2842. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 16:27:04 UTC
From: --exray-- <no@no.no>
Message-ID: <vp835hhbkh3i01@corp.supernews.com>
Source record: 31659
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Frank Dinger wrote:
>>Nowadays I prefer using PC board for mounting components. The Al chassis
>>being upside-down used as a shielded base. In many cases the smaller
>>components can be just soldered together in "basket weave" construction
>>supported by the ones that need to be soldered to the PC-board ground
>
> plane.
>
>>Decades ago Pete Sulzer did his prototypes in full basket-weave style
>>without a ground plane - but few people can visualize ground loops well
>>enough to build RF circuits that way. When you visited his company you'd
>>see his prototypes hanging from nails on the wall.
>
> ==========
> Talking about nails ,some time ago in the dutch amateur radio mag.
> 'Electron' , there was an article describing a kid's radio.
> ,dubbed 'Nail Radio' . Its construction was on a piece of timber into
> which copperclad nails had been hammered in circuit diagramme configuration
> . The components (for this medium wave receiver) were subsequently soldered
> to the nail heads.
> A superb way to introduce newcomers to electronics and radio home-brewing.
>
> Frank GM0CSZ / KN6WH
>
>
hehehe...as a kid I built a crystal radio like that. No soldering though.
-Bill

2843. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 17:14:11 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <ps58pv44hf0or85ol9jnegvp52u5hi2057@4ax.com>
Source record: 31660
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

On Mon, 20 Oct 2003 16:43:06 +0100, "Frank Dinger"
<gm0csz.kn6wh@ntlworld.com> wrote:

>Talking about nails ,some time ago in the dutch amateur radio mag.
>'Electron' , there was an article describing a kid's radio.
>,dubbed 'Nail Radio' . Its construction was on a piece of timber into
>which copperclad nails had been hammered in circuit diagramme configuration
>. The components (for this medium wave receiver) were subsequently soldered
>to the nail heads.
>A superb way to introduce newcomers to electronics and radio home-brewing.
>
A real circuit "board".

Any technique that works, is good technique.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

2844. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 18:33:02 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <gj88pvc6kihps13n9hvavdjo1b4qpsbliu@4ax.com>
Source record: 31661

On Mon, 20 Oct 2003 11:20:20 -0400, rob34 <rob34@infinet.com> wrote:

>If you want to keep it to a couple transistors they would be expensive.
>You are better off using either more NTE-180 or more mj2955, but I would
>cut the voltage down to around 18 volts instead of 24 volts as this
>higher voltage leads to more heat for the transistors. Rob

How come no one's yet recommeded that great old PSU war-horse, the
2N3055? Six of them on a decent heat sink and you're sorted!

--

"Windows [n.], A thirty-two bit extension and GUI shell to a sixteen bit patch
to an eight bit operating system originally coded for a four bit
microprocessor and produced by a two bit company."

2845. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 18:49:33 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vp8bi0g6jbto45@corp.supernews.com>
Source record: 31662

Paul Burridge wrote:
> On Mon, 20 Oct 2003 11:20:20 -0400, rob34 <rob34@infinet.com> wrote:
>
>
>>If you want to keep it to a couple transistors they would be expensive.
>>You are better off using either more NTE-180 or more mj2955, but I would
>>cut the voltage down to around 18 volts instead of 24 volts as this
>>higher voltage leads to more heat for the transistors. Rob
>
>
> How come no one's yet recommeded that great old PSU war-horse, the
> 2N3055? Six of them on a decent heat sink and you're sorted!
>
2N3055 are great, but 2N3771 are better! Rob

2846. Re: Means of building low quality receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 20:52:52 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn1i0nhll1@news.oregonstate.edu>
Source record: 31665

Thanks for the responses so far...

The idea of digitizing the entire AM band would be a lot more appealing if someone made one of those small serial interface ADCs that had a sample rate in the 3-4MSps range. The best I've found so far is a 1.75MSps from Analog Devices (AD7470, a 10 bit ADC), which -- even restricting the AM band to the 'traditional' 550-1550kHz instead of the slightly expanded 500?-1710kHz -- obviously isn't adequate to sample the entire 1MHz spectrum.

Hence I think I'm going to try an approach along the lines of a micrcontroller's PWM output feeding a Linear Tech. LTC1799 square wave oscillator, filtering its harmonics a bit, feeding it to an NE602A mixer followed by a (means yet to be determined) adjustable gain IF amp, and then the ADC on the microcontroller. For the audio output I the TI TLV320DAC23 is a high quality stereo DAC with built in 100mW audio amplifiers and serial microcontroller connectivity.

Of course this is all going to have to fit into an Altoid's tin, right? :-)

---Joel Kolstad

2847. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 21:37:50 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bn1qpaqfa1@nic.grnet.gr>
Source record: 31666

the trasformer is in the KW range.....
it's a big nasty beast.

--
http://www.qsl.net/sv1hao
"clarke" <clarke@nospam.net> wrote in message
news:3F93E9D8.8C2B7AF8@nospam.net...
> Hi, check this link and see what you need to do,
> one or two pass trans. will not do the job for you,
> easier to use 6-10 pass trans to share the load.
>
> http://www.mitedu.freeserve.co.uk/Circuits/Power/1230psu.htm
>
> Is your transformer able to supply necessary power to this supply ?
>
> regards,
> clarke
>
>
> Deos wrote:
>
> > Hi everyone I have made a power supply for my rigs
> >
> > The schematic is the typical regulator with power transistor wrapped
around
> > it for the extra juice.
> >
> > I need 40 amps continues ..
> >
> > I tried 4 mj2955 which are rather nice for foot warming in the winter .
> >
> > I also tried nte-180 which are very good. is there anything better at a
> > logical price
> >
> > I would like to keep the number of transistors down to 1 or 2.
> >
> > Can someone advise my on what to use for power?
> >
> > --
> > http://www.qsl.net/sv1hao
>

2848. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 21:40:00 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bn1qpmqfa2@nic.grnet.gr>
Source record: 31667

dont have any idea how to work with mosfet
any links in the right direction?

--
http://www.qsl.net/sv1hao
"Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
news:aQTkb.560$Av3.539523@newsfep1-win.server.ntli.net...
> > Hi everyone I have made a power supply for my rigs
> >
> > The schematic is the typical regulator with power transistor wrapped
> around
> > it for the extra juice.
> >
> > I need 40 amps continues ..
> >
> >
> >
> > I tried 4 mj2955 which are rather nice for foot warming in the winter .
> >
> > I also tried nte-180 which are very good. is there anything better at a
> > logical price
> >
> > I would like to keep the number of transistors down to 1 or 2.
> >
> > Can someone advise my on what to use for power?
> ========
> Assuming that so far you have only considered bi-polar transistors
,perhaps
> it would be beneficial to look into the application of Power MOSFETs. In
the
> 'on' state they have a very low resistance ,hence at high currents they
> dissipate less heat .
> Consequently you would need smaller heat sinks.
>
> Frank GM0CSZ / KN6WH
>
>
>
>

2849. Heathkit digital trainer .AC powered

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 21:50:47 UTC
From: macstl@mindspring.com
Message-ID: <ed2cea36.0310201350.439a495d@posting.google.com>
Source record: 31663

Heathkit Digital Trainer AC powered

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2566410867
This is a working Heathkit trainer Model ET-3100 with such things a
Power supply with Positive control knob and negative control knob.
Connetor blocks to make solder less connections. A 1 k ohm contol knob
. this is a variable resistor for your experiments. also a 100k ohm
knob for the same. Breadboarding board to make solderless connections
. A range switch to selects the frequency range of the signal
generator. (low or High) A frequency control knob = varies the
frequency of the signal generator fromn 200hz to 2khz. connector
blocks for sine gnd and square wave.. Red led for unit power on
indicator. Two large schematic sheets for the trainer are included. A
GREAT GIZMO FOR A ELECTRONICS ENTHUSIAST. Shipping in the USA is
$13.00 Canada is $17.00

2850. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 22:49:07 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <nbn8pvkl68o4565kdd1eja7nhdb6c4uogr@4ax.com>
Source record: 31664

On Mon, 20 Oct 2003 20:28:06 GMT, Jim Higgins
<UseAddressBelow@pandora.orbl.org> wrote:

>The basic design demonstrates a generally acceptable approach to
>designing a power suppy, but some of the components chosen just
>don't seem up to meeting the design criteria of 24 volts in, 12
>volts out at 30 amps.

Such designs are simply brain dead.

If you need +12 V at 30 A and you are using NPN series pass
transistors, you should use about 13 V at the end of the capacitor
discharge cycle. This should be doable with far less than 24 V
capacitor nominal voltage.

Assuming the capacitor voltage drops from say 17 V to 13 V during each
half cycle, the power dissipation in the series pass transistors will
be ((17+13)/2 V)-12 V) x 30 A or 90 W, so this is doable with 3-6
transistors.

However, the required base voltage varies between 14 and 18 V, so a
separate power supply is required, either with a separate secondary
winding or by using some kind of voltage doubling, but this needs to
supply only 2-4 A.

The other alternative is to use PNP series pass transistors on the +12
V side, in which case a high, separate voltage is not needed.

Paul OH3LWR

2851. Re: Steel and etc....

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-20 23:31:31 UTC
From: averyfineman@aol.com
Message-ID: <20031020193131.02537.00001190@mb-m23.aol.com>
Source record: 31668

In article <vp5il1rrt986c7@corp.supernews.com>, "David Forsyth"
<foda01@ncx.com> writes:

>On a second side note - does anyone happen to know what the formula would be
>to calculate the capacitance between two metal plates of a given area and
>given spacing, having an air dielectric?

From the good ol' "Green Bible" (ITT Reference Data for Radio
Engineers, 4th Edition, 1956, page 133), for only two plates,
dimensions in inches, air dielectric:

Capacitance (pFd) = 0.225 x Square Area / spacing

Assuming the plates are the same size and shape.

Len Anderson
retired (from regular hours) electronic engineer person

2852. Re: Steel and etc....

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 00:05:47 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vp8tmp73o55n81@corp.supernews.com>
Source record: 31669

Thanks Len!

Dave

"Avery Fineman" <averyfineman@aol.com> wrote in message
news:20031020193131.02537.00001190@mb-m23.aol.com...
> In article <vp5il1rrt986c7@corp.supernews.com>, "David Forsyth"
> <foda01@ncx.com> writes:
>
> >On a second side note - does anyone happen to know what the formula would
be
> >to calculate the capacitance between two metal plates of a given area and
> >given spacing, having an air dielectric?
>
> From the good ol' "Green Bible" (ITT Reference Data for Radio
> Engineers, 4th Edition, 1956, page 133), for only two plates,
> dimensions in inches, air dielectric:
>
> Capacitance (pFd) = 0.225 x Square Area / spacing
>
> Assuming the plates are the same size and shape.
>
> Len Anderson
> retired (from regular hours) electronic engineer person

2853. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 00:27:22 UTC
From: dplatt@radagast.org
Message-ID: <vp8vba7lbq6ndd@corp.supernews.com>
Source record: 31670

>> Assuming that so far you have only considered bi-polar transistors perhaps
>> it would be beneficial to look into the application of Power MOSFETs. In the
>> 'on' state they have a very low resistance ,hence at high currents they
>> dissipate less heat .

>> Consequently you would need smaller heat sinks.

>dont have any idea how to work with mosfet

In this particular application - pass transistors in a linear regulator - I don't see that MOSFETs would have any particular advantage.

It's true that modern power MOSFETs have a very low series resistance when switched "fully on". This allows for low losses, and relatively low heat dissipation, if they're used in an application where "fully on, or fully off" is suitable. "Hard" power switching, or pulse-width-modulated drive applications such as a switching regulator or a DC motor-speed controller are good places for MOSFETs (or IGBTs).

However, a linear regulator isn't this sort of application. In these regulators, you aren't driving the pass transistor "hard on" - because, if you did, the regulator would simply pass the full input voltage to its output and wouldn't regulate at all! Instead, you're switching the transistor on only partway, so that it's passing only the amount of current needed to "pull up" the outputs to the regulation voltage.

The rest of the voltage (input minus output) is going to appear across the pass transistor (and possibly one or two other components in series with it, such as ballast resistors) and will be dissipated as heat. This will be true regardless of whether the regulating element is a MOSFET, bipolar transistor, or whatever. If you're sucking 30 amperes, and dropping 10 volts between input and output, your pass elements will be dissipating 300 watts.

The only ways I know of to reduce the heat dissipation are to either lower your input voltage (but not enough to cause the circuit to drop out of regulation), or move to a lower-loss architecture such as a buck-mode switching regulator. The latter can be quite efficient (often 90% or better), but you have to work REALLY HARD to build one which won't emit enough radiated and conducted RF switching noise to totally yngvi up your HF reception.

I agree with the other posters, who suggest that it's probably preferable to use a sufficient number of simple, easy-to-buy pass transistors (2N3055 being the classic example). Use enough

so that you can use 'em well within conservative ratings - don't
go anywhere near the edge of the "safe operating area" - and
ballast them so that they share current properly.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2854. AM Parts FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 00:28:33 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vp8vdpjficpv05@corp.supernews.com>
Source record: 31671

Hello- Have two identical transformer sets out of FAA AM transmitters.These units were set up as follows : pair of 6C4 mic. amps driving pair of 6146 modulators modulating a single 4CX150A.
Here are the corresponding transformers : { input}dual 150 ohm windings to 40K ohm @ 25 mA.
{interstage} 10K to dual 75K
windings
{ Modulation }1,2,3 = 7500 ohms CT
2,4 = 3500 ohms @ 200
mA. rated 80 watts
All transformers are 300-4000 CPS, sealed types in nice shape.Fairly compact and lightweight units for their

2855. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 01:06:01 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bn210k$1ce$1@nic.grnet.gr>
Source record: 31672
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

ok lets burn our rig's
use our certificates as toilet paper
and go to the chat rooms.

--
http://www.qsl.net/sv1hao
"David Stinson" <arc5@ix.netcom.com> wrote in message
news:3F8B4D6D.31D19695@ix.netcom.com...
> Thanks for reading this.
> I have today submitted an article to QST magazine entitled
> "Virtual Spectrum: Beating BPL at its own game,"
> detailing a concept that can greatly impact our radio hobby.
> I wanted to "put down a marker" to date the introduction
> of a new ham-radio innovation, and to officially place
> the idea in the public domain, so the maximum amount of
> "tinkering" with it can happen.
>
> This concept uses the bandwidth available on the Internet
> and some simple circuitry to create a replica of a segment of
> the radio spectrum, stream it live or prerecorded to another
> internet-connected computer and reconstruct that radio spectrum
> at your location. *Any* radio equipment you wish to use
> (given an Internet connection with sufficent bandwidth)-
> from modern PSK-31 rigs, SSB nets, WW-II modulated oscillators
> all the way back to ancient spark transmitters
> with crystal receivers; all can legally communicate just as though
> you were on-the-air. The system is bi-directional, allowing
> QSOs between stations that normally could not communicate.
> If you can't hear weak signals because of noise in your area,
> the concept allows you to build a "remote front end" and
> transport the radio spectrum in a quiet area right to your rig,
> bypassing the problems in your location.
>
> I believe this concept can be the answer to BPL, "noise holes,"
> antenna restrictions, HF "jammers" and many other obstacles to
> using our radios. There is great potential for many uses,
> and a possible niche market for someone with the resources
> to develop the equipment.
> I have already built prototype equipment to prove the concept
> and it works splendidly. The article includes construction
> details. The circuits are simple and you can get
> 95% of the parts at Radio Shack.
> By the time QST publishes (assume they accept the work),

> we should have completed the first Virtual Spectrum QSO:
> two World War 2 BC-611 handie-talkies (output: about 60 milliwatts)
> will communicate over a path of about 2000 miles.
>
> If QST does not publish the concept,
> I will publish it myself on the web
> immediatly after hearing from them.
> I am indebted to Mike Hanz, aafradio@cox.net
> for invaluable suggestions and encouragement.
>
> TNX ES 73 DE Dave Stinson AB5S

2856. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 01:30:08 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F948C18.C0DB7223@earthlink.net>
Source record: 31673

rob34 wrote:
>
> Paul Burridge wrote:
> > On Mon, 20 Oct 2003 11:20:20 -0400, rob34 <rob34@infinet.com> wrote:
> >
> >
> >>If you want to keep it to a couple transistors they would be expensive.
> >>You are better off using either more NTE-180 or more mj2955, but I would
> >>cut the voltage down to around 18 volts instead of 24 volts as this
> >>higher voltage leads to more heat for the transistors. Rob
> >
> >
> > How come no one's yet recommeded that great old PSU war-horse, the
> > 2N3055? Six of them on a decent heat sink and you're sorted!
> >
> 2N3055 are great, but 2N3771 are better! Rob

True, but you can find 2N3055, or house numbered versions for free in
a lot of old linear power supplies pulled from junked equipment.
--

Michael A. Terrell
Central Florida

2857. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 01:41:32 UTC
From: me@privacy.net
Message-ID: <3f948e58.2292268@news.individual.net>
Source record: 31674

On Mon, 20 Oct 2003 19:33:02 +0100, Paul Burridge
<pb@osiris.notthisbit.co.uk> wrote:

>On Mon, 20 Oct 2003 11:20:20 -0400, rob34 <rob34@infinet.com> wrote:
>
>>If you want to keep it to a couple transistors they would be expensive.
>>You are better off using either more NTE-180 or more mj2955, but I would
>>cut the voltage down to around 18 volts instead of 24 volts as this
>>higher voltage leads to more heat for the transistors. Rob
>
>How come no one's yet recommeded that great old PSU war-horse, the
>2N3055? Six of them on a decent heat sink and you're sorted!

The main reason I wouldn't use a 2N3055 in that application is the
gain falls of dramatically at high Ic. Design needs to accommodate
this in terms of both driver current capability and loop gain.

2858. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 01:58:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vp94mdje77io82@corp.supernews.com>
Source record: 31675

Dave Platt wrote:
>
> In this particular application - pass transistors in a linear
> regulator - I don't see that MOSFETs would have any particular
> advantage.
> . . .

Someone mentioned the 2 to 4 amps of base current you'd have to supply for bipolar pass transistors. You wouldn't need it if you used FETs. I'd look seriously at P-channel VMOS for pass devices, myself.

Roy Lewallen, W7EL

2859. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 02:49:29 UTC
From: cornytheclown@hotmail.com
Message-ID: <8e8f59d4.0310201849.604d2e8d@posting.google.com>
Source record: 31676
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Frank <frank@127.0.0.1> wrote in message
news:<USbfb.206328$mp.128872@rwcrnsc51.ops.asp.att.net>...
> Paul Burridge wrote:
> > On Thu, 2 Oct 2003 23:58:24 +0000 (UTC), "Reg Edwards"
> > <g4fgq.regp@btinternet.com> wrote:
> >
> >
> > >>>>The death toll in France from August's
> > >>>>blistering heat wave was nearly 15,000 . . . .
> > >>
> > >>============================
> > >>
> > >>It must not be forgotten the health of French nation has considerable
> > >>improved since August. The undoubted evidence for this is a much reduced
> > >>death rate amongst the elderly which will last for several years.
> > >>
> > >>The same sort of statistics apply to other countries which suffered from the
> > >>heatwave but didn't bother to publish them, ie., for political reasons they
> > >>kept it secret.
> > >>
> > >>The French government should be congratulated on its honesty as it should be
> > >>on other matters of international interest and importance.
> > >>
> > >>Vive la France ! Vive l'Europe !
> > >
> > >
> > > To Hell with France and EUrope!
> > > Reg, you have finally flipped your wig. If you think it's so great on
> > > the continent why don't you just piss off and live over there?
> >
> > Not all of Europe is our enemy, just France who wants to see us fail.
> >
> > -Frank

The USA has supported many butchers in recent history and the US even
supported and turned a blind eye to saddams own buchery when he served
the US and their will. Lok up most of the evil dictators of the last
50 yrs and you will find either open US support of their crimes or
clandestine US help thru the cia.

The US governent backed regimes in Guatemala that killed over a
hundred thousand people.....
We supported the coup that put Sukarno in power in Indonesia and his
government killed over 500,000 innocent people all the while the US

still gave its full support.....
Pinochet in Chili...remember him.....another US installed president
who killed thousands upon thousands of innocents.....
Noriega.....yep we supported him for many years before he US finally
had to take him down......

There are more...look them up.....all these people were allowed to
kill innocent men women and children because they served the US
interests in their countries.......Saddam was allowed the same
liberties....he killed and maimed with impunity all he while the US
knew what was going on.....only after he ceased to be usefull to the
USA.....was he expendable.....

I have no problem with France staying out of Iraq.....they had
monetary losses to consider.....had the US had any monetary or
political interests in Iraq Saddam would still be free to butcher his
own people.

I find nothing funny in french people dying in a heat wave......anyone
who does is clearly a fucking asshole.....

2860. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 05:03:23 UTC
From: "K.chattenton" <k.chattenton@btopenwold.com>
Message-ID: <bn2emr$18g$1@hercules.btinternet.com>
Source record: 31677

Hi, from Ken,
"rob34" <rob34@infinet.com> wrote in message
news:vp8bi0g6jbto45@corp.supernews.com...
> Paul Burridge wrote:
> > On Mon, 20 Oct 2003 11:20:20 -0400, rob34 <rob34@infinet.com> wrote:

> 2N3055 are great, but 2N3771 are better! Rob
>
2N3773 are better still (check out current).

If you want a power supply to deliver round about 40amps the the first thing to remember is that you MUST have the correct amount of pass transistors to handle the current.
If you use 2N3055's (very good and cheap) you will need at least 10 of these, don't think for one minute becouse you see the current stated as being 20amps that one transistor will be able to handle this amout of current, it won't, it does not work like that.
The best you can hope for (current wise) from one 2N3055 is FIVE AMPS. So for a forty amp supply you would need at least, eight and a couple for that le-way we all try to allow.

One other thing you must have good heat sinks.

Regards the transformer, it should be able to handle the current and should (ideally for a 13.8Volt supply) be rated between 17.5 and 18.5 Volts of load.
Once regulated this voltage will rise to about, 24 Volts + or - 1 or 2 Volts.

Regards regulation the most common way is to use the LM723 voltage regulator chip complete with short circuit protection.

Smoothing caps should be another point of concern.
Try to find two large ripple handling units rated at about 40 Volts and allow two thousand mfd
per one amp of current required.

One final point to remember when building your own power supply is to use some form of ELECTRONIC OVER-VOLTAGE PROTECTION (I.e., the MC3423 chip is perfect).
The number of cheap commercial power supplies on the market without overvoltage protection fitted is a crime (but they never tell you this in the Ads..right..?.).

Hope the above helps in some small way. Good luck, Ken, G4KIR.

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.525 / Virus Database: 322 - Release Date: 09/10/2003

2861. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 06:41:24 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <naj9pv4f23pvaae2kujra4fgulkg45epl3@4ax.com>
Source record: 31678

On Mon, 20 Oct 2003 19:33:02 +0100, Paul Burridge
<pb@osiris.notthisbit.co.uk> wrote:

>
>How come no one's yet recommeded that great old PSU war-horse, the
>2N3055? Six of them on a decent heat sink and you're sorted!

The current gain, Vbe and Vce are all awful at higher currents. For instance, the current gain is specified at 4 A only. For 40 A, you should put ten devices in parallel and still have to design for a worst case total base current of 2 A.

Even with Ic=4 A, the worst case Vbe is 1.5V and apparently a lot more on higher currents. If you are going to supply the base drive from the same rectifier as the main output current, the voltage margin between the capacitor voltage and output voltage must be quite high, causing a lot of power dissipation.

High capacitor voltages and high power dissipation and thus high temperatures are nasty things if some of the transistors fail.

Paul OH3LWR

2862. Tube amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 11:13:23 UTC
From: Adshar64 <adshar@ihug.com.au>
Message-ID: <bn34cs$853$1@lust.ihug.co.nz>
Source record: 31679

Group designed for tech info on obsolete tube replacement and general tube amps

http://groups.yahoo.com/group/Tube_Amps/

Welcome amateurs

VKM486

2863. Desire source for 4-digit LCD displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 11:29:38 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bn38np$fi8$1@bob.news.rcn.net>
Source record: 31680

Few 3.5 and 4 digit LCDs displays seem to be available from distributors (in small quantities). I find them to be more expensive that a whole fever thermometer containing one.

Can someone lead me to a reasonable source?

Thanks,

Bob w3otc@amsat.org

2864. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 12:28:19 UTC
From: "C.L.F." <Spamfree@Spamfree.com>
Message-ID: <8E9lb.40$bt5.2031@iad-read.news.verio.net>
Source record: 31681
Cross-posted to: alt.ham-radio.hf,sci.electronics.design,alt.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"cornytheclown" <cornytheclown@hotmail.com> wrote in message
news:8e8f59d4.0310201849.604d2e8d@posting.google.com...

<snip>

> > Not all of Europe is our enemy, just France who wants to see us fail.
> >
> > -Frank
>
>
> The USA has supported many butchers in recent history and the US even
> supported and turned a blind eye to saddams own buchery when he served
> the US and their will. Lok up most of the evil dictators of the last
> 50 yrs and you will find either open US support of their crimes or
> clandestine US help thru the cia.
>
> The US governent backed regimes in Guatemala that killed over a
> hundred thousand people.....
> We supported the coup that put Sukarno in power in Indonesia and his
> government killed over 500,000 innocent people all the while the US
> still gave its full support.....
> Pinochet in Chili...remember him.....another US installed president
> who killed thousands upon thousands of innocents.....
> Noriega.....yep we supported him for many years before he US finally
> had to take him down.....
>
> There are more...look them up.....all these people were allowed to
> kill innocent men women and children because they served the US
> interests in their countries.....Saddam was allowed the same
> liberties....he killed and maimed with impunity all he while the US
> knew what was going on.....only after he ceased to be usefull to the
> USA.....was he expendable.....
>
> I have no problem with France staying out of Iraq.....they had
> monetary losses to consider.....had the US had any monetary or
> political interests in Iraq Saddam would still be free to butcher his
> own people.
>
> I find nothing funny in french people dying in a heat wave.....anyone
> who does is clearly a fucking asshole.....

Have to agree, the US has supported many of these people in the past.
Whether the US finds them expendable at some point, I have yet to decide. To
me, it looks more like they come back to bite US in the Ass. We even dealt

with Afghanistan not too awfully long ago, giving them Fire Power to defeat the Russians(?). It has never failed. We've always had to retrace our steps and take down those we've helped for whatever reason and in cases of war, MANY of our weapons were found - why? - because we supplied them!

What we need to do, is keep our noses out of their business.. Defend our borders vigorously.. if anyone comes to screw with US, wipe them out - no questions asked. As to the rest, mop up after they are done! They are all creating Genocide when they are allowed to fight amongst themselves for years.. Surely, they can't create children fast enough to replace all the losses if allowed to kill thousands at a time. If they want to kill each other off, why the hell should we care? While, I don't like to see any one die, WE CAN'T STOP IT. WE can NOT be the world peace keepers.We get one done, another starts. It is a LOSING proposition and WE the tax payers are paying out our ass for it. OUR soldiers are dying for it. Our own infrastructure has severe problems and our people are being taxed to death to supposedly fix those problems, yet they continue to grow.. TAKE CARE OF US - TO HELL WITH THE REST. FOREIGN AID SHOULD BE CEASED. MAKE them borrow like WE do.
Quit supplying these people like a bad habit and see how fast the shit stops. WE are the ones funneling the money!

I'm not taking sides in this issue here, just using it as an example.. The Middle East.. Israel, Palestine, etc... That region has had war since biblical times... WHO ARE WE to think we're going to go in and stop it in a few months to a year or more? It hasn't worked and it isn't going to. WE can't brain wash those people into giving up. They've got a seemingly inbred hatred for each other or others and NOTHING will stop them from their feelings.. WE have funneled cash on top of cash for them to "woo" them into peace and it has NOT WORKED.

Funny, Saddam had all those look a likes.. Since the war, we've not seen a one of them OR HIM. WHY? Surely they couldn't all have escaped. SOMETHING STINKS. Same with Oscummy Bin Laden.. Our country has some of the best intelligence and we can't find him? Yeah right. Maybe we don't "want" to . He(?) and now Saddam is good for getting tapes to Al Jazear.. Why not plant someone inside and trace them back! Don't we have a spy or stoolie we can plant at the station or nearby? Sure, they don't deliver tapes every day but hey... they track drug traffickers for years sometimes... If you want them bad enough, you'll do what it takes. Personally, after 911, we shouldn't have pissed around with a war, we should have just nuked the damned country.. THAT is a no miss approach. I'm not into seeing people die BUT if they come after US, then all bets are off in my book.

Another thing that pisses me off, is Kuwait... WE liberated them from Iraq in the first war. Some of them have turned on US since. That is the thanks we get. They were one of the countries who boosted Oil prices not long after that as well. THANKS A LOT! WE ALWAYS get bit in the ass when we neb in. ALWAYS. AND what REALLY pisses me off, is that OUR tax dollars are supporting the bombers of the 1st WTC bombing. They are eating 3 squares a day with a roof over their heads, heat, medical when many of our OWN aren't

1/1000th as lucky. That did NOT stop their brethren from trying it again. WE should have tried them for war crimes against the US and they should have been SHOT. THAT is how you cure a disease, with an Inoculation. Right between the eyes.. Not to return again. SHOW these assholes we won't tolerate it - by brute force and they'll quit screwing with us. NO.. we pussy foot around with them. The Civil Libertarians are going to be sorry one day. These murderers will kill them just the same and think nothing of it. I can assure you, if one of Saddams men walked into the ACLU offices with an Uzi, they'd be shitting their pants wishing for the Army or whoever else to arrive.

I was at Lackland AFB a good many years ago. A man from another country was on the base for Political reasons. He allegedly raped a female Airman. A group of the guys wanted to rip his head off. They told the CO and in turn were told NOT to take action - that THEY would end up in Leavenworth.. That this guy had Diplomatic Immunity and couldn't be held even if we wanted to. REALLY???? If that were one of US here IN the US, we'd be in Jail, like Kobe Bryant MAY be IF found guilty.
I heard today, he could face a minimum of 20 years! IF we went to THEIR country, we may be executed or jailed and never heard from again. WHERE IS THE JUSTICE???? WE KISS THE ASSES of these other countries. WAKE UP PEOPLE, ENOUGH IS ENOUGH. It is TIME to start taking care of US. In cases of War, I don't want to see innocent people die, but these bastards have shown, THEY do not play fair. SO WHY SHOULD WE?

Lou

2865. Re: GOOD NEWS-------France heat wave deaths top 14,000

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 14:53:21 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20031021105321.09377.00000377@mb-m27.aol.com>
Source record: 31682

>Have to agree, the US has supported many of these people in the past.
>Whether the US finds them expendable at some point, I have yet to decide. To
>me, it looks more like they come back to bite US in the Ass.

snip, snip

Ditto!
Best homebrew article in a while :-)

2866. Re: Desire source for 4-digit LCD displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 14:57:38 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn3hhc$7ta$1@news.oregonstate.edu>
Source record: 31683

R J Carpenter <rcarpen@erols.com> wrote:
> Few 3.5 and 4 digit LCDs displays seem to be available from distributors
> (in small quantities). I find them to be more expensive that a whole
> fever thermometer containing one.
>
> Can someone lead me to a reasonable source?

What do you consider 'reasonable?' Electronix Express has 4 digit 0.5"
numeric LCD displays for $3.95... http://www.elexp.com/opt_lcd1.htm .

You'll always be able to find examples of high volume consumer goods that
are cheaper than the parts alone in low volume... which of course suggests
that -- depending on the labor necessary -- sometimes it might be cheaper to
disassemble perfectly good new equipment to get the goodies you want!

---Joel Kolstad

2867. wtb: CSI 4200/4900 LTR Controllers & TP163 tone panel

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 15:17:29 UTC
From: Skipp asks <emailmebackthrough.www@radiowrench.com>
Message-ID: <bn3im9$6c4$1@woodrow.ucdavis.edu>
Source record: 31684
Cross-posted to: rec.radio.swap,rec.radio.amateur.swap,rec.radio.amateur.homebrew

Hello there,

I'm looking for used CSI Brand LTR (trunking) controllers you may want to sell or trade away. The specific models are the 4200 and 4900 units.

If you have a TP-163 tone panel, I'd also be interested in talking with you to sell or trade.

Email me off the www.radiowrench.com web page and I'll get right back with you. You can also take the NOSPAMPLEASE out of my Email header below to contact me.

thanks
skipp

skippNOSPAMPLEASE@pilotNOSPAMPLEASE.ucdavis.edu

http://www.radiowrench.com has an Email icon that works well.

cheers...

2868. Systcoms VTR-10 & VTR-12 crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 16:00:20 UTC
From: tirebouchon69 <tirebouchon69@yahoo.ca>
Message-ID: <AKclb.2414$aw5.194942@news20.bellglobal.com>
Source record: 31685

Hi,
I need to order crystals for old transceivers Systcoms VTR-10 and VTR-12.
What is the equation formula) for calculating crystal frequencies ?

Thanks, 73

Daniel Dufault ve2bap
Montreal, Quebec, Canada
ddufault@sympatico.ca

2869. Re: Desire source for 4-digit LCD displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 16:44:34 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bn3r68oeu1@bob.news.rcn.net>
Source record: 31689

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:bn3hhc$7ta$1@news.oregonstate.edu...
> R J Carpenter <rcarpen@erols.com> wrote:
> > Few 3.5 and 4 digit LCDs displays seem to be available from distributors
> > (in small quantities). I find them to be more expensive that a whole
> > fever thermometer containing one.
> >
> > Can someone lead me to a reasonable source?
>
> What do you consider 'reasonable?' Electronix Express has 4 digit 0.5"
> numeric LCD displays for $3.95... http://www.elexp.com/opt_lcd1.htm .

Cheap enough for me.

I don't recognize the source. Are they a surplus reseller so that continued
availability is questionable?

Thanks for the info.

bob w3otc

2870. Re: Systcoms VTR-10 & VTR-12 crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 16:48:15 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.19ff032e672ed283989a8b@192.168.42.131>
Source record: 31686

In article <AKclb.2414$aw5.194942@news20.bellglobal.com>, tirebouchon69
@yahoo.ca says...

> Hi,
> I need to order crystals for old transceivers Systcoms VTR-10 and VTR-12.
> What is the equation formula) for calculating crystal frequencies ?

<snip>

The formula will be different for different manufacturers,
depending on how they designed their hardware. Example: Some Motorola
portables used a 10.7MHz IF, while others used 45MHz. This, obviously,
had an effect on the crystal formula.

International Crystal (http://www.icmfg.com, I'm assuming that's
who you're talking to) may have references to your particular
equipment's model. Check with them first.

Failing that, you will need the service manual for your equipment.
The crystal frequency calcs will most likely be listed in there.

Good luck.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

2871. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 16:59:05 UTC
From: clarke <clarke@nospam.net>
Message-ID: <3F9565D6.FBF8DF94@nospam.net>
Source record: 31687

Thanks Jim for posting the flaws in that design !

Here is a better schematic http://www.wa8dbw.ifip.com/rs-70a.gif

for an Astron 70a linear ps.

clarke

Jim wrote:

> On Mon, 20 Oct 2003 13:57:46 GMT, in
> <3F93E9D8.8C2B7AF8@nospam.net>, clarke <clarke@nospam.net> wrote:
>
> >Hi, check this link and see what you need to do,
> >one or two pass trans. will not do the job for you,
> >easier to use 6-10 pass trans to share the load.
> >
> >http://www.mitedu.freeserve.co.uk/Circuits/Power/1230psu.htm
> >
> >Is your transformer able to supply necessary power to this supply ?
>
> I'm not sure anyone has ever built the PSU shown at the above
> URL, and if so, I'd guess they haven't run it at the full 30-amp
> output for more than a few seconds.
>
> The basic design demonstrates a generally acceptable approach to
> designing a power suppy, but some of the components chosen just
> don't seem up to meeting the design criteria of 24 volts in, 12
> volts out at 30 amps.
>
> The ballast resistors are rated at 1 watt, but will be expected
> to dissipate roughly 2.5 watts at the full 30-amp output.
>
> The text analyzing the regulator performance has me baffled. It
> correctly describes a current gain of about 35 for the pass
> transistors, which at a glance suggests the regulator has to
> handle a bit under 1 amp. The web page author says 871 ma is the
> current into the regulator input and 866 ma is the current out,
> for a net current of 5 ma and a cool regulator. Looks to me like
> that poor thing is going to be asked to dissipate about 10 watts
> and will run about 110 degrees C even if mounted on an *infinite*
> heat sink. I'd redesign to include a transistor driver.
>
> I'd say the designer of this supply never ran it at full output
> for more than a few seconds.
>

> --
> Jim Higgins, KB3PU
>
> Help for prospective and new hams, see:
> http://groups.yahoo.com/group/HAM-ELMER
> Elmers also welcome

2872. Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 17:06:26 UTC
From: kizerian@xmission.com
Message-ID: <ee6182da.0310210906.555c40bb@posting.google.com>
Source record: 31688

Can anyone direct me to some good understandable references on single sideband frequency modulation? I have no real practical reason for wanting to know about this. It is interesting to me in a "mathetical" sort of way. Of course, that is dangerous for me because my brain gets very stubborn when I try to do math. Such ideas as "negative frequency" kind of send my mental faculties into total shutdown.

But I read schematic very well. It is a visual language I can usually understand. Seems like years ago there was an article on SSB FM in Ham Radio. That would probably be a good start. If anyone can send me a copy of that article I would be much appreciative.

Thanks in advance

Bruce kk7zz

www.elmerdude.com

2873. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 18:05:49 UTC
From: dplatt@radagast.org
Message-ID: <vpatbta0vn0c3b@corp.supernews.com>
Source record: 31690

>Dave Platt wrote:
>>
>> In this particular application - pass transistors in a linear
>> regulator - I don't see that MOSFETs would have any particular
>> advantage.
>> . . .

>Someone mentioned the 2 to 4 amps of base current you'd have to supply
>for bipolar pass transistors.

Good point. The base current wouldn't be wasted (it'd flow into the load), but the need for a fairly high-current driver would certainly complicate the circuitry and require the use of a higher-voltage transformer and unregulated supply, compared to a MOSFET solution.

> You wouldn't need it if you used FETs. I'd
>look seriously at P-channel VMOS for pass devices, myself.

Might be even more advantageous to use N-channel VMOS, and regulate on the negative side of the load. N-channel power MOSFETs are significantly less expensive than the closest P-channel equivalents, and there seems to be quite a bit more choice in terms of size and rating. If I recall properly, the charge-carrier mobility in an N channel (electrons) is a good deal higher than in a P channel (holes), which means that N-channel MOSFETs can have smaller channel areas than equivalent P-channel devices, hence more dice per wafer, hence lower prices.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

2874. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 18:12:12 UTC
From: KeyBoard In The Wilderness <Keyboard73@zilcha.com>
Message-ID: <%Felb.71859$vj2.18441@fed1read06>
Source record: 31691

No such thing that I have ever heard of.
For an easy explanation of the modulation modes -- see URL:
http://www.williamson-labs.com/480_mod.htm

Perhaps you were thinking of commercial FM broadcasting -- there is a
baseband FM signal, a 19kHz pilot carrier, and a DSB suppressed signal at
38kHz.
All this yields stereo FM
Baseband is left plus right channel
the DSB signal is left minus right -- so after demodulation, adding them
gives Left and Right channels

--
73 From The KeyBoard In The Wilderness
"Bruce Kizerian" <kizerian@xmission.com> wrote in message
news:ee6182da.0310210906.555c40bb@posting.google.com...
> Can anyone direct me to some good understandable references on single
> sideband frequency modulation? I have no real practical reason for
> wanting to know about this. It is interesting to me in a "mathetical"
> sort of way. Of course, that is dangerous for me because my brain gets
> very stubborn when I try to do math. Such ideas as "negative
> frequency" kind of send my mental faculties into total shutdown.
>
> But I read schematic very well. It is a visual language I can usually
> understand. Seems like years ago there was an article on SSB FM in Ham
> Radio. That would probably be a good start. If anyone can send me a
> copy of that article I would be much appreciative.
>
> Thanks in advance
>
> Bruce kk7zz
>
> www.elmerdude.com

2875. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 18:35:52 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bn3ua8mbt1@freenet9.carleton.ca>
Source record: 31692

W7TI (noway@nohow.com) writes:
> On 21 Oct 2003 10:06:26 -0700, kizerian@xmission.com (Bruce Kizerian)
> wrote:
>
>>Seems like years ago there was an article on SSB FM in Ham
>>Radio.
>
> ----------
>
> In the April issue? :-)
>
>
> Bill, W7TI
>

No, the January 1977 issue of Ham Radio magazine, it was the
cover article. (I knew it was a January issue, and around that
time, but I used the online index at
http://webhome.idirect.com/~griffith/hrindex.htm
to find it, though it took a few tries to figure out which
category it was in.)

I could never really make sense of the article. My recollection
is that it didn't do a good job on conveying the theory to
the average ham, or even the purpose of such a mode, and then
went into some stuff about implementing using some circuits out
of a textbook and not a complete circuit. One or the other
would have been fine, but in straddling both theory and practical
it did neither well.

Michael VE2BVW

2876. Re: Desire source for 4-digit LCD displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 19:51:47 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn42ot$d2m$1@news.oregonstate.edu>
Source record: 31693

R J Carpenter <rcarpen@erols.com> wrote:
> "Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
>> What do you consider 'reasonable?' Electronix Express has 4 digit 0.5"
>> numeric LCD displays for $3.95... http://www.elexp.com/opt_lcd1.htm .
>
> Cheap enough for me.
>
> I don't recognize the source. Are they a surplus reseller so that
> continued availability is questionable?

I believe they're new; I base this on their _not_ being in the 'surplus' section of the print catalog. EE's primarily target appears to be the educational/hobbyist area (i.e., basic electronic components at 'reasonable' prices, lots of kits, test equipment, etc.) I've never ordered anything form them, but have gotten a couple of catalogs (they're >300 pages -- quite extensive, really) over the course of a few years so it looks like they're here to stay!

---Joel

2877. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 20:03:53 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn43fg$d9g$1@news.oregonstate.edu>
Source record: 31694

Michael Black <et472@FreeNet.Carleton.CA> wrote:
> No, the January 1977 issue of Ham Radio magazine, it was the
> cover article.
>> I could never really make sense of the article. My recollection
> is that it didn't do a good job on conveying the theory to
> the average ham, or even the purpose of such a mode,

I would think it would be for the same reason as SSB for AM? To achieve half the bandwidth utilization for a given signal? (But at the expense of 3dB poorer SNR...)

I suspect that going through the math for the 'direct generation' means of SSB-FM would be pretty gnarly, but the 'first generate FM, then add a sharp filter' approach should work (although this will really generate vestigal sideband modulation...).

---Joel Kolstad

2878. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-21 20:19:47 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn44d6dqd1@news.oregonstate.edu>
Source record: 31695

Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com> wrote:
> I would think it would be for the same reason as SSB for AM? To achieve
> half the bandwidth utilization for a given signal? (But at the expense of
> 3dB poorer SNR...)
^^^^^^^^^^^^^^

It occurs to me that this part of my comment is non-sense given the machinations one has to go through to compute SNR through an FM channel anyway. Sorry. One wonders what the SNR degradation _would_ be, however.

---Joel Kolstad

2879. Re: Mixer products every 5kHz to 30MHz on DX-394?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 01:40:53 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <Fellb.10044$Ec1.908099@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31696
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

I would have to agree, that it is the reference sidebands of the LO that you are seeing.....it sounds like they are using a relatively wide loop filter in the synthesizer, in order to achieve a fast settling time.

Pete

Richard Hosking <richardh@iinet.net.au> wrote in message news:3f922361$0$23584$5a62ac22@freenews.iinet.net.au...
> Tom
> What is the spectrum going into the mixer at the output of the crystal
> filter? If this is OK, then it must be the second mixer that is at fault.
> Look at the spectrum of the LO into the first mixer - does it have 5KHz
> reference sidebands, and at what level?
> What is the 1st mixer and post mixer amp? Are they able to cope with the
> strong broadcast signal? If they are not something substantial like a ring
> diode mixer and a strong post mix amp, then the IM might be happening there.
> A typical bipolar mixer might only be able to cope with -20dBm without
> overload. If the RF gain doesnt help, then maybe it is the RF amp that is at
> fault, though I wouldnt expect all this to get through the crystal filter.
> (though even crystal filters can be nonlinear if driven hard enough...)
>
> Richard
>
> Tom Holden <holden_family@sympatico.ca> wrote in message
> news:48ikb.8262$Z_2.605732@news20.bellglobal.com...
> > I was startled when I hooked up a DX-394 radio (RX2) to the output of the
> > 2nd mixer of another DX-394 (RX1) to find that the strong MW station RX1
> was
> > tuned to showed up not only at the 2nd IF of 455 kHz but at every 5kHz
> from
> > around 200kHz to 30MHz! The strength varied with frequency, probably in
> > part with the gain vs frequency curve of RX2. There were stronger signals
> at
> > the 2nd and 3rd harmonics of 455kHz. Had to reduce the RX1's RF gain to
> the
> > point where its AGC was inactive and the receiver was operating just above
> > its threshold of detection to diminish the forest to just a few trees.
> >
> > The 2nd mixer is preceded by a crystal filter at the 1st IF of 45MHz

> > +/-2.5kHz so I expected to see spectrum of about 15-20kHz width across
> > 455kHz and some 3rd and higher order products like 910 and 1365kHz. The
> 5kHz
> > interval is suspiciously the same as the steps in the 1st LO VCO
frequency
> > (45.150 to 74.995 MHz), controlled by a digital PLL. The 2nd LO at
> 44.545MHz
> > +/-2.5khz is a varactor tuned VCO.
> >
> > To generate products every 5kHz, surely we need a 5kHz signal or two
very
> > strong signals that are 5kHz apart going into the mixer or some
non-linear
> > stage after the 1st IF filter. Am I seeing something unusual or is this
> what
> > I should see? If it's an anomaly, can anyone suggest what the cause
might
> > be? I'm thinking this is a fault or a design weakness that with more
> complex
> > signals gives rise to a lot of interference to good reception. Could it
be
> > possible that this is the result of the method of observation and is not
> > really occurring in normal practise?
> >
> > 73 Tom
> >
> >
> >
>
>

2880. Re: Mixer products every 5kHz to 30MHz on DX-394?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 02:45:26 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <hZIlb.3104$aw5.237992@news20.bellglobal.com>
Source record: 31597
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Because both radios are the same design, I suppose it's possible that what I am observing is as much the fault of RX2 as it is of RX1 except that the output of RX1 at 455kHz only drives RX2 to about S9 while the test signal into RX1 drives it much higher. I wish I had a spectrum analyser. I might be able to confirm that the effect is or is not the influence of the second RX2 by checking the output of RX1 with my boat anchor analog R4B - it cannot receive 455kHz but I was observing the effect with RX2 tuned to the 10m ham band, too.

The DX-394 comprises a 3SK195 RF amp, double 3SK195's for the 1st mixer differentially driven by the r.f. amp and in common mode by the 1st LO, 45MHz crystal filter, 2SC27140 1st IF amp, 2SK210Y 2nd mixer, diode switches for choice of two filters. The 1st LO PLL is a Fujitsu MB87014APF-G-BND referenced to a 33MHz crystal all under a soldered shield. From the schematic, (I'm no expert at reading these) pin 12 (designated as the output for an active type low pass filter) feeds what looks to be a control for voltage applied to a varactor diode with a feedback path consisting of a 33k in parallel with a 0.01 (M - mylar?) cap both in series with a 0.033 (M) cap. That would be the low pass filter and would control settling time, right?

73, Tom

Pete KE9OA wrote:
> I would have to agree, that it is the reference sidebands
> of the LO that you are seeing.....it sounds
> like they are using a relatively wide loop filter in the
> synthesizer, in order to achieve a fast settling time.
>
> Pete
>
> Richard Hosking <richardh@iinet.net.au> wrote in message
> news:3f922361$0$23584$5a62ac22@freenews.iinet.net.au...
>> Tom
>> What is the spectrum going into the mixer at the output
>> of the crystal filter? If this is OK, then it must be
>> the second mixer that is at fault. Look at the spectrum
>> of the LO into the first mixer - does it have 5KHz
>> reference sidebands, and at what level?
>> What is the 1st mixer and post mixer amp? Are they able
>> to cope with the strong broadcast signal? If they are
>> not something substantial like a ring diode mixer and a
>> strong post mix amp, then the IM might be happening
>> there. A typical bipolar mixer might only be able to

>> cope with -20dBm without overload. If the RF gain doesnt
>> help, then maybe it is the RF amp that is at fault,
>> though I wouldnt expect all this to get through the
>> crystal filter. (though even crystal filters can be
>> nonlinear if driven hard enough...)
>>
>> Richard
>>
>> Tom Holden <holden_family@sympatico.ca> wrote in message
>> news:48ikb.8262$Z_2.605732@news20.bellglobal.com...
>>> I was startled when I hooked up a DX-394 radio (RX2) to
>>> the output of the 2nd mixer of another DX-394 (RX1) to
>>> find that the strong MW station RX1 was tuned to showed
>>> up not only at the 2nd IF of 455 kHz but at every 5kHz
>>> from around 200kHz to 30MHz! The strength varied with
>>> frequency, probably in part with the gain vs frequency
>>> curve of RX2. There were stronger signals at the 2nd
>>> and 3rd harmonics of 455kHz. Had to reduce the RX1's RF
>>> gain to the point where its AGC was inactive and the
>>> receiver was operating just above its threshold of
>>> detection to diminish the forest to just a few trees.
>>>
>>> The 2nd mixer is preceded by a crystal filter at the
>>> 1st IF of 45MHz +/-2.5kHz so I expected to see spectrum
>>> of about 15-20kHz width across 455kHz and some 3rd and
>>> higher order products like 910 and 1365kHz. The 5kHz
>>> interval is suspiciously the same as the steps in the
>>> 1st LO VCO frequency (45.150 to 74.995 MHz), controlled
>>> by a digital PLL. The 2nd LO at 44.545MHz +/-2.5khz is
>>> a varactor tuned VCO.
>>>
>>> To generate products every 5kHz, surely we need a 5kHz
>>> signal or two very strong signals that are 5kHz apart
>>> going into the mixer or some non-linear stage after the
>>> 1st IF filter. Am I seeing something unusual or is this
>>> what I should see? If it's an anomaly, can anyone
>>> suggest what the cause might be? I'm thinking this is a
>>> fault or a design weakness that with more complex
>>> signals gives rise to a lot of interference to good
>>> reception. Could it be possible that this is the result
>>> of the method of observation and is not really
>>> occurring in normal practise?
>>>
>>> 73 Tom

2881. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 03:06:17 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bn4s79$2ud$1@freenet9.carleton.ca>
Source record: 31598

"Joel Kolstad" (JKolstad71HatesSpam@Yahoo.Com) writes:
> Michael Black <et472@FreeNet.Carleton.CA> wrote:
>> No, the January 1977 issue of Ham Radio magazine, it was the
>> cover article.
>>> I could never really make sense of the article. My recollection
>> is that it didn't do a good job on conveying the theory to
>> the average ham, or even the purpose of such a mode,
>
> I would think it would be for the same reason as SSB for AM? To achieve
> half the bandwidth utilization for a given signal? (But at the expense of
> 3dB poorer SNR...)
>
It's been quite a few years since I looked at the article. There was
just something about the article that seemed like I'd been dropped into
something. Maybe the style was different from most articles in the
magazine, maybe because it didn't really seem to be a practical article.
There just seemed to be something missing. Yes, it would take up less
space, but then why not go to some other mode? It's the only time I've
seen something on the subject, and I think it could have better been handled.

Michael VE2BVW

2882. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 03:29:12 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn4tjj$mm4$1@news.oregonstate.edu>
Source record: 31599

Michael Black <et472@FreeNet.Carleton.CA> wrote:
> It's been quite a few years since I looked at the article. There was
> There just seemed to be something missing. Yes, it would take up less
> space, but then why not go to some other mode? It's the only time I've
> seen something on the subject, and I think it could have better been
> handled.

Fair enough. If the idea were to conserve bandwidth, you'd probably be using narrow band FM anyway at which point SSB-NBFM takes no less bandwidth than convention SSB-AM and... it _might_ even have worse SNR, although I don't know calculations off-hand. Hence I suspect that SSB-FM is nothing more than a curiosity... could be fun to implement just for the sake of experimentation once we're all running software defined radios, though!

From your description it sounds like someone was excited by the novelty of the idea but ran out of steam before actually implementing the idea!

---Joel Kolstad

2883. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 05:58:12 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310212158.57c82be9@posting.google.com>
Source record: 31600

as i understand, the fm signal, due to its nature of changing rate of phase change generates a number of sidebands. Filtering these sidebands would mean that a band-pass filter is being applied to the fm signal. That would amplitude modulate the signal as well. Amplitude modualting would create some more sidebands but within the filter's band-pass.
Finally, we would arrive at a 'least-bandwidth' signal that would resemble SSB. So you might as well expend five crystals (for a ladder filter and an oscillator) and get good ol SSB going.
A more intiutive example would be to consider an FM signal being modulated by a single tone. That would waver the carrier back and forth around the center frequency of the carrier. Now, if you passed this through a band-pass filter, you will see the amplitude drop off at the filter's skirts. This will resemble an amplitude modualted signal. depending upon the filter bandwidth, you might see either an AM, or a two-tone (carrier center being one, the modulated tone the other) SSB signal.
I may be completely missing the point though, i welcome an explanation.

- farhan

2884. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 07:02:10 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <kZplb.32823$os2.476184@news2.e.nsc.no>
Source record: 31601

> as i understand, the fm signal, due to its nature of changing rate of
> phase change generates a number of sidebands. Filtering these
> sidebands would mean that a band-pass filter is being applied to the
> fm signal. That would amplitude modulate the signal as well.
>
I think you have a point here. Removal of one side of the set of sidebands turns the FM signal into a sort of AM/SSB signal. During transmission, FM's robustness to impulse noise will be lost. The presence of a limiter in the receiver, will turn the signal + noise back into a corrupted DSB FM signal for demodulation.

Sverre
LA3ZA

2885. Re: Mixer products every 5kHz to 30MHz on DX-394?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 12:26:16 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3f9677d0$0$23602$5a62ac22@freenews.iinet.net.au>
Source record: 31602
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

It sounds like there is a single pole (second order) filter/PLL system. The whole system would have to have a loop cutoff of 1/20th to 1/50th of the reference freq (100-250Hz) to get reasonable sideband suppression. You could try looking at the waveform on the VCO control line - if the 5KHz signal is more than few mV then there is probably something wrong. Try also putting an attenuator in front of the RF amp - if the problem suddenly disappears with increasing attenuation, then the problem is overload

Richard

> The DX-394 comprises a 3SK195 RF amp, double 3SK195's for the 1st mixer
> differentially driven by the r.f. amp and in common mode by the 1st LO,
> 45MHz crystal filter, 2SC27140 1st IF amp, 2SK210Y 2nd mixer, diode
> switches for choice of two filters. The 1st LO PLL is a Fujitsu
> MB87014APF-G-BND referenced to a 33MHz crystal all under a soldered
shield.
> From the schematic, (I'm no expert at reading these) pin 12 (designated as
> the output for an active type low pass filter) feeds what looks to be a
> control for voltage applied to a varactor diode with a feedback path
> consisting of a 33k in parallel with a 0.01 (M - mylar?) cap both in
series
> with a 0.033 (M) cap. That would be the low pass filter and would control
> settling time, right?
>
> 73, Tom

2886. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 13:48:26 UTC
From: kizerian@xmission.com
Message-ID: <ee6182da.0310220548.6615e7ad@posting.google.com>
Source record: 31603

Thanks everyone

Sometimes I really get curious and want to know about something.

I haven't seen the Ham Radio article, but I'm thinking if the whole idea had any merit it would be a popular mode by now.

Bruce kk7zz

www.elmerdude.com

2887. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 13:52:37 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn624c$36f$1@news.oregonstate.edu>
Source record: 31604

Sverre Holm <la3za.0junk4me@qsl.net> wrote:
> I think you have a point here. Removal of one side of the set of sidebands
> turns the FM signal into a sort of AM/SSB signal. During transmission,
> FM's robustness to impulse noise will be lost.

This would appear to depend on how sharp the skirt of our hypothetical SSB (really VSB, now) filter is? I.e., at low carrier deviations there's some AM and therefore it's not _quite_ as robus, whereas at higher carrier deviations the filter would be nice and flat and look just like regular FM in terms of amplitude.

After all... in the presense of some AM on regular double side band FM, most receivers still perform just fine, don't they?

---Joel Kolstad

2888. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 15:36:17 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn6860$55n$1@news.oregonstate.edu>
Source record: 31605

W7TI <noway@nohow.com> wrote:
> In the USA, the FCC used to prohibit simultaneous amplitude and
> frequency modulation. I did a search of Part 97 rules and I don't see
> that exact wording now, but I would still tread lightly in this area.

Sure, I'm not advocating anybody go out and purposely modulate their FM signals.

> Provided all the sidebands are confined to a band no wider than
> conventional AM, you probably won't be bothered by Uncle Charlie but
> caution is advised.

Indeed.

One interesting commercial system out there is the Motorola C-QUAM (compatible quadrature amplitude modulation) stereo method, used in the US for commercial AM stereo broadcastings. Since it has to be backwards compatible with envelope detector-based AM receivers, the resultant output is -- I would suggest -- something similar to amplitude modulated phase modulation! (I think it's actually quite clever...)

---Joel Kolstad

2889. Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 19:33:23 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F96DB72.72585C1B@clifto.com>
Source record: 31606

Is it just me, or does it seem like American semiconductor manufacturers discontinue any chip that isn't selling so fast that it requires a new fab to handle the production? I'm beginning to wonder if there's enough paper in the world to publish The Handbook Of Useful But Discontinued US-Manufactured ICs.

I can see where some didn't sell well enough to warrant much more than an occasional run of a hundred thousand or so. But hell, the other day I found a tube of zero-crossing switch ICs in storage and Googled on the part number, and it looks like there's enough demand for these things that I could get well over $600 for the tube! There's a listed substitute, and *it* is obsolete too (and selling for over $13 a copy from those who have them). How can they say something like this is not worth keeping in production?

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis to comply with their own agreements and with international law. Given that, what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

2890. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 20:04:36 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F96E2C9.DED2FE66@earthlink.net>
Source record: 31607

"Clifton T. Sharp Jr." wrote:
>
> Is it just me, or does it seem like American semiconductor manufacturers
> discontinue any chip that isn't selling so fast that it requires a new
> fab to handle the production? I'm beginning to wonder if there's enough
> paper in the world to publish The Handbook Of Useful But Discontinued
> US-Manufactured ICs.
>
> I can see where some didn't sell well enough to warrant much more than
> an occasional run of a hundred thousand or so. But hell, the other day
> I found a tube of zero-crossing switch ICs in storage and Googled on
> the part number, and it looks like there's enough demand for these
> things that I could get well over $600 for the tube! There's a listed
> substitute, and *it* is obsolete too (and selling for over $13 a copy
> from those who have them). How can they say something like this is
> not worth keeping in production?
>
> --
> "Look, we have exhausted virtually all our diplomatic effort to get the Iraqis
> to comply with their own agreements and with international law. Given that,
> what other option is there but to force them to do so?"
> -- Tom Daschle, Feb. 11, 1998

Its simple. MBAs run businesses, not people who understand the
business, and their customer's needs. They only care about ROIs, and
know they will be gone before they ride the company completely into the
ground. The government doesn't help. High taxes on inventory cause
leftover and obsolete parts to be written off. the paperwork required
to liquidate obsolete parts can exceed the value received by selling
them, so they go from the stockroom into a landfill.
--

Michael A. Terrell
Central Florida

2891. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 20:21:16 UTC
From: averyfineman@aol.com
Message-ID: <20031022162116.25517.00001571@mb-m15.aol.com>
Source record: 31608

In article <an6dpvgvkaii48u27rlpj4ho94h2iv779j@4ax.com>, W7TI <noway@nohow.com>
writes:

>On Wed, 22 Oct 2003 06:52:37 -0700, "Joel Kolstad"
><JKolstad71HatesSpam@Yahoo.Com> wrote:
>
>>After all... in the presense of some AM on regular double side band FM, most
>>receivers still perform just fine, don't they?
>____
>
>In the USA, the FCC used to prohibit simultaneous amplitude and
>frequency modulation. I did a search of Part 97 rules and I don't see
>that exact wording now, but I would still tread lightly in this area.
>Provided all the sidebands are confined to a band no wider than
>conventional AM, you probably won't be bothered by Uncle Charlie but
>caution is advised.
>--
>Bill, W7TI

Bill, I just dug out the 1977 issues of HR from storage and looked
the article over. Author Richard Slater (W3EJD) said almost the
same thing at the end of the article on page 15 under "closing
comments." The nomenclatures for different modulations were
formalized by the ITU-R since then but the FCC still doesn't have
anything covering this "single-sideband FM" modulation type for
U. S. amateur radio.

A general problem with understanding the concept is the simplicity
of the explanations of AM in today's amateur radio. The mathematical
representations of all modulations have been known and distributed in
text books for decades...my introduction to that was "Electronic
Designer's Handbook by Landee, Davis, Albrecht, McGraw-Hill 1957,
Section 5. Those who can follow the series expressions in a
summation formula, study it, will understand how a phasing-type SSB
modulator and demodulator can work. It is much harder to look at the
expressions and "see" FM or PM; Hewlett-Packard's Agilent site has
a neat little animated Java display that may help some on that.

Filter-type SSB from AM is almost intuitive when the AM spectrum is
shown. That is easy to comprehend...once all accept that the content
of each AM sideband has the same information. (there are still some
long-timers who refuse to accept that the carrier RF energy doesn't
change in AM at less than 100% modulation, heh heh) FM and PM
sidebands are definitely NOT easy to visualize since their individual
amplitudes and phases change depending on modulation index and

modulating frequency. There isn't any corresponding similarity of FM and PM to AM for the repetition of sidebands' information when looking at the spectral content.

What Slater was discussing in that January 1977 HR article was what a group of researchers had already been doing in the early 1970s to see if there were alternatives to SSB-like frequency multiplexing in multi-channel circuits. Part of that investigation was to get around some of the patents still existing on frequency multiplexing via single sideband techniques (pioneered first on long-distance telephony, by the way). Another part was to simplify (if possible) the circuitry involved when carrying a LOT of channels. Equipent of 3 to 4 decades ago was a lot bulkier than it is now for non-digital multiplexing. The "narrowband" necessities of working in small-bandspace amateur bands was not a prime criteria for that research.

Slater explained much of the above in that article and didn't claim any exciting narrowband results of previous art. The (mislabeled in my opinion) "single-sideband FM" technique of combining FM and AM is simply a DIFFERENT way to communicate information.

A truly different way of modulation exists in everyone's telephone line modem that can send/receive up to 56 Kilobits/Sec in a bandwidth of only 3 KHz. That is a combination of AM and PM. That isn't intuitive to AM-oriented minds and there still exist arguments in newsgroups that such high rates "aren't possible!" :-) Yet most of us POTS users with computers regularly get 33 to 56 KBPS rates over 2.5 to 3.0 KHz bandwidth telephone circuits.

I've not seen much on that "single-sideband FM" stuff in the professional literature after 1980. Based on what was published in the 1970s, it was an interesting technique but did not come up with any advantages for commercial or military adoption or much further work. I think it does show that old paradigms aren't always worth four nickels and that, truly, thinking outside the box might come up with something new and useful.

Just some comments from
Len Anderson
retired (from regular hours) electronic engineer person

2892. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 20:56:28 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn6qu5$ba2$1@news.oregonstate.edu>
Source record: 31609

Avery Fineman <averyfineman@aol.com> wrote:
> There isn't any corresponding similarity of
> FM and PM to AM for the repetition of sidebands' information when
> looking at the spectral content.

Umm... last I looked the spectrum of FM and PM was symmetrical about the carrier frequency? (Well, the lower sideband is 180 degrees out of phase with the upper, but that's true of AM as well.) Looking at a single sine wave input to an FM or phase modulator, this comes about from the Bessel function expansion of the sidetones and J-n(x)=-Jn(x)?

I know you're far more experienced in this area than I am, however, so I'll let you explain what I'm misinterpreting here!

---Joel Kolstad

2893. Re: Heil Goldline Pro How good it it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 22:14:20 UTC
From: fredj@aol.com
Message-ID: <3f97013c$0$52158$a0465688@nnrp.fuse.net>
Source record: 31610

In article <yESjb.7191$tW2.5468@news-binary.blueyonder.co.uk>, "Andy"
<dx90@blueyonder.co.uk> wrote:
>I am after any feedback good or bad to do with the Heil Goldline Pro.
>If you have used this microphone with your radio what is your opinion on it
>compared to the Goldline and other microphones of the same class?
>
>Thanks
>
>
Don't waste your money on the cheap Heil stuff. Definitely low to mid fi at
best, and cheap import parts. Go to www.bswonline.com and browse their
microphone selections. RE-20's and 27's are FAR better made, have better
audio quality, and are DJ proof. BSW has lots of various quality mics...

Regards,

Fred

2894. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 23:40:05 UTC
From: Ken Finney <kenneth.c.finney@boeing.com>
Message-ID: <Hn6n2s.G41@news.boeing.com>
Source record: 31612

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:3F96E2C9.DED2FE66@earthlink.net...
> "Clifton T. Sharp Jr." wrote:
> >
> > Is it just me, or does it seem like American semiconductor manufacturers
> > discontinue any chip that isn't selling so fast that it requires a new
> > fab to handle the production? I'm beginning to wonder if there's enough
> > paper in the world to publish The Handbook Of Useful But Discontinued
> > US-Manufactured ICs.
> >
> > I can see where some didn't sell well enough to warrant much more than
> > an occasional run of a hundred thousand or so. But hell, the other day
> > I found a tube of zero-crossing switch ICs in storage and Googled on
> > the part number, and it looks like there's enough demand for these
> > things that I could get well over $600 for the tube! There's a listed
> > substitute, and *it* is obsolete too (and selling for over $13 a copy
> > from those who have them). How can they say something like this is
> > not worth keeping in production?
> >
> > --
> > "Look, we have exhausted virtually all our diplomatic effort to get the
Iraqis
> > to comply with their own agreements and with international law. Given
that,
> > what other option is there but to force them to do so?"
> > -- Tom Daschle, Feb. 11, 1998
>
> Its simple. MBAs run businesses, not people who understand the
> business, and their customer's needs. They only care about ROIs, and
> know they will be gone before they ride the company completely into the
> ground. The government doesn't help. High taxes on inventory cause
> leftover and obsolete parts to be written off. the paperwork required
> to liquidate obsolete parts can exceed the value received by selling
> them, so they go from the stockroom into a landfill.

The semiconductor industry is one of the most bizarre there is, but it
works for them. The average life cycle for an IC, from product
introduction to last time buy is something around 3 years, and most
forecasters think it will continue to decrease to between 12 and 18
months. I know of some parts that have had life cycles of less than
12 months. Welcome to the world of consumer electronics. When
a VCR manufacturer re-lays out his circuit board every two weeks
to take advantage of the lastest/greatest/lowest cost, why do
anything different?

2895. Re: Desire source for 4-digit LCD displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-22 23:40:36 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0310221540.56d9f8f5@posting.google.com>
Source record: 31611

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:<bn38np$fi8$1@bob.news.rcn.net>...
> Few 3.5 and 4 digit LCDs displays seem to be available from distributors (in
> small quantities). I find them to be more expensive that a whole fever
> thermometer containing one.
>
> Can someone lead me to a reasonable source?

Digikey stocks both Lumex and Varitronix ones, at prices from $1.66 to $8
or so (depending on price, brand, etc.)

Go to www.digikey.com and search for "lumex" and "lcd" to get started.

It is true that in the hobby market that dot-matrix LCD displays have
largely displaced numeric ones. I still like the numeric ones for my
projects.

Tim.

2896. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 01:13:28 UTC
From: averyfineman@aol.com
Message-ID: <20031022211328.15462.00003769@mb-m06.aol.com>
Source record: 31613

In article <bn6qu5$ba2$1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>Avery Fineman <averyfineman@aol.com> wrote:
>> There isn't any corresponding similarity of
>> FM and PM to AM for the repetition of sidebands' information when
>> looking at the spectral content.
>
>Umm... last I looked the spectrum of FM and PM was symmetrical about the
>carrier frequency? (Well, the lower sideband is 180 degrees out of phase
>with the upper, but that's true of AM as well.) Looking at a single sine
>wave input to an FM or phase modulator, this comes about from the Bessel
>function expansion of the sidetones and J-n(x)=-Jn(x)?

Yes. More or less.

>I know you're far more experienced in this area than I am, however, so I'll
>let you explain what I'm misinterpreting here!

Noooo...I'm not going to. About a million subjective years ago I had to
slog through a solution and series expansion with the only "help" I got
being a suggestion to use Bessel Functions of the First Kind.

In doing so - AND thinking about it in the process - I learned quite a
bit about the math AND the modulation process. Very useful later on.
ALL learning takes place in one's own noggin...doesn't matter whether
one is in a formal class or alone being "lectured" by print on paper
through the eyeballs.

Over on the Agilent website, I would suggest downloading their free
Application Note 150-1. That is really a subtle selling thing for their
very fine spectrum analyzers but it is also a darn good treatise on
modulation and modulation spectra for all the basic types. It should
(unless altered there) include that nice little animated display of
sidebands versus modulation index. I've always admired those H-P
appnotes, valuing most as nice little tutorials on specialized subjects.

Richard Slater in the mentioned January '77 HR article was trying to
explain a combination of FM and AM. In order to get a proper "feel"
for that (in my opinion), one needs the experience of juggling those
series terms in the expanded equation form. There IS one hint and
that is the not-quite symmetry (in numeric values) of FM and PM
spectra as compared to AM spectra. True "single-sideband" has a
possibility only on true symmetry. FM and PM spectra, by
themselves, don't have that symmetry in the expanded form. I'm
not going to discuss that one since it should be apparent.

If you want some source code on calculating the numeric values of Bessel Functions of the First Kind, I'll be happy to post it here under some thread. It's short and not complicated and a #$%^!!! faster than slugging through 5-place tables with slide rule and/or four-function mechanical calculator. Been there, done too much of that. Computers aren't just for chat rooms, are very nice for numeric calculations of the large kind. :-)

Len Anderson
retired (from regular hours) electronic engineer person

2897. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 01:50:28 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F9733D7.B1DFD634@earthlink.net>
Source record: 31614

Ken Finney wrote:
>
> The semiconductor industry is one of the most bizarre there is, but it
> works for them. The average life cycle for an IC, from product
> introduction to last time buy is something around 3 years, and most
> forecasters think it will continue to decrease to between 12 and 18
> months. I know of some parts that have had life cycles of less than
> 12 months. Welcome to the world of consumer electronics. When
> a VCR manufacturer re-lays out his circuit board every two weeks
> to take advantage of the lastest/greatest/lowest cost, why do
> anything different?

On the other hand, you can still buy new 741 op amps, 2n series
transistors that have been in production for over 30 years, and the
venerable 555. ;-)
--

Michael A. Terrell
Central Florida

2898. need homebrew microphone ideas/help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 01:55:50 UTC
From: Roln <roln@yahoo.com>
Message-ID: <GyGIb.3523$e01.9293@attbi_s02>
Source record: 31615

I've heard a few hams on the HF bands using homebrew microphones and I thot they sounded great.
I understand most are made from a Radio Shack (or other source) Electet mic element, which is inexpensive.

I've searched the net looking for detailed plans on building a mic, but have only found a few pictures of finished mics. There was an article in QST showing several mics a guy built. I have a couple ARRL hand books, but none have info on homebrew mics.

What I need is detailed plans and not the pictures of finished mics. How do I mount the cartridge? How are the components wired? I have the mic cartridge and plug for my Icom rig, but still need a mic cord a few feet in length. How many conductors should the mic cable have? I saw somewhere the needed voltage is obtained from the rig, but a resistor may be needed. A capacitor or two is also needed and possibly a mic pre amp??

Perhaps someone in this newsgroup has built a mic and can give some help.

Thanks and 73

Roln

2899. Ebay: for Hams

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 02:11:25 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <hNGlb.189805$0v4.14692701@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31616

Hickok tube checker Model 600
RCA 7360 NOS
Hvy duty RF switch
Millen Split air var
Shallcross Wheatstone Bridge

+ others

see under seller heytubeguy or
http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

2900. Re: 1 Watt UHF Amplifier schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 02:14:38 UTC
From: YD <yd.techHAT@techie.com>
Message-ID: <orbepvglneghgqmbq51nopsmjb6690tj2i@4ax.com>
Source record: 31617
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.basics,sci.electronics.design,sci.electronics.misc

On 16 Oct 2003 04:35:14 -0700, abcdstutzer@evard.ch (Diego Stutzer)
wrote:

>Hi again,
>I'm looking for a schematic of a uhf-amplifier with a gain of about
>10. It shoud give about 1 W output power (to a 50 Ohm Load) at about
>100mW input at the (preferably 50 ohm) input (impedance).
>The frequency to be amplified is about 440-450 MHz.
>Please post links to circuits matching my requirements and generally
>all uhf-amplifier design related links here or send me schematics via
>e-mail: abcdstutzer@evard.ch
>
>Thanks in advance.
>D. Stutzer

Google

- YD.
--
Remove HAT if replying by mail.

2901. Re: AD9850 DDS - Help prevent suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 02:31:32 UTC
From: novatech@eskimo.com
Message-ID: <bn7ei4mvh1@eskinews.eskimo.com>
Source record: 31618

"Tim" <th@nospam.lakeoriongroup.com> writes:

>Sorry to bother the group, a typo in the source code was the problem.
>The DDS VFO is now smooth as silk... See you on 40m CW

>Tim

I have used most of AD's DDS chips. While their data sheets might be
overwhelming, they are always correct-- so far. If you are having a problem
it is generally because of a missed detail.

Glad you found the problem.

Steve

--
Steven D. Swift, novatech@eskimo.com, http://www.novatech-instr.com
NOVATECH INSTRUMENTS, INC. P.O. Box 55997
206.301.8986, fax 206.363.4367 Seattle, Washington 98155 USA

2902. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 02:47:57 UTC
From: fmmck@aol.com
Message-ID: <20031022224757.07067.00000590@mb-m28.aol.com>
Source record: 31619

<< Sometimes I really get curious and want to know about something.

I haven't seen the Ham Radio article, but I'm thinking if the whole
idea had any merit it would be a popular mode by now. >>

Bruce-

It has been about 35 years since I had a class in school where SSB-FM was discussed. I recall that if you derive the equations for both AM and FM SSB, they are identical for practical purposes if the FM signal has low deviation (low modulation index?).

Looking at Two Meter FM, the deviation typically peaks at about 5 KHz. If you listen to your local repeater with an SSB rig such as the IC-706, it will be obvious that it isn't a clean signal! However, a 3 KHz deviation FM signal on HF (below 29 MHz) will sound much cleaner when tuned as SSB, and you may not notice it isn't AM-SSB.

With this in mind, consider that AM-SSB and FM-SSB might just be two ways to generate an SSB signal, assuming you use a filter to eliminate the carrier and other sideband.

By the way, an IC-706, especially one with the TCXO, often has a more accurate frequency read-out than a typical Two Meter rig. Therefore you can use it to check a repeater's frequency by tuning it as if it were an SSB station while someone is speaking. It is easy enough to check the IC-706 against WWV on HF.

73, Fred, K4DII

2903. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 03:39:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vpejbfnh54eq3e@corp.supernews.com>
Source record: 31620

The amplitudes of the sideband components are symmetrical (at least for modulation by a single sine wave), but the phases aren't. The phases of all the upper sideband components are in phase with the carrier; in the lower sideband, the odd order components (and only the odd order ones) are reversed in phase. With multitone modulation, things get a whole lot more complex. Unlike AM, FM is nonlinear, so there are sideband components from each tone, plus components from their sum, difference, and harmonics. The inability to use superposition makes analysis of frequency modulation with complex waveforms a great deal more difficult than AM.

Note also that unlike AM, whatever fraction of the carrier that's left when transmitting FM also contains part of the modulation information. Of course, at certain modulation indices with pure sine wave modulation, the carrier goes to zero, meaning that all the modulation information is in the sidebands. But this happens only under specific modulation conditions, so you'd certainly have an information-carrying carrier component present when modulating with a voice, for example.

Roy Lewallen, W7EL

Joel Kolstad wrote:
> Avery Fineman <averyfineman@aol.com> wrote:
>
>> There isn't any corresponding similarity of
>> FM and PM to AM for the repetition of sidebands' information when
>> looking at the spectral content.
>
>
> Umm... last I looked the spectrum of FM and PM was symmetrical about the
> carrier frequency? (Well, the lower sideband is 180 degrees out of phase
> with the upper, but that's true of AM as well.) Looking at a single sine
> wave input to an FM or phase modulator, this comes about from the Bessel
> function expansion of the sidetones and J-n(x)=-Jn(x)?
>
> I know you're far more experienced in this area than I am, however, so I'll
> let you explain what I'm misinterpreting here!
>
> ---Joel Kolstad
>
>

2904. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 03:45:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vpejmsjmk7jhf1@corp.supernews.com>
Source record: 31621

Egad, yes. Every year, the new TVs had an altogether new tube lineup. The tubes were generally the same old stuff, but in new envelopes with different pinouts, or different combinations in one envelope. All the service shops had to buy and stock a bunch of new tubes each year. That sort of greedy planned obsolescence was one of several reasons TV manufacturing rapidly died out in the U.S.

Roy Lewallen, W7EL

W7TI wrote:
> On Wed, 22 Oct 2003 23:40:05 GMT, "Ken Finney"
> <kenneth.c.finney@boeing.com> wrote:
>
>
>>The semiconductor industry is one of the most bizarre there is, but it
>>works for them.
>
>
> ----------
>
> Before semis became ubiquitous, tube manufacturers did about the same
> thing. Any idea how many variations there are on the good 'ol 6AU6?
> I'd guess probably between 50 and 100, some pin compatible and some not,
> and not one of them worked a bit better than the others. But it was a
> money maker for them to keep coming out with "new" tubes that everyone
> had to stock up on.
>
> Ahhhhh, the good old days.
>

2905. Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 04:34:51 UTC
From: Brian Connors <connorbd@yahoo.com>
Message-ID: <connorbd-EB46F8.00345023102003@news.verizon.net>
Source record: 31622

I am looking for a simple -- as in not too much more complex than a Pixie -- schematic for a 2m or 6m FM transmitter or transceiver. Anyone know where I can find one that's low-cost and suitable for a beginner to build, if such a thing exists?

Brian Connors
KB1KKC

2906. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 06:23:21 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn7s5a$n7a$1@news.oregonstate.edu>
Source record: 31623

Roy Lewallen <w7el@eznec.com> wrote:
> The amplitudes of the sideband components are symmetrical (at least for
> modulation by a single sine wave), but the phases aren't. The phases of
> all the upper sideband components are in phase with the carrier; in the
> lower sideband, the odd order components (and only the odd order ones)
> are reversed in phase.

I certainly didn't realize that until you pointed it out; I was generalzing from the narrowband FM situation where only the first sideband components are necessarily maintained and incorrectly assuming the same phase differences applied to the general case.

However...

Say you start with a baseband FM signal. Let's call the two sides of its Fourier transform L and R for the 'left' and 'right' halves. Now we mix up to the desired carrier frequency. At -f_c we have L at even greater negative frequencies and R at smaller negative frequencies. Ditto at f_c. If we now apply a low pass filter to select the lower sideband, we end up with R and L --> No information has been lost! (Likewise, with a high pass filter you have L and R left --> Same deal.)

Fundamentally mixing ANY signal followed by SSB filtering shouldn't lose information. Yes, in practice we'll be talking about VSB instead of SSB, but I still think we're OK.

Speaking of narrowband FM (NBFM)... and at the risk of splitting this topic... I had a discussion today with someone over the ability to use an envelope detector to recover narrowband FM signals. The output of the envelope detector is approximately 1+0.5*cos^2(2*pi*f*t), where f was the original modulating signal. The '1' will be killed by a capacitor, but that leaves the cosine squared term... which seems impossible to easily change back into cosine, since sqrt(x^2)=abs(x) and therefore it would appear that we've irreversably lost information. Comments?

---Joel Kolstad
...ambitious novice who'll be licensed shortly...
...and I still think C-QUAM AM stereo is quite clever...

2907. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 06:34:16 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn7spnndt1@news.oregonstate.edu>
Source record: 31624

Fred McKenzie <fmmck@aol.com> wrote:
> It has been about 35 years since I had a class in school where SSB-FM was
> discussed. I recall that if you derive the equations for both AM and FM
> SSB, they are identical for practical purposes if the FM signal has low
> deviation (low modulation index?).

You're probably thinking of AM vs. narrow band FM. Although the equations look very similar on paper and the MAGNITUDE spectrum is identical, the phase spectrum is different in that -- in the phasor domain -- AM always sits at 0 degrees and just grows and shrinks with modulation (overmodulation pushes it over to 180 degrees, BTW). NBFM, on the other hand, still has the carrier at 0 degrees but grows and shrinks along the imaginary axis. Hence the angle of the phasor is small but time-varying (which implies that the instantaneous frequency is varying as well -- but of course you already knew that since we called this whole mess 'frequency modulation'). The angle is about 15 degrees for a modulation index of 0.3 (what my notes claim as a good cutoff for NBFM) and about 5 degrees at 0.1.

See the message I posted earlier tonight for a discussion of whether or not you can recover NBFM with an envelope detector as of course one often does with AM (the difficulty is due to that phasor's wiggling...). I think not, but there's plenty I don't have a clue about... yet!

What's the modulation index on two meters anyway?

---Joel Kolstad
...who does know that a wideband FM receiver has no problem whatsoever receiving NBFM...

> Looking at Two Meter FM, the deviation typically peaks at about 5 KHz.
> If you listen to your local repeater with an SSB rig such as the IC-706,
> it will be obvious that it isn't a clean signal! However, a 3 KHz
> deviation FM signal on HF (below 29 MHz) will sound much cleaner when
> tuned as SSB, and you may not notice it isn't AM-SSB.

2908. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 06:55:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vpeurtn126ra8@corp.supernews.com>
Source record: 31625

Joel Kolstad wrote:
> . . .
> Say you start with a baseband FM signal. Let's call the two sides of its
> Fourier transform L and R for the 'left' and 'right' halves. Now we mix up
> to the desired carrier frequency. At -f_c we have L at even greater
> negative frequencies and R at smaller negative frequencies. Ditto at f_c.
> If we now apply a low pass filter to select the lower sideband, we end up
> with R and L --> No information has been lost! (Likewise, with a high pass
> filter you have L and R left --> Same deal.)
>
> Fundamentally mixing ANY signal followed by SSB filtering shouldn't lose
> information. Yes, in practice we'll be talking about VSB instead of SSB,
> but I still think we're OK.

I'm afraid you lost me with the "baseband" FM signal. Would you provide a carrier frequency, modulation frequency, and deviation or modulation index as an example?

The lower and upper sidebands of an FM signal do contain the same information when the modulation is a single sine wave, even though the sidebands aren't identical. But when you modulate with a complex waveform, you might find that some of the information which is adding in one sideband is subtracting in the other, and you might not be able to recover the modulating waveform from only one or the other -- sort of like you can't get two separate stereo channels from just the sum signal. I don't know if that's true, but it wouldn't surprise me. And, as I pointed out in another posting, the entire modulation information isn't even contained in *both* sidebands except under very special conditions -- some is in the carrier. Another question, of course, is whether you can get close enough to be useful. Perhaps with NBFM, at least, you could.

> Speaking of narrowband FM (NBFM)... and at the risk of splitting this
> topic... I had a discussion today with someone over the ability to use an
> envelope detector to recover narrowband FM signals. The output of the
> envelope detector is approximately 1+0.5*cos^2(2*pi*f*t), where f was the
> original modulating signal. The '1' will be killed by a capacitor, but that
> leaves the cosine squared term... which seems impossible to easily change
> back into cosine, since sqrt(x^2)=abs(x) and therefore it would appear that
> we've irreversably lost information. Comments?

Cos^2(x) = abs(cos(x)) = 1/2 * (1 + cos(2x)). As you've noted, the DC term can be blocked with a capacitor, so you'd end up with a cosine wave at twice the frequency.

But I've never heard of trying to detect NBFM directly with an envelope detector like you'd detect AM. The trick we used in ye olden tymes was called "slope detection". You tuned the signal so it was on the edge of the IF filter. The filter slope converted the FM to AM, which was then detected with the normal AM envelope detector. If you tuned directly to the carrier frequency, you didn't hear any modulation to speak of.

Roy Lewallen, W7EL

2909. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 09:05:07 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <7h0fpv8cagl2lfo1c0if8tcscd5mm1dlc3@4ax.com>
Source record: 31626

On 22 Oct 2003 20:21:16 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> Bill, I just dug out the 1977 issues of HR from storage and looked
> the article over. Author Richard Slater (W3EJD) said almost the
> same thing at the end of the article on page 15 under "closing
> comments." The nomenclatures for different modulations were
> formalized by the ITU-R since then but the FCC still doesn't have
> anything covering this "single-sideband FM" modulation type for
> U. S. amateur radio.

The ITU-R emission designations are quite outdated and many modern
emissions use din commercial and military systems would be designated
as XXX. In each case the X means "none above" in the corresponding
column.

Anyway, why should the amateur radio regulations contain these ITU-R
designations ? Here in Finland, ITU-R emission designations were
removed from amateur radio regulations and exam in 1997 and only band
specific power and bandwidth limits are used. I haven't heard of any
problems due to this decision.

Paul OH3LWR

2910. Re: need homebrew microphone ideas/help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 11:35:38 UTC
From: KL=?ISO-8859-1?B?2A==?=S <kl0s@cox.net>
Message-ID: <BBBD354A.2CEC4%kl0s@cox.net>
Source record: 31627

Check out the upcoming December issue of QST....I believe there will be an article describing the construction of a homebrew mic by Sam Kennedy KT4QW.

Dino KL0S/4

2911. Cer. Base 71A'sx2

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 12:48:54 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <W6Qlb.11697$Ec1.1059139@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31628

see my complete listings at:

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

heytubeguy

2912. Re: need homebrew microphone ideas/help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 13:42:05 UTC
From: Roln <roln@yahoo.com>
Message-ID: <NUQlb.8001$Fm2.7194@attbi_s04>
Source record: 31629

I've found lots of pictures of homebrew mics on the web, but I need info and pictures on HOW to build one. Detailed instructions is what I need.

Roln

"KL&#65533;S" wrote:
> Check out the upcoming December issue of QST....I believe there will be an
> article describing the construction of a homebrew mic by Sam Kennedy
KT4QW.
>
> Dino KL0S/4
>

2913. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 14:01:19 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0310230601.6e73514c@posting.google.com>
Source record: 31630

Brian Connors <connorbd@yahoo.com> wrote in message
news:<connorbd-EB46F8.00345023102003@news.verizon.net>...
> I am looking for a simple -- as in not too much more complex than a
> Pixie -- schematic for a 2m or 6m FM transmitter or transceiver. Anyone
> know where I can find one that's low-cost and suitable for a beginner to
> build, if such a thing exists?

Ramsey sells a 2M crystal-controlled (single channel) FM transmitter for
about $70. No receiver. I'd be extremely reluctant to recommend this to a
newbie because they'd need a separate receiver too.

Ten-Tec's 1220 (2M) and 1260 (6M) kits are nice radios, but are $200
and way way more than what you asked for. They are full-fledged
digital PLL radios. They're good values, but not what you asked for.

I think you'd be better off getting some older crystal-controlled
transceivers (assuming you can find any!) and teaching newbies how
to put a crystal in for the local repeater and align them.

Tim.

2914. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 14:55:23 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <8oqfpvg8tdelocshvpf0dblrlsefu4rpvd@4ax.com>
Source record: 31631

Speaking of AM modulation,, we all know that the carrier amplitude
does not change with modulation. Or does it?

Here is a question that has plagued many for years:
If you have a plate modulated transmitter, the plate voltage will
swing down to zero and up to two times the plate voltage with 100%
modulation. At 100% negative modulation the plate voltage is cutoff
for the instant of the modulation negative peak.

How is the carrier still transmitted during the time there is zero
plate voltage?

If we lower the modulation frequency to say 1 cps or even lower, 1
cycle per minute, then wouldn't the transmitter final be completely
off for half that time and unable to produce any carrier output??

Question is, at what point does the carrier start to be effected?

73
Gary K4FMX

On Wed, 22 Oct 2003 20:39:20 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>The amplitudes of the sideband components are symmetrical (at least for
>modulation by a single sine wave), but the phases aren't. The phases of
>all the upper sideband components are in phase with the carrier; in the
>lower sideband, the odd order components (and only the odd order ones)
>are reversed in phase. With multitone modulation, things get a whole lot
>more complex. Unlike AM, FM is nonlinear, so there are sideband
>components from each tone, plus components from their sum, difference,
>and harmonics. The inability to use superposition makes analysis of
>frequency modulation with complex waveforms a great deal more difficult
>than AM.
>
>Note also that unlike AM, whatever fraction of the carrier that's left
>when transmitting FM also contains part of the modulation information.
>Of course, at certain modulation indices with pure sine wave modulation,
>the carrier goes to zero, meaning that all the modulation information is
>in the sidebands. But this happens only under specific modulation
>conditions, so you'd certainly have an information-carrying carrier
>component present when modulating with a voice, for example.
>
>Roy Lewallen, W7EL
>
>Joel Kolstad wrote:

>> Avery Fineman <averyfineman@aol.com> wrote:
>>
>>> There isn't any corresponding similarity of
>>> FM and PM to AM for the repetition of sidebands' information when
>>> looking at the spectral content.
>>
>>
>> Umm... last I looked the spectrum of FM and PM was symmetrical about the
>> carrier frequency? (Well, the lower sideband is 180 degrees out of phase
>> with the upper, but that's true of AM as well.) Looking at a single sine
>> wave input to an FM or phase modulator, this comes about from the Bessel
>> function expansion of the sidetones and J-n(x)=-Jn(x)?
>>
>> I know you're far more experienced in this area than I am, however, so I'll
>> let you explain what I'm misinterpreting here!
>>
>> ---Joel Kolstad
>>
>>

2915. Re: need homebrew microphone ideas/help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 14:56:36 UTC
From: Roger Leone <arleoneXtakethisoutX@inreach.com>
Message-ID: <9QGdnXZJclrAcQqiU-KYgA@inreach.com>
Source record: 31632

Roln:

The last electret element I bought from Radio Shack had the wiring diagram for it printed on the back of the blister pack card.

For your radio, look in the owner's manual. It should show the microphone connector pinouts. Most modern HF rigs have DC available (8 volts or so) on one of the pins.

The mic cable will need enough wires for:

1. ground (may use the shield on #2)
2. audio (shielded)
3. PTT (push to talk)
4. DC voltage to operate the electret element

Radio Shack may also carry the 8 pin microphone connector that is compatible with yaecomwood radios.

GL and 73,

Roger K6XQ

2916. Re: 1 Watt UHF Amplifier schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 15:02:08 UTC
From: osteven@akrobiz.com
Message-ID: <86dacd49.0310230702.696e611d@posting.google.com>
Source record: 31633
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.basics,sci.electronics.design,sci.electronics.misc

www.rfparts.com

buy a motorola or similar RF module. aka a "CATV Brick" or "CATV AMP".

cost 60-90$ US.

usually runs off 12 or 24 volts, and get the app note/manufaturers data from RF parts

make sure you have a good RF wattmeter and adjust the source before the amplifier to avoid overdrive. overdrive is BAD. It will need a heatsink!

if your really transmitting with it, put a filter on the output as many of those modules have bandwith from 0 to 550 mhz or so. The law says any harmonics and spurs you generate must be about 40 Db down from your output

time spent building anything else without the proper equipment,is priceless, and judging from the language in your post, you dont have the skills/milliwatt meter to do it.

Dont expect this fowarded via email.

Steve Roberts

2917. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 15:35:32 UTC
From: Steve Robertson <ke4oh@yahoo.com>
Message-ID: <3F97F544.79254F96@yahoo.com>
Source record: 31634

And you can still buy nice new production 6L6 vacuum tubes (and a host of others).

73 de Steve KE4OH

"Michael A. Terrell" wrote:

> On the other hand, you can still buy new 741 op amps, 2n series
> transistors that have been in production for over 30 years, and the
> venerable 555. ;-)
> --
>
> Michael A. Terrell
> Central Florida

2918. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 15:40:45 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0310230740.2b5d3af0@posting.google.com>
Source record: 31635

"Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:<3F96DB72.72585C1B@clifto.com>...
> I can see where some didn't sell well enough to warrant much more than
> an occasional run of a hundred thousand or so. But hell, the other day
> I found a tube of zero-crossing switch ICs in storage and Googled on
> the part number, and it looks like there's enough demand for these
> things that I could get well over $600 for the tube!

Assuming you could find the buyers. Those guys selling them for Big
Buck$ (and we're both making the assumption that they are selling...
we don't actually know that!) probably wouldn't offer you a dime for your
tube of 'em.

Tim.

2919. Re: need homebrew microphone ideas/help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 17:13:36 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bn92ehsvn1@nic.grnet.gr>
Source record: 31636

http://www.qsl.net/kk5dr/micamp.html
http://www.reconnsworld.com/audio_electretamp.html
http://www.ee.washington.edu/circuit_archive/circuits/micamp.html
http://www.qsl.net/kk5dr/EQ.html

I hope this helps i bit..

73's
http://www.qsl.net/sv1hao

"Roln" <roln@yahoo.com> wrote in message
news:NUQlb.8001$Fm2.7194@attbi_s04...
> I've found lots of pictures of homebrew mics on the web, but I need info
and
> pictures on HOW to build one. Detailed instructions is what I need.
>
> Roln
>
>
> "KL�S" wrote:
> > Check out the upcoming December issue of QST....I believe there will be
an
> > article describing the construction of a homebrew mic by Sam Kennedy
> KT4QW.
> >
> > Dino KL0S/4
> >
>
>

2920. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 17:49:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vpg55qj247ip6e@corp.supernews.com>
Source record: 31637

You have to be careful in what you call the "carrier". As soon as you start modulating the "carrier", you have more than one frequency component. At that time, only the component at the frequency of the original unmodulated signal is called the "carrier". So you have a modulated RF signal, part of which is the "carrier", and part of which is sidebands.

General frequency domain analysis makes the assumption that each frequency component has existed forever and will exist forever. So under conditions of modulation with a periodic signal, you have three components: A "carrier", which is not modulated, but a steady, single frequency, constant amplitude signal; and two sidebands, each of which is a frequency shifted (and, for the LSB, reversed) replica of the modulating waveform.

You can take each of these waveforms, add them together in the time domain, and get the familiar modulated envelope.

So, the short answer is that the carrier, which is a frequency domain concept, is there even if you're modulating at 0.001 Hz. But to observe it, you've got to watch for much longer than 1000 seconds. You simply can't do a meaningful spectrum analysis of a signal in a time that's not a lot longer than the modulation period.

Roy Lewallen, W7EL

Gary Schafer wrote:
> Speaking of AM modulation,, we all know that the carrier amplitude
> does not change with modulation. Or does it?
>
> Here is a question that has plagued many for years:
> If you have a plate modulated transmitter, the plate voltage will
> swing down to zero and up to two times the plate voltage with 100%
> modulation. At 100% negative modulation the plate voltage is cutoff
> for the instant of the modulation negative peak.
>
> How is the carrier still transmitted during the time there is zero
> plate voltage?
>
> If we lower the modulation frequency to say 1 cps or even lower, 1
> cycle per minute, then wouldn't the transmitter final be completely
> off for half that time and unable to produce any carrier output??
>
> Question is, at what point does the carrier start to be effected?
>
>

> 73
> Gary K4FMX

2921. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 18:17:20 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vpg6pjghti1g09@corp.supernews.com>
Source record: 31638

"Tim Shoppa" <shoppa@trailing-edge.com> wrote in message
news:bec993c8.0310230601.6e73514c@posting.google.com...

> Ten-Tec's 1220 (2M) and 1260 (6M) kits are nice radios, but are $200
> and way way more than what you asked for. They are full-fledged
> digital PLL radios. They're good values, but not what you asked for.

I'd hedge a little on that "good values" statement. At least for 2 meters, already built, name brand, far more capable radios cost less than the Ten-Tec kit. Now perhaps it's worth some premium to come from Seiverville rather than Tokyo, but you do pay for it.

And Brian, if I were you, I'd think hard about what your motivation is. VHF radios are a lot more difficult to build than HF radios. If your interest is homebrewing, then go for it. But if you are looking for something that you can operate and save a few bucks, then homebrewing something isn't the way to go for VHF.

On VHF, layout is very important. Tiny differences in how things are put together can have a huge impact on performance. The Ramsey receiver is a good case. The thing is so wide and unstable that it's virtually useless on the ham bands, unless you are out in the middle of nowhere. If you choose to build something from a schematic, prepare yourself for a lot of tinkering to get it right. Likely your construction time will be measured in years, rather than months, unless you are very experienced at this sort of thing.

The Ten-Tec is a good one to look at for a kit. I'm sure, knowing Ten-Tec's reputation, that it works well. But compare the price and feature list to, say, an Icom 2100. You get a fifth the power, a tenth the channels, and half the receive coverage, for a 25% higher price. Plus, you miss a pile of the frills that adorn the typical rice box these days.

All that having been said, there is no thrill quite like operating a radio you built yourself. If that's what you are after, then by all means, go for it. Just recognize up front that, expecially at VHF, there is a price, and it's pretty significant.

..

2922. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 18:17:53 UTC
From: fmmck@aol.com
Message-ID: <20031023141753.27005.00000025@mb-m24.aol.com>
Source record: 31639

<< You're probably thinking of AM vs. narrow band FM. Although the equations look very similar on paper and the MAGNITUDE spectrum is identical, the phase spectrum is different >>

Joel-

Perhaps that is what I'm remembering. Now, if you use a filter to eliminate the other sideband, the higher frequency components and the carrier, don't you have a nearly identical remainder?

<< See the message I posted earlier tonight for a discussion of whether or not you can recover NBFM with an envelope detector >>

Somehow I missed that one. It seems that AOL does not post messages in the order in which they were originated!

I think we are in agreement that you can't recover FM modulation with just an envelope detector, but there is another approach. Again, you need a filter, but maybe one that is not as sharp as above. If you tune the radio so the carrier is just outside the passband, an amplitude variation will occur as the signal slides up and down the shoulder of the filter. The result is a pseudo AM signal that is detected by the envelope detector. I recall that this approach is called "slope detection".

73, Fred, K4DII

2923. Re: need homebrew microphone ideas/help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 18:32:42 UTC
From: KA9CAR <ka9car@a_r_r_l_.net>
Message-ID: <bn96s9$1d2q$1@news1.tribune.com>
Source record: 31640

I get lots of compliments on my audio, using a "computer" head set that uses an electret mic. You can spend up to $15 at R.S. and get a nice one. At the local big box electronics store, I saw sets with leather like ear pads, or foam ear pads. I borowed a Labtec from a friend and tried it out and was happy with that as well.

I find it much easier than using a desk mic. Since your mouth is always the same distance from the microphone you can have better audio and not have to play with the Mic Gain on your radio very often.

You can see the one that I use on QRZ or at
http://user.mc.net/~jdewey/Ham_radio/ka9car.jpg

One of the Ham Radio Magazines ran an article in the last couple of years, showing how to use plastic pipe fittings to mount the element and make a desk stand.

I have used my "desk mount" Sound Blaster microphone, You can get them at ham fests or flea markets for $3.00 or buy a replacement at your local big box electronix store for about $10.00

Here is a schematic of how I added the proper voltage to my radio.

http://user.mc.net/~jdewey/KACHINA/Electret_mic_bias.jpg

Those PIN NUMBERS apply ONLY to a Kachina 505DSP.

I used the same head set in My Alinco (DX-77T), There was already a power supply on the board all I had to do was install a jumper to liven up the mic. Most ICOM radios are powered.

Good luck.

JD

2924. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 19:08:31 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn990m$5lk$1@news.oregonstate.edu>
Source record: 31641

Fred McKenzie <fmmck@aol.com> wrote:
> Perhaps that is what I'm remembering. Now, if you use a filter to
> eliminate the other sideband, the higher frequency components and the
> carrier, don't you have a nearly identical remainder?

At that point I don't think you could tell the difference since there's no longer any local phase reference (i.e., the carrier) to compare with. I suppose this is why your SSB-AM rig is able to (somewhat) receive low frequency (and thereby presumably narrowband) FM broadcasts; this is what you were saying in your last post, correct?

> I think we are in agreement that you can't recover FM modulation with
> just an envelope detector

Yes, at least you can't recover a signal that directly corresponds to what you transmitted. It does appear that you can recover the signal's square, however, so this approach might be useful for, e.g., remote command transmissions. (But probably just for the novelty of having said you did it... since it's probably not much harder to build the slope detector you describe!)

---Joel

2925. 24v@1A only $1.50

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 20:24:04 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <ENWlb.12076$Ec1.1089079@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31642

See at ebay at

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=4671&item=3053827693

heytubeguy

2926. Acorn cer.tube sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 20:26:07 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <zPWlb.12079$Ec1.1087276@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31643

see at ebay:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=4671&item=3053828344

heytubeguy

2927. N2PK Network Analyser?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 20:47:18 UTC
From: Dan Rae <rae4@ix.netcom.com>
Message-ID: <q7Xlb.3423$I04.386@newsread4.news.pas.earthlink.net>
Source record: 31644

Is anyone building or thinking about building the above very interesting project?

http://users.adelphia.net/~n2pk/index.html

If so, I have two printed circuit boards going spare at cost (about $22)....

Dan
ac6ao g3ncr

2928. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 21:06:48 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <figgpv4to2pfuiamcdjf3vv5imvqf5uug3@4ax.com>
Source record: 31645

Along the same line consider that the envelope of an SSB signal has no
direct relationship to the original modulation the way that an AM
signal does.

This is why you can not use RF derived ALC to control the audio stage
of an SSB transmitter the way you can with an AM transmitter.
Or audio clipping that works on AM but does not work the same on SSB.

Transmit a square wave on an AM transmitter and you see a square wave
in the AM envelope. Do the same with an SSB transmitter and you only
see sharp spikes in the envelope.

73
Gary K4FMX

On Thu, 23 Oct 2003 12:08:31 -0700, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> wrote:

>Fred McKenzie <fmmck@aol.com> wrote:
>> Perhaps that is what I'm remembering. Now, if you use a filter to
>> eliminate the other sideband, the higher frequency components and the
>> carrier, don't you have a nearly identical remainder?
>
>At that point I don't think you could tell the difference since there's no
>longer any local phase reference (i.e., the carrier) to compare with. I
>suppose this is why your SSB-AM rig is able to (somewhat) receive low
>frequency (and thereby presumably narrowband) FM broadcasts; this is what
>you were saying in your last post, correct?
>
>> I think we are in agreement that you can't recover FM modulation with
>> just an envelope detector
>
>Yes, at least you can't recover a signal that directly corresponds to what
>you transmitted. It does appear that you can recover the signal's square,
>however, so this approach might be useful for, e.g., remote command
>transmissions. (But probably just for the novelty of having said you did
>it... since it's probably not much harder to build the slope detector you
>describe!)
>
>---Joel
>

2929. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 21:26:17 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <iqhgpvgb4t2qgg5jqee3j76lkrg3ljj797@4ax.com>
Source record: 31646

So what you are saying is that the carrier of a modulated signal is
ONLY a frequency domain concept? That would mean that it really does
turn on and off in the time domain at the modulation rate.

73
Gary K4FMX

On Thu, 23 Oct 2003 10:49:46 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>You have to be careful in what you call the "carrier". As soon as you
>start modulating the "carrier", you have more than one frequency
>component. At that time, only the component at the frequency of the
>original unmodulated signal is called the "carrier". So you have a
>modulated RF signal, part of which is the "carrier", and part of which
>is sidebands.
>
>General frequency domain analysis makes the assumption that each
>frequency component has existed forever and will exist forever. So under
>conditions of modulation with a periodic signal, you have three
>components: A "carrier", which is not modulated, but a steady, single
>frequency, constant amplitude signal; and two sidebands, each of which
>is a frequency shifted (and, for the LSB, reversed) replica of the
>modulating waveform.
>
>You can take each of these waveforms, add them together in the time
>domain, and get the familiar modulated envelope.
>
>So, the short answer is that the carrier, which is a frequency domain
>concept, is there even if you're modulating at 0.001 Hz. But to observe
>it, you've got to watch for much longer than 1000 seconds. You simply
>can't do a meaningful spectrum analysis of a signal in a time that's not
>a lot longer than the modulation period.
>
>Roy Lewallen, W7EL
>
>Gary Schafer wrote:
>> Speaking of AM modulation,, we all know that the carrier amplitude
>> does not change with modulation. Or does it?
>>
>> Here is a question that has plagued many for years:
>> If you have a plate modulated transmitter, the plate voltage will
>> swing down to zero and up to two times the plate voltage with 100%
>> modulation. At 100% negative modulation the plate voltage is cutoff
>> for the instant of the modulation negative peak.

>>
>> How is the carrier still transmitted during the time there is zero
>> plate voltage?
>>
>> If we lower the modulation frequency to say 1 cps or even lower, 1
>> cycle per minute, then wouldn't the transmitter final be completely
>> off for half that time and unable to produce any carrier output??
>>
>> Question is, at what point does the carrier start to be effected?
>>
>>
>> 73
>> Gary K4FMX

2930. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:04:29 UTC
From: averyfineman@aol.com
Message-ID: <20031023190429.02537.00001225@mb-m23.aol.com>
Source record: 31551

In article <vpejmsjmk7jhf1@corp.supernews.com>, Roy Lewallen <w7el@eznec.com>
writes:

>Egad, yes. Every year, the new TVs had an altogether new tube lineup.
>The tubes were generally the same old stuff, but in new envelopes with
>different pinouts, or different combinations in one envelope. All the
>service shops had to buy and stock a bunch of new tubes each year. That
>sort of greedy planned obsolescence was one of several reasons TV
>manufacturing rapidly died out in the U.S.

Not quite that, Roy. Off-shore production could do it cheaper.

29 years ago an in-house RCA publication announced that all
black-and-white RCA television sets would be made off-shore
while the Indianapolis, Indiana, complex continued with color
TV receivers. I was working for RCA in Van Nuys, CA, at the
time and was considering buying one through the company
store to save me money.

Back then the TV sets were still using tubes, still had the
rotating turret tuners for the low band, few manufacturers
offered remote controls. "Greedy planned obsolescence?"
No, just a lot of competition. Competition drove pricing and
low pricing required significant design changes like all series-
strung tube filaments to get rid of the power transformer.

The old RCA Indianapolis TV works is still operating, still uses
the RCA logo even though it is now owned by Thomson-CSF.
[or did it change hands again?]

So, three decades later where are all the other U.S. TV set
factories? Check out Circuit City, Best Buy, Wal-Mart,
K-Mart, Lowes, etc., and see where they are made NOW.
Back in 1958 Radio and Television News magazine had a
special edition on TV and included a representative listing of
color TV sets, all American made, all the cheap ones costing
about $500 in 1958 dollars. Nowadays an equivalent size
display color TV, plus remote control, plus PLL electronic
tuning for VHF through UHF channels, plus built-in captioning,
plus full sweep AFC, plus on-screen setting, plus a clock,
costs less than $300 retail in 2003 dollars...those are all
off-shore built, says so on their back panels.

For that matter, what happened to all those famous U. S.
makers of tube-type ham radios? Like Hallicrafters, National
Radio, RME, Collins Radio (Collins still alive but left the ham

market quite some time ago), Hammarlund.

"Mankind invented language to satisfy his need to complain"
--- Anonymous

Len Anderson
retired (from regular hours) electronic engineer person

2931. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:04:31 UTC
From: averyfineman@aol.com
Message-ID: <20031023190431.02537.00001226@mb-m23.aol.com>
Source record: 31550

In article <t0gepv00s8plu0u7ercltuqg8pjuibjoog@4ax.com>, W7TI <noway@nohow.com>
writes:

>On Wed, 22 Oct 2003 23:40:05 GMT, "Ken Finney"
><kenneth.c.finney@boeing.com> wrote:
>
>>The semiconductor industry is one of the most bizarre there is, but it
>>works for them.
>____
>
>Before semis became ubiquitous, tube manufacturers did about the same
>thing. Any idea how many variations there are on the good 'ol 6AU6?
>I'd guess probably between 50 and 100, some pin compatible and some not,
>and not one of them worked a bit better than the others. But it was a
>money maker for them to keep coming out with "new" tubes that everyone
>had to stock up on.

In February, 1953, I did my first QSY on HF with a BC-339 that ran a
pair of 833s in the final. 833 is not your run-of-the-mill receiver set
tube. :-)

About the same time a group of the guys at Army station ADA were
into an argument about "how many vacuum tube types" there were
then. (I guess it was something to do) Several scarfed up catalogs
and things, even got the station OIC interested. I forget the exact
number but it was like 3500 nomenclature types of all kinds, receiving,
transmitting, power control, photoelectric eyes, whatever.

By 1960 there were the 12 V filament versions of basic 6 V tubes
and the other "weird" filament voltages for series-stringing to
reduce the cost of a transformer in a TV set. Ruggedized versions
of basic lower-power tubes for mobile and airborne were out with
5000 and 6000 series numbers. Loctals were disappearing as
were the "acorn" types for VHF-UHF. Big changes everywhere,
not just on TV sets, to meet both competition and new environments
and frequencies. Sylvania's tube spec book had small loose-leaf
pages, at least two update sets per year...:-)

By 1980 the number of available-on-the-market semiconductors were
at least two orders of magnitude greater than that old 1953 group
compilation of tubes done at ADA...maybe three orders of magnitude.
All kinds of ICs for many, many purposes and universal applications
like the all-purpose Opamp (bless you, Bob Widlar, wherever you are).

By 1990 there was already a trend of "downsizing" semiconductor
product lines. National Semi and Motorola data books were no longer

expanding beyond their one-foot shelf width for most volumes. There was COMPETITION on the world market for all kinds of electronics and it was fierce and hot, not just in PCs+peripherals but all kinds of electronic things and products. The number of available semi products had expanded beyond reasonable capitalistic bounds and the market overall just couldn't sustain all of them.

>Ahhhhh, the good old days.

Bill, I respectfully give you a pthbtbtbt on that. :-)

I DON'T want them back now that the whole electronics world is swimming in a sea of wonderful parts plethora! Sure, it's getting to be a chore on selecting a precise IC or transistor...because there's SO MANY to choose from. In 1956 one was lucky to get a transistor (affordable) that would work beyond audio frequencies.

Just got a Mouser paper catalog a couple days ago. It's a full inch and a half thick with very thin paper contents. The Digi-Key industrial catalog on paper is about that size, maybe larger. HUGE inventories! Pages of semiconductor components that don't seem to stop. All kinds of semis, all kinds of other components...TTL expanded to many families, CMOS functional work-alikes to TTL numbers for zilch power drain...voltage regulators, band-gap voltage references more precise than zeners, all kinds of FETs capable of POWER handling, RF transistors capable of working at 1.2 GHz, small signal FETs approaching that. Huge selection of Microchip microcontrollers that anyone can use and program with free software, displays that knock the eyes out, LEDs of many colors.

Yes, the traditional "radio" parts aren't there anymore, not in the Allied or Newark catalogs either. "Plate transformers" are hard to get and only specialty places still sell variable capacitors for "tuning." Even vacuum tube sockets are getting hard to get. The electronics world get very big everywhere and it got much lower in voltage and much bigger in functions for all kinds of purposes. Times change.

These are times of paradise for designers! I wouldn't have it any other way... :-)

Len Anderson
retired (from regular hours) electronic engineer person

2932. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:04:32 UTC
From: averyfineman@aol.com
Message-ID: <20031023190432.02537.00001227@mb-m23.aol.com>
Source record: 31548

In article <nnfepvs70i3dpnsorgjfcmsv970b2m4frq@4ax.com>, W7TI <noway@nohow.com>
writes:

>On 22 Oct 2003 20:21:16 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
>>(there are still some
>> long-timers who refuse to accept that the carrier RF energy doesn't
>> change in AM at less than 100% modulation, heh heh)
>____
>
>I still remember the first time I got hold of a really narrowband
>receiver and tuned in only the carrier of an AM signal.
>
>I was astonished. That was the most enlightening two or three seconds
>in my whole radio career. :-)

Roger that! :-)

The first time I had to really calibrate an FM deviation indicator, I had
to use the "carrier null" technique with a narrow-bandpass detector
(actually a spectrum analyzer). Say WHAT?!? I thought. The
carrier amplitude goes to ZERO?!? Impossible, I thought, "everyone
knows" that an FM carrier "swings from side to side." :-)

Not long after that I got deep into modulation theory and discovered
the how and why of that. Mind-blowing at the time, but it explained
what was going on.

It's a situation where one has to look at either frequency domain or
time domain very hard in order to realize how the two are related.

Len Anderson
retired (from regular hours) electronic engineer person

2933. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:04:34 UTC
From: averyfineman@aol.com
Message-ID: <20031023190434.02537.00001228@mb-m23.aol.com>
Source record: 31547

In article <8oqfpvg8tdelocshvpf0dblrlsefu4rpvd@4ax.com>, Gary Schafer <gaschafer@comcast.net> writes:

>Speaking of AM modulation,, we all know that the carrier amplitude >does not change with modulation. Or does it?

Yes and no.

It's a situation of subjective understanding of the basic modulation formulas which define the amplitude of an "RF" waveform as a function of TIME [usually denoted as RF voltage "e (t)" meaning the voltage at any given point in time].

With a REPETITIVE modulation waveform of a single, pure audio sinewave, AND the modulation percentage LESS than 100%, the carrier frequency amplitude does indeed remain the same. I put some words into all-caps for emphasis...those are required definitions for proof of both the math AND a bench test set-up using a very narrow bandwidth selective detector.

One example witnessed (outside of formal schooling labs) used an audio tone of 10 KHz for amplitude modulation of a 1.5 MHz RF stable continuous wave carrier. With a 100 Hz (approximate) bandwidth of the detector (multiple-down-conversion receiver), the carrier frequency amplitude remained constant despite the modulation percentage changed over 10 to 90 percent. Retuning the detector to 1.49 or 1.51 MHz center frequency, the amplitude of the sidebands varied in direct proportion to the modulation percentage.

That setup was right according to theory for a REPETITIVE modulation signal as measured in the FREQUENCY domain.

But, but, but...according to a high-Z scope probe of the modulated RF, the amplitude was varying! Why? The oscilloscope was just linearly combining ALL the RF products, the carrier and the two sidebands. The scope "saw" everything on a broadband basis and the display to humans was the very SAME RF but in the TIME domain.

But...all the above is for a REPETITVE modulation signal condition. That's relatively easy to determine mathematically since all that is or has to be manipulated are the carrier frequency and modulation frequency and their relative amplitudes. What can get truly hairy is when the modulation signal is NOT repretitive...such as voice or music.

>Here is a question that has plagued many for years:
>If you have a plate modulated transmitter, the plate voltage will

>swing down to zero and up to two times the plate voltage with 100%
>modulation. At 100% negative modulation the plate voltage is cutoff
>for the instant of the modulation negative peak.
>
>How is the carrier still transmitted during the time there is zero
>plate voltage?
>
>If we lower the modulation frequency to say 1 cps or even lower, 1
>cycle per minute, then wouldn't the transmitter final be completely
>off for half that time and unable to produce any carrier output??

I don't blame you for being puzzled...I used to be so for many
years long ago, too. :-)

Most new commercial AM transmitters of today combine the
"modulator" with the power amplifier supply voltage, getting rid of
the old (sometimes mammoth) AF power amplifier in series with
the tube plate supply. Yes, in the TIME domain, the RF power
output does indeed vary at any point in time according to the
modulation. [that still follows the general math formula, "e(t)"]

You can take the modulation frequency and run it as low as
possible. With AM there is no change in total RF amplitude
over frequency (with FM and PM there is). If you've got an
instantaneous time window power meter you can measure it
directly (but ain't no such animal quite yet).

If you set up a FREQUENCY domain test as first described, you
will, indeed, measure NO carrier amplitude change with a very
narrow bandwidth selective detector at any modulation percentage
less than 100% using a REPETITIVE modulation signal.

Actual modulation isn't "repetitive" in the sense that a signal
generator single audio tone is repetitive. What is a truly TERRIBLY
COMPLEX task is both mathematical and practical PROOF of
RF spectral components (frequency domain) versus RF time
domain amplitudes when the modulation is not repetitive. Please
don't go there unless you are a math genius...I wasn't and tried,
got sent to a B. Ford Clinic for a long term. :-)

In a receiver's conventional AM detector, the recovered audio is
a combination of: (1). The diode, already non-linear, is a mixer
that combines carrier and sidebands producing an output that is
the difference of all of them; (2). The diode recovers the time
domain amplitude of the RF, runs it through a low-pass filter to
leave only the audio modulation...and also allows averaging of the
RF signal amplitude over a longer time. Both (1) and (2) are
technically correct.

With a pure SSB signal there is a constant RF amplitude with a
constant-amplitude repetitive modulation signal, exactly as it
would be if the RF output was from a Class C stage. Single

frequency if the modulation signal is a pure audio tone. With a non-repetitive modulation the total RF power output varies with the modulation amplitude. The common SSB demodulator ("product detector") is really a MIXER combining the SSB input with a constant, LOCAL RF carrier ("BFO") with the difference product output...which recovers the original modulation signal.

>Question is, at what point does the carrier start to be effected?

Beyond 100% modulation. The most extreme is a common radar pulse, very short in time duration, very long (relative) in repetition time. There's a formula long derived for the amplitude of the spectra of that, commonly referred to as "Sine x over x" when spoken. That sets the receiver bandwidth needed to recover a target return.

I've gotten waist-deep into "matched filter" signals, such as using a 1 MHz bandwidth filter to recover 1 microSecond RF pulses. (bandwidth is equivalent to the inverse of on-time of signal, hence the term "matched" for the filter) Most folks, me included, were utterly amazed at the filtered RF output envelope when a detector was tuned off to one side by 1, 2, or 3 MHz. Not at all intuitive. The math got a bit hairy on that and I just accepted the late Jack Breckman's explanation (of RCA Camden) since it worked on the bench as predicted.

It's all a matter of how the observer is observing RF things, time domain versus frequency domain...and whether the modulation is repetitive single frequency or multiple, non-repetitive. The math for a repetitive modulation signal works out as the rule for practical hardware that has to handle non-repetitive, multi-frequency modulation signals.

When combining two basic modulation forms, things get so hairy its got fur all over. So, like someone explain how an ordinary computer modem can send 56 Kilobits per second over a 3 KHz bandwidth circuit? :-)

Len Anderson
retired (from regular hours) electronic engineer person

2934. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:04:35 UTC
From: averyfineman@aol.com
Message-ID: <20031023190435.02537.00001229@mb-m23.aol.com>
Source record: 31549

In article <7h0fpv8cagl2lfo1c0if8tcscd5mm1dlc3@4ax.com>, Paul Keinanen
<keinanen@sci.fi> writes:

>On 22 Oct 2003 20:21:16 GMT, averyfineman@aol.com (Avery Fineman)
>wrote:
>
>> Bill, I just dug out the 1977 issues of HR from storage and looked
>> the article over. Author Richard Slater (W3EJD) said almost the
>> same thing at the end of the article on page 15 under "closing
>> comments." The nomenclatures for different modulations were
>> formalized by the ITU-R since then but the FCC still doesn't have
>> anything covering this "single-sideband FM" modulation type for
>> U. S. amateur radio.
>
>The ITU-R emission designations are quite outdated and many modern
>emissions use din commercial and military systems would be designated
>as XXX. In each case the X means "none above" in the corresponding
>column.

Okay, I won't argue the ITU-R thing since I haven't had the ability
(by working for a subscribing corporation) to access them. I was
going by the "Red Book" information from the U. S. National
Telecommunications and Information Agency (NTIA). Over here
the NTIA regulates government radio use while the U. S. Federal
Communications Commission regulates civil radio use. The
method of specifying modulation type, bandwidth, etc., are all
explained in there and the FCC follows the same nomenclature.

>Anyway, why should the amateur radio regulations contain these ITU-R
>designations ? Here in Finland, ITU-R emission designations were
>removed from amateur radio regulations and exam in 1997 and only band
>specific power and bandwidth limits are used. I haven't heard of any
>problems due to this decision.

That's a whole other area that, for amateur radio use, can be and has
been argued in rec.radio.amateur.policy.

As far as I'm concerned, and no one has ever proved otherwise,
electrons, fields, and waves all follow the Laws of physics...and they
don't give a @#$%!! about human laws. :-)

Len Anderson
retired (from regular hours) electronic engineer person

2935. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:23:31 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bn9nvcbhf1@news.oregonstate.edu>
Source record: 31552

Avery Fineman <averyfineman@aol.com> wrote:
> By 1960 there were the 12 V filament versions of basic 6 V tubes
> and the other "weird" filament voltages for series-stringing to
> reduce the cost of a transformer in a TV set.

Hmm... and to think it wasn't until the '80s or thereabouts that cars started to become noticeably non-user-serviceable... (Well, I suppose you guys just checked the pins of the tube bases to see where the voltage stopped? Not too bad...)

One of the things people should keep in mind is that -- especially in the digital world -- one device can replaces tons of older ones. If you need fast digital logic, use a CPLD or FPGA. For slower stuff, nothing can beat the versatility of a microcontroller, and these days they're dirt cheap with tons of features. Analog electronics is certainly still struggling in that programmable analog devices based on, e.g., switched capacitor architectures tend to noticeably limit performance in a manner that makes their usage nichey (i.e., if you can afford the ADC and DAC anyway, a lot of programmable analog chips perform no better than an ADC, DSP, and a DAC), but at the same time Analog Devices, Linear Tech., etc. keep cranking out some very impressive op-amps, regulators, etc. (Just off-hand, the LTC1799 is a pretty nice chip that's already found its way into some amateur radio equipment!)

I'm personally quite interested in bridging the digital and analog worlds of radio design, applying each where it makes the most sense.

---Joel Kolstad

2936. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:36:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vpgpfk80lhg99b@corp.supernews.com>
Source record: 31553

Gary Schafer wrote:
> So what you are saying is that the carrier of a modulated signal is
> ONLY a frequency domain concept?

Yes.

That would mean that it really does
> turn on and off in the time domain at the modulation rate.
>

"It" only exists in the frequency domain. Talking about the carrier in the time domain makes no more sense than talking about the sidebands in the time domain, or the envelope in the frequency domain.

Roy Lewallen, W7EL

2937. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:45:02 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0310231545.42cd17fd@posting.google.com>
Source record: 31554

shoppa@trailing-edge.com (Tim Shoppa) wrote in message
news:<bec993c8.0310230740.2b5d3af0@posting.google.com>...
> "Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:<3F96DB72.72585C1B@clifto.com>...
> > I can see where some didn't sell well enough to warrant much more than
> > an occasional run of a hundred thousand or so. But hell, the other day
> > I found a tube of zero-crossing switch ICs in storage and Googled on
> > the part number, and it looks like there's enough demand for these
> > things that I could get well over $600 for the tube!
>
> Assuming you could find the buyers. Those guys selling them for Big
> Buck$ (and we're both making the assumption that they are selling...
> we don't actually know that!) probably wouldn't offer you a dime for your
> tube of 'em.
>
> Tim.

Yep, we have reached the logical heights of electronic absurdity -
parts are discontinued so rapidly that I am seeing big television
sets, 12 months old, with discontinued chips in them (Philips seem to
be the worse in this department). Added to this the price of new
domestic equipment (TV,VCR etc) is so cheap that it is indeed "throw
away". Pity I am trying to still make a living fixing these things.

If you get more than the statutory 12 months life from it, then thats
a bonus - or, think like an MBA and realise it has cost you $5 a week
to run.....

The generation gap widens ever more, and, like the dinosaurs, we who
remember spares in stock NOW are a dying breed....

73 de VK3BFA Andrew

2938. Re: N2PK Network Analyser?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-23 23:50:41 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <lPZlb.13500$HS4.51248@attbi_s01>
Source record: 31555

> Is anyone building or thinking about building the above very interesting
> project?
>
> http://users.adelphia.net/~n2pk/index.html
>
>
> If so, I have two printed circuit boards going spare at cost (about
$22)....

Hi Dan, great project eh? Superb results! Measuring things I never could before even with the Boonton 250.

W4ZCB

2939. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 00:30:33 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <Jo_lb.5532$ao4.11719@attbi_s51>
Source record: 31556

"Brian Connors" <connorbd@yahoo.com> wrote in message
news:connorbd-EB46F8.00345023102003@news.verizon.net...
> I am looking for a simple -- as in not too much more complex than a
> Pixie -- schematic for a 2m or 6m FM transmitter or transceiver. Anyone
> know where I can find one that's low-cost and suitable for a beginner to
> build, if such a thing exists?
>
> Brian Connors
> KB1KKC

IF you have a good HF transceiver or an inexpensive 28 - 30 MHz
10 meter transceiver, why not build an Elecraft transverter??
Models XV-50 or XV-144
http://www.elecraft.com

w9gb

2940. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 01:00:44 UTC
From: averyfineman@aol.com
Message-ID: <20031023210044.01893.00001475@mb-m22.aol.com>
Source record: 31557

In article <figgpv4to2pfuiamcdjf3vv5imvqf5uug3@4ax.com>, Gary Schafer
<gaschafer@comcast.net> writes:

>Along the same line consider that the envelope of an SSB signal has no
>direct relationship to the original modulation the way that an AM
>signal does.
>
>This is why you can not use RF derived ALC to control the audio stage
>of an SSB transmitter the way you can with an AM transmitter.

You can't use ENVELOPE detection on SSB the same way it is
done on conventional AM.

But, you CAN use RF-derived feedback - if mixed with a steady
carrier to recover the modulation content - to do that very well.

>Or audio clipping that works on AM but does not work the same on SSB.

? Wrongly-done audio clipping on AM is just as bad as on SSB.

RF clipping circuits are quite another thing from audio.

>Transmit a square wave on an AM transmitter and you see a square wave
>in the AM envelope. Do the same with an SSB transmitter and you only
>see sharp spikes in the envelope.

That depends on the frequency of this square wave. That also depends
on what is being used to view the RF envelope. A 50 MHz scope will
show the RF envelope of any HF rig.

Put an electronic keyer on the SSB transmitter and transmit only dots
at a high speed setting. The SSB envelope will show the dots as
dots.

Conversely, if you put a high-purity sinewave audio into a SSB xmtr,
a spectrum analyzer display will show only a single frequency signal.

No one can interchange frequency and time domains directly and
get an explanation. Envelope viewing is time domain. Spectral
analysis is frequency domain.

Len Anderson
retired (from regular hours) electronic engineer person

2941. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 02:04:51 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3F98886F.76B37208@clifto.com>
Source record: 31558

Avery Fineman wrote:
> 29 years ago an in-house RCA publication announced that all
> black-and-white RCA television sets would be made off-shore
> while the Indianapolis, Indiana, complex continued with color
> TV receivers. I was working for RCA in Van Nuys, CA, at the
> time and was considering buying one through the company
> store to save me money.
>
> Back then the TV sets were still using tubes, still had the
> rotating turret tuners for the low band, few manufacturers
> offered remote controls.

You might be thinking more than 29 years. In 1968 I worked for RCA Service. The CTC 25 was big and the CTC 40 was making its appearance; most makers offered remote control, though few people bought it back then; RCA was using mostly wafer tuners in the color sets by then.

But yeah, pricing was already on the decline along with features we thought meant quality. I remember they had one large-screen color TV (25"?) in a plastic cabinet; they put a handle on the top of it so that warranty on the set was strictly carry-in, to save warranty service call costs. GE was hitting with PortaColor, series filament sets with the weirdest tube numbers ever seen. Replacing all the tubes in the set at retail price cost nearly as much as the set cost originally.

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis to comply with their own agreements and with international law. Given that, what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

2942. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 02:13:30 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <ql2hpv09geqel8vive0m7907vesbvqe1hm@4ax.com>
Source record: 31559

Hi Len,

I understand all of the points that you have made and agree that looking at a spectrum analyzer with a modulated signal, less than 100% modulation, shows a constant carrier. I also agree that looking at the time domain with a scope shows the composite of the carrier and side bands.
I understand that AM modulation and demodulation is a mixing process that takes place.

My question of "at what point does the carrier start to be effected" I was referring to low frequency modulation. Meaning when would you start to notice the carrier change.

I don't know how you would observe the carrier in the frequency domain with very low frequency modulation as the side bands would be so close to the carrier.

In my scenario of plate modulating a transmitter with a very low modulation frequency (sine or square wave), on the negative part of the modulation cycle the plate voltage will be zero for a significant amount of time of the carrier frequency. The modulation frequency could be 1 cycle per day if we chose. In that case the plate voltage would be zero for 1/2 a day (square wave modulation) and twice the DC plate voltage for the other half day. During the time the plate voltage is zero there would be no RF out of the transmitter as there would be no plate voltage.

This is where I get into trouble visualizing the "carrier staying constant with modulation". As the above scenario, there would be zero output so zero carrier for 1/2 a day. The other 1/2 day the plate voltage would be twice so we could say that the carrier power during that time would be twice what it would be with no modulation and that the average carrier power would be constant. (averaged over the entire day).

But we know that the extra power supplied by the modulator appears in the side bands and not the carrier.

What is happening?

73
Gary K4FMX

On 23 Oct 2003 23:04:34 GMT, averyfineman@aol.com (Avery Fineman) wrote:

>In article <8oqfpvg8tdelocshvpf0dblrlsefu4rpvd@4ax.com>, Gary Schafer
><gaschafer@comcast.net> writes:
>
>>Speaking of AM modulation,, we all know that the carrier amplitude
>>does not change with modulation. Or does it?
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> Yes and no.
>
> It's a situation of subjective understanding of the basic modulation
> formulas which define the amplitude of an "RF" waveform as a
> function of TIME [usually denoted as RF voltage "e (t)" meaning the
> voltage at any given point in time].
>
> With a REPETITIVE modulation waveform of a single, pure audio
> sinewave, AND the modulation percentage LESS than 100%, the
> carrier frequency amplitude does indeed remain the same. I put some
> words into all-caps for emphasis...those are required definitions for
> proof of both the math AND a bench test set-up using a very narrow
> bandwidth selective detector.
>
> One example witnessed (outside of formal schooling labs) used an
> audio tone of 10 KHz for amplitude modulation of a 1.5 MHz RF stable
> continuous wave carrier. With a 100 Hz (approximate) bandwidth
> of the detector (multiple-down-conversion receiver), the carrier
> frequency amplitude remained constant despite the modulation
> percentage changed over 10 to 90 percent. Retuning the detector to
> 1.49 or 1.51 MHz center frequency, the amplitude of the sidebands
> varied in direct proportion to the modulation percentage.
>
> That setup was right according to theory for a REPETITIVE modulation
> signal as measured in the FREQUENCY domain.
>
> But, but, but...according to a high-Z scope probe of the modulated RF,
> the amplitude was varying! Why? The oscilloscope was just linearly
> combining ALL the RF products, the carrier and the two sidebands.
> The scope "saw" everything on a broadband basis and the display to
> humans was the very SAME RF but in the TIME domain.
>
> But...all the above is for a REPETITVE modulation signal condition.
> That's relatively easy to determine mathematically since all that is
> or has to be manipulated are the carrier frequency and modulation
> frequency and their relative amplitudes. What can get truly hairy
> is when the modulation signal is NOT repretitive...such as voice or
> music.
>
>>Here is a question that has plagued many for years:
>>If you have a plate modulated transmitter, the plate voltage will
>>swing down to zero and up to two times the plate voltage with 100%
>>modulation. At 100% negative modulation the plate voltage is cutoff
>>for the instant of the modulation negative peak.
>>

>>How is the carrier still transmitted during the time there is zero
>>plate voltage?
>>
>>If we lower the modulation frequency to say 1 cps or even lower, 1
>>cycle per minute, then wouldn't the transmitter final be completely
>>off for half that time and unable to produce any carrier output??
>
> I don't blame you for being puzzled...I used to be so for many
> years long ago, too. :-)
>
> Most new commercial AM transmitters of today combine the
> "modulator" with the power amplifier supply voltage, getting rid of
> the old (sometimes mammoth) AF power amplifier in series with
> the tube plate supply. Yes, in the TIME domain, the RF power
> output does indeed vary at any point in time according to the
> modulation. [that still follows the general math formula, "e(t)"]
>
> You can take the modulation frequency and run it as low as
> possible. With AM there is no change in total RF amplitude
> over frequency (with FM and PM there is). If you've got an
> instantaneous time window power meter you can measure it
> directly (but ain't no such animal quite yet).
>
> If you set up a FREQUENCY domain test as first described, you
> will, indeed, measure NO carrier amplitude change with a very
> narrow bandwidth selective detector at any modulation percentage
> less than 100% using a REPETITIVE modulation signal.
>
> Actual modulation isn't "repetitive" in the sense that a signal
> generator single audio tone is repetitive. What is a truly TERRIBLY
> COMPLEX task is both mathematical and practical PROOF of
> RF spectral components (frequency domain) versus RF time
> domain amplitudes when the modulation is not repetitive. Please
> don't go there unless you are a math genius...I wasn't and tried,
> got sent to a B. Ford Clinic for a long term. :-)
>
> In a receiver's conventional AM detector, the recovered audio is
> a combination of: (1). The diode, already non-linear, is a mixer
> that combines carrier and sidebands producing an output that is
> the difference of all of them; (2). The diode recovers the time
> domain amplitude of the RF, runs it through a low-pass filter to
> leave only the audio modulation...and also allows averaging of the
> RF signal amplitude over a longer time. Both (1) and (2) are
> technically correct.
>
> With a pure SSB signal there is a constant RF amplitude with a
> constant-amplitude repetitive modulation signal, exactly as it
> would be if the RF output was from a Class C stage. Single
> frequency if the modulation signal is a pure audio tone. With a
> non-repetitive modulation the total RF power output varies with

> the modulation amplitude. The common SSB demodulator
> ("product detector") is really a MIXER combining the SSB input
> with a constant, LOCAL RF carrier ("BFO") with the difference
> product output...which recovers the original modulation signal.
>
>>Question is, at what point does the carrier start to be effected?
>
> Beyond 100% modulation. The most extreme is a common
> radar pulse, very short in time duration, very long (relative) in
> repetition time. There's a formula long derived for the amplitude
> of the spectra of that, commonly referred to as "Sine x over x"
> when spoken. That sets the receiver bandwidth needed to recover
> a target return.
>
> I've gotten waist-deep into "matched filter" signals, such as using
> a 1 MHz bandwidth filter to recover 1 microSecond RF pulses.
> (bandwidth is equivalent to the inverse of on-time of signal, hence
> the term "matched" for the filter) Most folks, me included, were
> utterly amazed at the filtered RF output envelope when a detector
> was tuned off to one side by 1, 2, or 3 MHz. Not at all intuitive.
> The math got a bit hairy on that and I just accepted the late Jack
> Breckman's explanation (of RCA Camden) since it worked on the
> bench as predicted.
>
> It's all a matter of how the observer is observing RF things, time
> domain versus frequency domain...and whether the modulation is
> repetitive single frequency or multiple, non-repetitive. The math for
> a repetitive modulation signal works out as the rule for practical
> hardware that has to handle non-repetitive, multi-frequency
> modulation signals.
>
> When combining two basic modulation forms, things get so hairy
> its got fur all over. So, like someone explain how an ordinary
> computer modem can send 56 Kilobits per second over a 3 KHz
> bandwidth circuit? :-)
>
> Len Anderson
> retired (from regular hours) electronic engineer person

2943. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 02:51:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vph4u9aail1u1f@corp.supernews.com>
Source record: 31560

Let me elaborate a little. Maybe the following example will help.

Suppose you've 100% modulated a 1 MHz carrier with a 0.1 Hz sine wave. Our knowledge of frequency domain analysis tells us the spectrum will be a 1 MHz "carrier", with two sidebands, one at 1,000,000.1 Hz and the other at 999,999,999.9 Hz. At 100% modulation, the power amplitude of each sideband will be 1/4 the amplitude of the carrier; the voltage amplitude of each will be 1/2 the amplitude of the carrier.

Now, imagine that you can draw three sine waves on a long piece of paper. They would have the frequencies and amplitudes of the three spectral components above. These are the time domain representations of the three frequency domain components. (In that sense, you *can* speak of a carrier or a sideband in the time domain -- so I was perhaps unduly dogmatic about that point.) But here's the important thing to keep in mind -- all three of these components have constant amplitudes. They extend from the beginning of time to the end of time, and don't start, stop, or change at any time. That's what those spectral lines mean, and what we get when we transform them back to the time domain.

At each instant of time, look at the values of all three components and add them. At some times, you'll find that the two sideband sine waves are both at their maxima at the same time that the carrier sine wave is at its maximum. At those times, the sum of the three will be twice the value of the carrier wave alone. At some other times, both sidebands are hitting their maxima just when the carrier is at its minimum value. At those instants, the sum will be zero. After you plot enough points, you'll find you've reconstructed the time waveform of the modulated signal. You'll also find you need at least ten seconds of these three waveforms to create one full cycle -- repetition -- of the modulated wave. During that ten second period, the carrier sine wave doesn't change amplitude, nor do the sideband sine waves change amplitude. Only the time waveform, which is not the carrier or the sidebands, but always the sum of the three, changes. When we speak of a carrier wave, we mean that sine wave of constant amplitude that never changes -- in other words, a single component in the frequency domain.

Roy Lewallen, W7EL

Roy Lewallen wrote:
> Gary Schafer wrote:
>
>> So what you are saying is that the carrier of a modulated signal is
>> ONLY a frequency domain concept?
>
>

> Yes.
>
> That would mean that it really does
>
>> turn on and off in the time domain at the modulation rate.
>>
>
> "It" only exists in the frequency domain. Talking about the carrier in
> the time domain makes no more sense than talking about the sidebands in
> the time domain, or the envelope in the frequency domain.
>
> Roy Lewallen, W7EL
>

2944. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 03:05:33 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <1g3hpv887s1uqg7tdfudkkvoq85kmp1ahd@4ax.com>
Source record: 31561

On 24 Oct 2003 01:00:44 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

>In article <figgpv4to2pfuiamcdjf3vv5imvqf5uug3@4ax.com>, Gary Schafer
><gaschafer@comcast.net> writes:
>
>>Along the same line consider that the envelope of an SSB signal has no
>>direct relationship to the original modulation the way that an AM
>>signal does.
>>
>>This is why you can not use RF derived ALC to control the audio stage
>>of an SSB transmitter the way you can with an AM transmitter.
>
> You can't use ENVELOPE detection on SSB the same way it is
> done on conventional AM.
>
> But, you CAN use RF-derived feedback - if mixed with a steady
> carrier to recover the modulation content - to do that very well.

Agreed.

>
>>Or audio clipping that works on AM but does not work the same on SSB.
>
> ? Wrongly-done audio clipping on AM is just as bad as on SSB.
>
> RF clipping circuits are quite another thing from audio.

In SSB RF clipping, the signal being peak limited is the same as that
being transmitted.
If you do audio clipping on an SSB transmitter you can not limit the
peak output as you can in AM or in RF clipping of SSB, because the
output of the SSB transmitter has no direct relationship to the audio
in.

>
>>Transmit a square wave on an AM transmitter and you see a square wave
>>in the AM envelope. Do the same with an SSB transmitter and you only
>>see sharp spikes in the envelope.
>
> That depends on the frequency of this square wave. That also depends
> on what is being used to view the RF envelope. A 50 MHz scope will
> show the RF envelope of any HF rig.

With a 1000hz audio square wave into an SSB transmitter you will not
see a square wave envelope as you would from an AM transmitter. You

will see sharp spikes.
My point is that what you get out of an SSB transmitter is not
directly representative of what you put in, as it is in AM.
Even though the modulation process in the SSB transmitter starts out
the same as it does in the AM transmitter. Much phase modulation takes
place in the SSB process.

>
> Put an electronic keyer on the SSB transmitter and transmit only dots
> at a high speed setting. The SSB envelope will show the dots as
> dots.

Same as a CW transmitter.

>
> Conversely, if you put a high-purity sinewave audio into a SSB xmtr,
> a spectrum analyzer display will show only a single frequency signal.

Put two pure equal amplitude audio tones into the SSB transmitter and
the envelope out at first glance looks like a 100% modulated AM
transmitter envelope that is modulated by a single tone. But a closer
look will reveal that the envelope is not a pure sine wave. The
envelope is folded over so as to produce a sharper crossover.

If this signal is looked at or listened to on an envelope detector the
detector will produce high 2nd harmonic distortion. (that's another
story)

Look at the signal on a spectrum analyzer and it will show 2 carriers
seperated by the seperation of the two tone frequencies.

>
> No one can interchange frequency and time domains directly and
> get an explanation. Envelope viewing is time domain. Spectral
> analysis is frequency domain.
>
Agreed.

> Len Anderson
> retired (from regular hours) electronic engineer person

73
Gary K4FMX

2945. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 03:11:25 UTC
From: Brian Connors <connorbd@yahoo.com>
Message-ID: <connorbd-819DF7.23112723102003@news.verizon.net>
Source record: 31562

In article <vpg6pjghti1g09@corp.supernews.com>,
"xpyttl" <xpyttl_nospam@earthling.net> wrote:

> "Tim Shoppa" <shoppa@trailing-edge.com> wrote in message
> news:bec993c8.0310230601.6e73514c@posting.google.com...
>
> > Ten-Tec's 1220 (2M) and 1260 (6M) kits are nice radios, but are $200
> > and way way more than what you asked for. They are full-fledged
> > digital PLL radios. They're good values, but not what you asked for.
>
> I'd hedge a little on that "good values" statement. At least for 2 meters,
> already built, name brand, far more capable radios cost less than the
> Ten-Tec kit. Now perhaps it's worth some premium to come from Seiverville
> rather than Tokyo, but you do pay for it.

Don't the Japanese farm it out to China these days like everyone else
anyway?

> And Brian, if I were you, I'd think hard about what your motivation is. VHF
> radios are a lot more difficult to build than HF radios. If your interest
> is homebrewing, then go for it. But if you are looking for something that
> you can operate and save a few bucks, then homebrewing something isn't the
> way to go for VHF.

That's good to know. Essentially, my situation is that I can afford a
very basic HT; 2M is not so much a big deal as 6M, which would seem to
be somewhat easier. Basically I can't afford a triband radio, so I want
to build one for 6M. 2M would be gravy, but apparently it's not worth
the trouble to try to build. I won't worry about it -- I'll just go
shopping.

> On VHF, layout is very important. Tiny differences in how things are put
> together can have a huge impact on performance. The Ramsey receiver is a
> good case. The thing is so wide and unstable that it's virtually useless on
> the ham bands, unless you are out in the middle of nowhere. If you choose
> to build something from a schematic, prepare yourself for a lot of tinkering
> to get it right. Likely your construction time will be measured in years,
> rather than months, unless you are very experienced at this sort of thing.

Very good to know. In that case, I won't bother until I know what I'm
doing. At least not on 2M.

> The Ten-Tec is a good one to look at for a kit. I'm sure, knowing Ten-Tec's
> reputation, that it works well. But compare the price and feature list to,
> say, an Icom 2100. You get a fifth the power, a tenth the channels, and
> half the receive coverage, for a 25% higher price. Plus, you miss a pile of

> the frills that adorn the typical rice box these days.
>
> All that having been said, there is no thrill quite like operating a radio
> you built yourself. If that's what you are after, then by all means, go for
> it. Just recognize up front that, expecially at VHF, there is a price, and
> it's pretty significant.

Well, I got my ticket for the tech. I didn't know going in just how complex it would be, expecially given how simple something like a Pixie is.

Thanks for the commentary. Sadly, it looks like I'll be stuck on 2M for the forseeable future, at least until I get my General ticket. Whenever that is.

2946. Re: Yahoo Group for Radio Shack DX-394 Users

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 03:16:26 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <fC0mb.19517$XO.1121600@news20.bellglobal.com>
Source record: 31563
Cross-posted to:
rec.radio.shortwave,alt.radio.scanner,alt.radio.scanner.uk,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Almost 500 members!
More mods than for any other general coverage receiver!
Thoroughly documented. Master index of mods.
Great platform for learning radio-electronics.
Active & friendly user community.
Mods since 27 July 03:
- Filter Upgrades (LF-D6 vs Kiwa vs stock)
- Cascaded Filters (dual LF-D6 vs Kiwa vs stock; pre-filter vs replacement)
- Cascaded Radios for Variable Passband, Super Gain/AGC
- Portable Ghetto Blaster (battery operated, super-sized speaker, shoulder strap)
- TNT Squelch
- ANL Defeat/Peak Distortion Reduction
- Hum Reduction
- Clock Speed Access
- Front Panel Removal Tool
- LW/MW Antenna/Transformer Tuning
- Variable BFO
- Replacement Backup Battery
- IF Breakout/Insert Jacks for Outboard Filters, Demods...
- LCD Backlight On/Off - On/Dim

All here at:
http://groups.yahoo.com/group/RADIOSHACKDX394/

Subscribe on line or email: RADIOSHACKDX394-subscribe@yahoogroups.com

73, Tom

2947. Re: Rant

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 03:42:18 UTC
From: averyfineman@aol.com
Message-ID: <20031023234218.12631.00002343@mb-m28.aol.com>
Source record: 31564

In article <1fc7b362.0310231545.42cd17fd@posting.google.com>,
ablight@alphalink.com.au (Andrew VK3BFA) writes:

>shoppa@trailing-edge.com (Tim Shoppa) wrote in message
>news:<bec993c8.0310230740.2b5d3af0@posting.google.com>...
>> "Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
>news:<3F96DB72.72585C1B@clifto.com>...
>> > I can see where some didn't sell well enough to warrant much more than
>> > an occasional run of a hundred thousand or so. But hell, the other day
>> > I found a tube of zero-crossing switch ICs in storage and Googled on
>> > the part number, and it looks like there's enough demand for these
>> > things that I could get well over $600 for the tube!
>>
>> Assuming you could find the buyers. Those guys selling them for Big
>> Buck$ (and we're both making the assumption that they are selling...
>> we don't actually know that!) probably wouldn't offer you a dime for your
>> tube of 'em.
>>
>> Tim.
>
>Yep, we have reached the logical heights of electronic absurdity -
>parts are discontinued so rapidly that I am seeing big television
>sets, 12 months old, with discontinued chips in them (Philips seem to
>be the worse in this department). Added to this the price of new
>domestic equipment (TV,VCR etc) is so cheap that it is indeed "throw
>away". Pity I am trying to still make a living fixing these things.

Okay, so how does anyone justify spending $40 to $60 an hour
repair charges for an $89 DVD-VHS dual-deck unit purchaseable
at the Fry's Electronics chain?

Nearly all consumer electronics things work just fine right out of
the packing box and stay that way for years.

>If you get more than the statutory 12 months life from it, then thats
>a bonus - or, think like an MBA and realise it has cost you $5 a week
>to run.....
>
>The generation gap widens ever more, and, like the dinosaurs, we who
>remember spares in stock NOW are a dying breed....

Keep in mind what happened to the dinosaurs. :-)

Adapt. Don't stand around in museums 24/7.

Len Anderson
retired (from regular hours) electronic engineer person

2948. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 05:17:02 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <mlahpvc1nee8e66bmthk18e118bvos4lrq@4ax.com>
Source record: 31565

On Thu, 23 Oct 2003 19:51:49 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Now, imagine that you can draw three sine waves on a long piece of
>paper. They would have the frequencies and amplitudes of the three
>spectral components above. These are the time domain representations of
>the three frequency domain components. (In that sense, you *can* speak
>of a carrier or a sideband in the time domain -- so I was perhaps unduly
>dogmatic about that point.) But here's the important thing to keep in
>mind -- all three of these components have constant amplitudes. They
>extend from the beginning of time to the end of time, and don't start,
>stop, or change at any time. That's what those spectral lines mean, and
>what we get when we transform them back to the time domain.

It is quite easy to visualise this using a spreadsheet program.
However, it would be easier to use a much higher modulation frequency
compared to the carrier frequency. Assuming a carrier frequency of
1000 Hz and a modulating frequency of 100 Hz, so the sidebands would
be at 900 and 1100 Hz.

In column A put the time t and for each line increment the value by
0.0001 s or 0.00005 s.

In column B calculate 0.5*sin(2*pi*900*t).
In column C calculate 1.0*sin(2*pi*1000*t).
In column D calculate 0.5*sin(2*pi*1100*t).
In column E calculate the sum of columns B, C and D.

Duplicate these lines 500 to 1000 times and draw a graph, with column
A or time as the X-axis and display columns B, C, D and E as separate
graphs on the Y-axis.

Paul OH3LWR

2949. Re: Hi-impedance headphone design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 07:09:34 UTC
From: "Watson A.Name - Watt Sun" <alondra101@hotmail.com>
Message-ID: <MPG.1a026ff4ebee503a98980d@news.dslextreme.com>
Source record: 31566
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <vpgq5bgf92hi04@corp.supernews.com>,
walterh@cafewalterNOSPAM.com mentioned...
> "Paul Burridge" <pb@osiris.notthisbit.co.uk> wrote...
> > What differentiates the internals of hi-z headphones from those of say
> > the 8 ohm type. I mean, how is all that extra impedance achieved?
>
> I see that you're crossposting to a ham group, which adds a twist to the
> discussion, because at least 25 years ago when I last paid attention to ham
> radio, the kind of headphones used in ham sets were different than the kind
> used these days for listening to music. Hams used 8 ohm dynamic phones, or
> they used hi-Z crystal phones.

I disagree. They used 2000 ohm variable reluctance headphones.

http://www.audiosears.com/acoustic/2444.html
http://www.audiosears.com/acoustic/ears.html

> The phones used for music listening these days are generally in the range of
> 30 to 100 ohms, with some oddballs around 600 ohms. They are dynamic, that
> is, they use electromagnets rather than piezo crystals. I don't know how
> they pack that much wire into 'em (although some do have two diaphragms in
> series, for each ear), but I think the basic idea is that where a
> loudspeaker has a heavy magnet and relatively few turns of wire, headphones
> work the other way - light (and weak) magnet, lots of turns.

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

2950. Re: Hi-impedance headphone design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 12:15:36 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vpi5vem9t8h415@corp.supernews.com>
Source record: 31567
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

> Hams used 8 ohm dynamic phones, or they used hi-Z crystal phones.
>
> I disagree. They used 2000 ohm variable reluctance headphones.
>

Hams have always used anything available. 25 years ago was 1977. By that time the vast majority of receivers were designed for 8-ohm headphones as most are today. Hi-Z crystal phones haven't been in general use for a long time.

2951. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 12:36:16 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vpi7649jf7442a@corp.supernews.com>
Source record: 31568

"Brian Connors" <connorbd@yahoo.com> wrote in message
news:connorbd-819DF7.23112723102003@news.verizon.net...

> Don't the Japanese farm it out to China these days like everyone else
> anyway?

Or Taiwan or Korea, who knows? Although all my Icom stuff seems to say
Osaka.

> That's good to know. Essentially, my situation is that I can afford a
> very basic HT; 2M is not so much a big deal as 6M, which would seem to
> be somewhat easier. Basically I can't afford a triband radio, so I want
> to build one for 6M. 2M would be gravy, but apparently it's not worth
> the trouble to try to build. I won't worry about it -- I'll just go
> shopping.

Depending on where you are, a 2M HT can be pretty handy. Actually, single
band mobiles are probably cheaper than HT's. If you have a number of
repeaters nearby, then the HT may be more flexible. If you need a little
power to reach out then the mobile might be a better choice. (Although if
you're not going to mount the mobile in a car then the power supply does
almost double the cost).

> Very good to know. In that case, I won't bother until I know what I'm
> doing. At least not on 2M.

Actually, you can get on 6 meter CW pretty simply with homebrew stuff, but
recognize that QSOs are going to be few and far between. 6 meters is only
open occasionally, and even less frequently to low power. In most parts of
the country there is relatively little local 6 meter operation, so your QSOs
are going to be largely limited to band openings, unless you are in a major
metro area.

> Well, I got my ticket for the tech. I didn't know going in just how
> complex it would be, expecially given how simple something like a Pixie
> is.

Yeah, well, as I said. You can build a Pixie-like thing for 6 meters, in
fact, I did such a thing relatively recently to try to get a friend upgraded
(no such luck, he seems to have a block for the code). But the problem is
that 6 is open so rarely, and 6 meter CW operation is pretty scarce. SSB or
FM add a whole pile of complexity, although SSB receive on 6 meters could
be pretty simple since the band is rarely crowded.

BUT, to get the frequency stability you either need to go with crystal
control or a DDS. Now crystal control may not be as much of a disadvantage
on 6 as it is on most other bands, since probably 90% of the operation is on

50.125. But it will be frustrating to be unable to move away from the QRM on that one day a year that the band is open and you happen to be there! DDS can quickly put the cost up there.

Now, if you have a buddy nearby and you want to get your code speed up for the general, I have a circuit you can build for around $25 that will get you on the air. But it's CW, fixed frequency, and low power. Given the infrequency of 6 meter openings that are friendly to low power, that means the QSOs are going to be limited to a nearby station.

I should add, I don't mean to imply that 6 meters is a big power band. Indeed, the noise and absorption are both low o 6, which makes power less of an issue for "traditional" openings. But on 6, traditional openings are rare, so you look for other modes more frequently. There are basically 4 kinds of openings on 6 that are fairly common.
- F - very rare, friendly to low power
- Es - somewhat less rare, very unpredictable, friendly to low power, although you will often be competing with high power stations
- Aroura - getting unusual with the sunspots going down, high power
- HSMS - common, predictable, high power

If you want a QSO on 6 almost every day, HSMS is a good bet. *BUT*, you need a good antenna, preferably with an az-el mount, lots of power (a few hundred watts, anyway), and a computer.

Hunting QSOs on 6 is a lot of fun, but if it's your only outlet, it could get pretty frustrating because they are pretty rare, and getting tougher as the sunspots decline. With low power and fixed frequency it will be even tougher.

..

2952. Re: Hi-impedance headphone design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 12:55:08 UTC
From: Capoot <rlcap@xprt.net>
Message-ID: <vpi89u6iom9p29@corp.supernews.com>
Source record: 31569
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

The high impedance phone that came with the crystal radio that I had when I was a kid in the 50's had a large stationary coil wound around an iron core. The sound was produced in a steel disc suspended over the iron core. Because the coil was stationary and its mass did not have to move, it could achieve the hi-z by adding many turns. Phones of 2K or higher can be driven directly from the plate of a vacuum tube circuit. Is that the context of your question? You could use a modern lo-z phone in such a circuit with a matching plate-to-voicecoil type transformer.
Ray

"Watson A.Name - Watt Sun" <alondra101@hotmail.com> wrote in message news:MPG.1a026ff4ebee503a98980d@news.dslextreme.com...
> In article <vpgq5bgf92hi04@corp.supernews.com>,
> walterh@cafewalterNOSPAM.com mentioned...
> > "Paul Burridge" <pb@osiris.notthisbit.co.uk> wrote...
> > > What differentiates the internals of hi-z headphones from those of say
> > > the 8 ohm type. I mean, how is all that extra impedance achieved?
> >
> > I see that you're crossposting to a ham group, which adds a twist to the
> > discussion, because at least 25 years ago when I last paid attention to ham
> > radio, the kind of headphones used in ham sets were different than the kind
> > used these days for listening to music. Hams used 8 ohm dynamic phones, or
> > they used hi-Z crystal phones.
>
> I disagree. They used 2000 ohm variable reluctance headphones.
>
> http://www.audiosears.com/acoustic/2444.html
> http://www.audiosears.com/acoustic/ears.html
>
>
>
> > The phones used for music listening these days are generally in the range of
> > 30 to 100 ohms, with some oddballs around 600 ohms. They are dynamic, that
> > is, they use electromagnets rather than piezo crystals. I don't know how
> > they pack that much wire into 'em (although some do have two diaphragms in
> > series, for each ear), but I think the basic idea is that where a

> > loudspeaker has a heavy magnet and relatively few turns of wire,
headphones
> > work the other way - light (and weak) magnet, lots of turns.
>
>
> --
> @@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
> ###Got a Question about ELECTRONICS? Check HERE First:###
> http://users.pandora.be/educypedia/electronics/databank.htm
> My email address is whitelisted. *All* email sent to it
> goes directly to the trash unless you add NOSPAM in the
> Subject: line with other stuff. alondra101 <at> hotmail.com
> Don't be ripped off by the big book dealers. Go to the URL
> that will give you a choice and save you money(up to half).
> http://www.everybookstore.com You'll be glad you did!
> Just when you thought you had all this figured out, the gov't
> changed it: http://physics.nist.gov/cuu/Units/binary.html
> @@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

2953. Re: need homebrew microphone ideas/help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 14:02:46 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bnbbe6$ce2$1@freenet9.carleton.ca>
Source record: 31571

"Roln" (roln@yahoo.com) writes:
> I've found lots of pictures of homebrew mics on the web, but I need info and
> pictures on HOW to build one. Detailed instructions is what I need.
>
> Roln
>
>
The cartridge is the microphone. The casing is really just there to protect
the cartridge, make it easier to hold, and have a place for a push to talk
switch.

While the case could affect the operation of the cartridge, I'm not sure
this is really that relevant in a microphone intended for speech. More
important, I doubt most of those "build your own microphone" articles
concern themselves with this. Someone finds a neat box or case they
can put the cartridge in, or maybe they look for something that will
work. So realistically, there isn't much to those articles, beyond
maybe giving someone some ideas for how they could do the same thing,
but differently.

Find a case or box that you find comfortable in your hand. Find a suitable
switch. Buy an electret cartridge, or pull one out of a tape recorder,
cellphone, cheap telephone, or cordless phone (and probably other consumer
electronic goods). Drill a hole for the sound, and mount the cartridge
behind it. Use some of that silicone stuff, the proper name escapes me
at the moment, to hold the microphone in place. Drill a hole for the
switch, and if it doesn't mount on the case, you'll have to figure out
a means of mounting it behind the case. (If I was buying cheap, I think I
might try one of those pushbutton switches used in VCRs and other consumer
equipment, though I don't know their lifespan, and they might not be
the best choice in terms of mounting.). Wire it all up, someone else
detailed this in the thread. Try it out. If it doesn't sound right,
then maybe fiddle with where the mic is mounted on the case. Or find
another case. If it isn't comfortable in the long run, maybe the
switch isn't really suitable for holding down for long periods, then
try again. Unless you are spending big money on the case, the parts
are pretty disposable because they are cheap.

Michael VE2BVW

> "KL&#65533;S" wrote:
>> Check out the upcoming December issue of QST....I believe there will be an
>> article describing the construction of a homebrew mic by Sam Kennedy
> KT4QW.
>>

>> Dino KL0S/4
>>
>
>

2954. FS:DIODES: 1KV @ 1.5A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 14:02:55 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <jiamb.191426$0v4.14854548@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31570

Have 1n5408 at 1 kv at 1.5A for $0.10 each. Easily shipped via 1st class mail.

heytubeguy

Joe

2955. Re: N2PK Network Analyser?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 14:26:41 UTC
From: Dan Rae <rae4@ix.netcom.com>
Message-ID: <BEamb.509$RQ1.507@newsread3.news.pas.earthlink.net>
Source record: 31572

They're all spoken for, thanks.
dr

Dan Rae wrote:
> Is anyone building or thinking about building the above very interesting
> project?
>
> http://users.adelphia.net/~n2pk/index.html
>
>
> If so, I have two printed circuit boards going spare at cost (about
> $22)....
>
> Dan
> ac6ao g3ncr
>

2956. Small 5 or 6 VCT Transformers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 14:54:25 UTC
From: David Stinson <arc5@ix.netcom.com>
Message-ID: <3F993D10.FFF93E8F@ix.netcom.com>
Source record: 31573

Looking for a source for small (150 MA, 300 MA or so)
center tapped transformers for 5 or 6 volts out, 115 volts in.
Thanks.

2957. Re: Small 5 or 6 VCT Transformers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 17:26:51 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <zImdncACiNfy_QSiRVn-tA@comcast.com>
Source record: 31574

you can create a "floating ground" -- if you can't find a small transformer
with CT -- use a pair of resistors AND a pair of diodes -- you will also
probably find a discarded cell phone charger which fits the bill.

Jack

"David Stinson" <arc5@ix.netcom.com> wrote in message
news:3F993D10.FFF93E8F@ix.netcom.com...
> Looking for a source for small (150 MA, 300 MA or so)
> center tapped transformers for 5 or 6 volts out, 115 volts in.
> Thanks.

2958. FS: Roller coils de W7ZFB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 17:37:57 UTC
From: msix@oldplato.nmia.com
Message-ID: <1067017976.712923@newshost03.voicenet.com>
Source record: 31575

NIB EFJohnson 1KW 229-203 steatite roller coil.
Double pitched, #12 wire, 28uH, shiny, unused.
See pix at Surplus Sales of Nebraska web site.
href="http://www.surplussales.com/Ind-VariInd-1.html"
$79 pp 48

ex-TCS, steatite, 1.5 inch diam, 44T #18, 37uH total.
Single pitched, spinner knob, dial marked 0-45 turns, shiny.
Good for 200 Watts.
$23 pp 48

73 John W7ZFB - Good in QRZ

2959. FS: TT mic de W7ZFB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 17:38:43 UTC
From: msix@oldplato.nmia.com
Message-ID: <1067018022.839692@newshost03.voicenet.com>
Source record: 31576

NIB EF Johnson touchtone mic model 655L
12-button pad. 5-pin DIN plug on 3 foot cord.
Unused. $32 pp 48
John W7ZFB - Good in QRZ

2960. Re: N2PK Network Analyser?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 18:08:01 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a030a5a4c096339989691@news-central.giganews.com>
Source record: 31577

In article <q7Xlb.3423$I04.386@newsread4.news.pas.earthlink.net>, rae4
@ix.netcom.com says...
> Is anyone building or thinking about building the above very interesting
> project?
>
> http://users.adelphia.net/~n2pk/index.html
>
>
> If so, I have two printed circuit boards going spare at cost (about $22)....
>
> Dan
> ac6ao g3ncr
>

I may build one to play with it. Paul's documentation is awesome -- I
can well imagine how much work he put into it.

At a glance, though, there are a couple of things I would have (and may
still) do differently if/when I get around to building a VNA:

1) I don't know that I'd use DDS synthesizers for an application like
this. There's no need for serious close-in spectral purity, but you'd
certainly like to have a higher frequency-coverate limit. Also, to
achieve truly-meaningful measurements with an untuned receiver section,
suppression of harmonic content in the test signal might be more
critical than the existing design allows. (Imagine trying to
characterize a high-pass filter with an untuned receiver and DDS
harmonics coming through at -30 dBc.) The latter may not be a concern
if the AD9851's harmonics (and those generated in any subsequent output
buffer stage) are very low in amplitude.

2) Hand-building couplers and bridges doesn't make much sense when
surplus HP8505-era test sets good to 1 GHz+ are as cheap as they are.
If I were only concerned with HF, though, Paul's approach looks fine.

3) There's no excuse for not releasing the source code to the software,
IMHO. A proprietary closed-source DOS app doesn't exactly lend itself
to customization and improvement. In fact, we'll be lucky if this code
even runs on the next generation of Windows. I'd urge Paul to
reconsider his software strategy (assuming I'm not mistaken about it
being closed-source in the first place).

Pretty darned cool project, all in all.

-- jm

```
-----------------------------------------------------
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam
-----------------------------------------------------
```

2961. A simple dual-band SSB transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 19:48:31 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310241148.7c6abd06@posting.google.com>
Source record: 31578

I have been working on an SSB transciever for the last two months, it finally went on-air at VU2PEP a fortnight ago. We are quite happy with the performance. A number of on-air contacts have asked for the details.

Here is the link:
http://farhan.net.co.nr

I would love to have feedback from you all. I have hastily put the detaits together, I might have left something out. I am not sure. This is the first time I am putting any of my radio efforts on the Web. comments are welcome.

- farhan

2962. Older Digital Displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 20:15:13 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vpj22bk1gafjd2@corp.supernews.com>
Source record: 31579

Hello-
Anybody havre or know where to get any of the older numeric digital
display units as described-
Beckman # SP-333
" # SP-334
These are plug-in 3 digit units, they have a small pane of glass in
front.From late 70's era equip.The #SP-333 is standard, the #SP334 has a
dedicated numeral 1 for first digit.
Thank you, Byron WA5THJ.

2963. Re: A simple dual-band SSB transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 22:04:43 UTC
From: PJ <pyoung47@yahoo.com>
Message-ID: <%lhmb.912$RQ1.437@newsread3.news.pas.earthlink.net>
Source record: 31580

Looks very interesting. You have a lot of ambition.

Phil

"Ashhar Farhan" <farhan@hotfoon.com> wrote in message
news:8331b126.0310241148.7c6abd06@posting.google.com...
> I have been working on an SSB transciever for the last two months, it
> finally went on-air at VU2PEP a fortnight ago. We are quite happy with
> the performance. A number of on-air contacts have asked for the
> details.
>
> Here is the link:
> http://farhan.net.co.nr
>
> I would love to have feedback from you all. I have hastily put the
> detaits together, I might have left something out. I am not sure. This
> is the first time I am putting any of my radio efforts on the Web.
> comments are welcome.
>
> - farhan

2964. Re: A simple dual-band SSB transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 22:56:22 UTC
From: Roger Leone <arleoneXtakethisoutX@inreach.com>
Message-ID: <oL-dnXdStLUbMwSiRVn-sQ@inreach.com>
Source record: 31581

Thanks very much. It is an interesting transceiver and the schematic is very well done.

Roger K6XQ

2965. Re: Older Digital Displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 23:08:14 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F99B0D0.5948D6C2@earthlink.net>
Source record: 31582

Byron Tatum wrote:
>
> Hello-
> Anybody havre or know where to get any of the older numeric digital
> display units as described-
> Beckman # SP-333
> " # SP-334
> These are plug-in 3 digit units, they have a small pane of glass in
> front.From late 70's era equip.The #SP-333 is standard, the #SP334 has a
> dedicated numeral 1 for first digit.
> Thank you, Byron WA5THJ.

I may have some good used displays left.
--

Michael A. Terrell
Central Florida

2966. Re: Older Digital Displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-24 23:10:10 UTC
From: Bert Hyman <bert@visi.com>
Message-ID: <Xns941EB8DB0C6C3VeebleFetzer@209.98.13.60>
Source record: 31583

In news:vpj22bk1gafjd2@corp.supernews.com "Byron Tatum" <bjtatum@ev1.net>
wrote:

> Anybody havre or know where to get any of the older numeric digital
> display units as described-
> Beckman # SP-333
> " # SP-334

http://www.babcockinc.com/babcock/display.home.html

--
Bert Hyman St. Paul, MN bert@visi.com

2967. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-25 03:52:07 UTC
From: averyfineman@aol.com
Message-ID: <20031024235207.15462.00003810@mb-m06.aol.com>
Source record: 31584

In article <ql2hpv09geqel8vive0m7907vesbvqe1hm@4ax.com>, Gary Schafer
<gaschafer@comcast.net> writes:

>I understand all of the points that you have made and agree that
>looking at a spectrum analyzer with a modulated signal, less than 100%
>modulation, shows a constant carrier. I also agree that looking at the
>time domain with a scope shows the composite of the carrier and side
>bands.
>I understand that AM modulation and demodulation is a mixing process
>that takes place.
>
>My question of "at what point does the carrier start to be effected" I
>was referring to low frequency modulation. Meaning when would you
>start to notice the carrier change.

As long as the AM is less than 100% there won't be any change.

The qualifier there is the MEASURING INSTRUMENT that is
looking at the carrier.

With low and very low modulation frequencies, the sidebands
created will be very close to the carrier frequency. If the measuring
instrument cannot select just the carrier, then the instrument
"sees" both the carrier and sidebands...and that gets into the
time domain again which WILL show an APPARENT amplitude
modulation of the carrier (instrument is looking at everything).

>I don't know how you would observe the carrier in the frequency domain
>with very low frequency modulation as the side bands would be so close
>to the carrier.

DSP along with very narrow final IF filtering can do it, but that isn't
absolutely necessary to prove the point.

Using "ordinary" narrowband filtering like a very sharp skirt 500 Hz
BW filter and variable frequency audio modulation from about 1 KHz
on up to some higher, one can separately measure the carrier and
sideband amplitudes. It will also show that the sidebands and
carrier do not change amplitude for a change in modulation
frequency, which is predicted by the general AM equations. Ergo,
decreasing the modulation frequency will not change amplitude
but one bumps into the problem of instrument/receiver selectivity.
That problem is one of instrumentation, not theory.

>In my scenario of plate modulating a transmitter with a very low
>modulation frequency (sine or square wave), on the negative part of
>the modulation cycle the plate voltage will be zero for a significant

>amount of time of the carrier frequency. The modulation frequency
>could be 1 cycle per day if we chose. In that case the plate voltage
>would be zero for 1/2 a day (square wave modulation) and twice the DC
>plate voltage for the other half day. During the time the plate
>voltage is zero there would be no RF out of the transmitter as there
>would be no plate voltage.

It's a problem of observation again. Even with a rate of 1 cycle per day, the sidebands are still going to be there and the observing instrument is going to be looking at carrier AND sidebands at the same time.

That would be right at 100% modulation, has to be if the carrier envelope is observed to go to zero. At 99.999% (or however close one wants to get to 100 but not reach it) modulation, the theory for frequency domain still holds. Above that 100% modulation, another theory has to be there.

For greater-than-100% modulation, an extreme case would be on-off keying "CW." Sidebands are still generated, but those are due to the very fast transition from off to on and on to off. Those sidebands definitely exist and can be heard as "clicks" away from the carrier. In designs of on-off keyed carrier transmitters, the good rule is to limit the transition rate, to keep it slower rather than faster. [that's in the ARRL Handbook, BTW] Slowing the transition rate reduces the sidebands caused by transient effects (the on-off thing).

Modulation indexes greater than 100% fall under different theory. For on-off keyed "CW" transmitters, the transient effect sideband generation is much farther away from the carrier than low-frequency audio at less than 100% modulation. It can be observed (heard) readily with a strong signal.

>This is where I get into trouble visualizing the "carrier staying
>constant with modulation". As the above scenario, there would be zero
>output so zero carrier for 1/2 a day. The other 1/2 day the plate
>voltage would be twice so we could say that the carrier power during
>that time would be twice what it would be with no modulation and that
>the average carrier power would be constant. (averaged over the entire
>day).
>
>But we know that the extra power supplied by the modulator appears in
>the side bands and not the carrier.
>
>What is happening?

A lack of a definitive terribly-selective observation instrument is what is happening.

Theory predicts no change in sideband amplitude with AM's modulating frequency and practical testing with instruments proves that, right down to the limit of the instruments. So, lowering the modulation frequency

to very low, even sub-audio, doesn't change anything. The instruments run out of selectivity and start measuring the combination of all products at the same time. Instrumentation will observe time domain (the envelope) instead of frequency domain (individual sidebands).

There's really nothing wrong with theory or the practicality of it all. The general equations for modulated RF use a single frequency for modulation in the textbooks because that is the easiest to show to a student. A few will show the equations with two, possibly three frequencies...but those quickly become VERY cumbersome to handle, are avoided when starting in on teaching of modulation theory. The simple examples are good enough to figure out necessary communications bandwidth...which is what counts in the practical situation of making hardware that works for AM or FM or PM.

In the real world, everyone is really working in time domain. But, the frequency domain theory tells what the bandwidth has to be for all to get time domain information. In SSB with very attenuated carrier level, that single sideband is carrying ALL the information needed. We can't "hear" RF so the very amplitude stable receiver carrier frequency resupply allows recovery of the original audio. With very very stable propagation and a constant circuit strength, the original audio could go way down in frequency to DC. The SSB receiver could theoretically recover everything all the way down to DC...except the practicality of minimizing the total SSB bandwidth and suppressing the carrier puts the low frequency cutoff around 300 to 200 Hz.

The carrier isn't transmitted, and it is substituted in the receiver at a stable amplitude in a SSB total circuit. Yet, theoretically it would be possible to get a very low modulation rate but nobody cares to do so. There ARE remote telemetering FM systems that DO go all the way down to DC...but most communications applications have a practical low-frequency cutoff. Theory allows it but practicality dictates otherwise. The same in instrumentation recording/observing what is happening...that also has practical limitations.

If most folks stop at the "traditional" AM modulation envelope scope photos, fine. One can go fairly far just on those. To go farther, one has to delve into the theory just as deeply, perhaps moreso. Staying with the simplistic AM envelope-only view is what made a lot of hams angry in the 1950s when SSB was being adopted very quickly in amateur radio. They couldn't grasp phasing well; it didn't have any relation to the "traditional" AM modulation envelope concept. They couldn't grasp the frequency domain well, either, but that was a bit simpler than phasing vectors and caught on better than phasing explanations. :-)

Basic theory is still good, still useable. Nothing has been violated for the three basic modulation types. Practical hardware by the ton has shown that theory is indeed correct in radio and on landline (the first "SSB" was in long-distance wired telephony).

BLENDING two basic modulation types takes a LOT more skull sweat to grasp and nothing can be "proved" using simplistic statements or examples (like AM from just RF envelope scope shots) either for or against.

I like to use the POTS modem example...getting (essentially equivalent) 56 K rate communications through a 3 KHz bandwidth circuit. That uses a combination of AM and PM. Blends two basic types of modulation, but in a certain way. Nearly all of us use one to communicate on the Internet and it works fine, is faster than some ISP computers, heh heh. So, the simplistic explanations of "one can't get that fast a communication rate through a narrow bandwidth!" falls flat on its 0 state when there are all these practical examples showing it does work. It isn't magic. It's just a clever way to blend two kinds of modulation for a specific purpose. It works.

In the "single-sideband FM" examples, one cannot use the simplistic rules for FM in regards to bandwidth or rate. Those experiments were combining things in a non-traditional way. It isn't strictly single sideband, either, but many are off-put by the name given it.

Len Anderson
retired (from regular hours) electronic engineer person

2968. WTB 19" rackmount panels

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-25 04:25:44 UTC
From: ni4l@msn.com
Message-ID: <d4a0748e.0310242025.3acce17f@posting.google.com>
Source record: 31585

There is a fellow in PA that sells enclosures and rack panels anyone
have his website address or email?
Thanks Chris NI4L

2969. Re: A simple dual-band SSB transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-25 05:31:27 UTC
From: richard <richardh@iinet.net.au>
Message-ID: <3F9A0AAF.9040402@iinet.net.au>
Source record: 31586

It looks very interesting - great results with minimal resources
Thanks very much
Is your linear amp broadband?
How are you going on the direct conversion spectrum analyser idea?

Richard

Ashhar Farhan wrote:
> I have been working on an SSB transciever for the last two months, it
> finally went on-air at VU2PEP a fortnight ago. We are quite happy with
> the performance. A number of on-air contacts have asked for the
> details.
>
> Here is the link:
> http://farhan.net.co.nr
>
> I would love to have feedback from you all. I have hastily put the
> detaits together, I might have left something out. I am not sure. This
> is the first time I am putting any of my radio efforts on the Web.
> comments are welcome.
>
> - farhan

2970. Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-25 09:00:07 UTC
From: Peter Bolch <peter.bolch@t-online.de>
Message-ID: <bndf0vhnd05$1@news.t-online.com>
Source record: 31588

Hi

I am looking for a supply source for WR430 waveguides (WR340 or WR510 will also do). I need a waveguide with a length of 360 mm but I would buy up to 1000 mm if smaller quantities are not available. Any ideas who supplies such quantities and is willing to ship to Germany?

Peter

2971. Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-25 09:17:26 UTC
From: Peter Bolch <peter.bolch@t-online.de>
Message-ID: <bndf10hnd05$2@news.t-online.com>
Source record: 31589

Hi

I am looking for a supply source for WR430 waveguides (WR340 or WR510 will also do). I need a waveguide with a length of 360 mm but I would buy up to 1000 mm if smaller quantities are not available. Any ideas who supplies such quantities and is willing to ship to Germany?

Peter

2972. Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-25 09:17:31 UTC
From: Peter Bolch <peter.bolch@t-online.de>
Message-ID: <bndf1v$69b$01$1@news.t-online.com>
Source record: 31587

Hi

I am looking for a supply source for WR430 waveguides (WR340 or WR510 will also do). I need a waveguide with a length of 360 mm but I would buy up to 1000 mm if smaller quantities are not available. Any ideas who supplies such quantities and is willing to ship to Germany?

Peter

2973. Looking for UHF Compendium by DJ9HO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 00:57:06 UTC
From: Steven Olivieri <n1tyh@arrl.net>
Message-ID: <vpm6v5jfmc8a7@corp.supernews.com>
Source record: 31590

Hi,

I am looking for an english copy of the UHF Compendium, Part I and II by
DJ9HO <Karl Weiner>.
Does anyone know where I can get a copy, or does anyone have it for sale?
Thanks for any info.

73,
Steve Olivieri, N1TYH
n1tyh@arrl.net

2974. Re: Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 02:50:59 UTC
From: la8ak.xnd@online.no
Message-ID: <3f9b0771.43994077@news.online.no>
Source record: 31592

On Sat, 25 Oct 2003 11:17:31 +0200, "Peter Bolch"
<peter.bolch@t-online.de> wrote:

>Hi
>
>
>I am looking for a supply source for WR430 waveguides (WR340 or WR510 will
>also do). I need a waveguide with a length of 360 mm but I would buy up to
>1000 mm if smaller quantities are not available. Any ideas who supplies such
>quantities and is willing to ship to Germany?
>
Peter

Why don't you use a language we understand in the civilized world and
ask for R22, alternatively R18 or R24 which at the same time indicate
the frequency. You seldom see such large dimensions, believe they had
waveguide for the over hoizon radio link system on 900MHz, but usually
WG is not practical below 3.3GHz, so I would have expected to find any
value in collecting such (see conversion table and data in RSGB
VHF/UHF Manual)

Jan-Martin
LA8AK http://home.online.no/~la8ak/

--
remove ,xnd to reply (Spam precaution!)

2975. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 02:51:00 UTC
From: la8ak.xnd@online.no
Message-ID: <3f9b0964.44493497@news.online.no>
Source record: 31591

On Fri, 24 Oct 2003 00:30:33 GMT, "G.Beat"
<now9spamgb@spam.comcast.net> wrote:

..
>> Pixie -- schematic for a 2m or 6m FM transmitter or transceiver. Anyone
>> know where I can find one that's low-cost and suitable for a beginner to
>> build, if such a thing exists?
>>
>> Brian Connors
>> KB1KKC
>
>IF you have a good HF transceiver or an inexpensive 28 - 30 MHz
>10 meter transceiver, why not build an Elecraft transverter??
>Models XV-50 or XV-144
>http://www.elecraft.com
>
>w9gb
>
you don't need a good HF transceiver to operate with a transverter on
2m FM

-jm
--
remove ,xnd to reply (Spam precaution!)

2976. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 04:58:22 UTC
From: Brian Connors <connorbd@yahoo.com>
Message-ID: <connorbd-5A8F56.00582226102003@news.verizon.net>
Source record: 31593

In article <vpi7649jf7442a@corp.supernews.com>,
"xpyttl" <xpyttl_nospam@earthling.net> wrote:

> "Brian Connors" <connorbd@yahoo.com> wrote in message
> news:connorbd-819DF7.23112723102003@news.verizon.net...

> Now, if you have a buddy nearby and you want to get your code speed up for
> the general, I have a circuit you can build for around $25 that will get you
> on the air. But it's CW, fixed frequency, and low power. Given the
> infrequency of 6 meter openings that are friendly to low power, that means
> the QSOs are going to be limited to a nearby station.

I'd be interested, along with any notes on how I could mod it for AM or
NBFM operation (assuming such a thing could be done by someone with
little electronics experience, that is).

2977. Re: Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 05:02:26 UTC
From: Larry King <lking@startech.net>
Message-ID: <CzImb.15048$Ec1.1349656@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31594

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3f9b0771.43994077@news.online.no...
> ......
> You seldom see such large dimensions, believe they had
> waveguide for the over hoizon radio link system on 900MHz, but usually
> WG is not practical below 3.3GHz ....

Nonsense, rectangular waveguide is used quite frequently in UHF television broadcast transmitting installations. Granted it's pretty good sized stuff to get the lower cutoff frequency down where it needs to be in the 450 - 800 MHz range (WR1150, WR1500, and WR1800 for example) .. at least 6" x 12" outside dimensions. But it's definitely practical at those frequencies which are far below 3.3 Ghz.

See http://www.dielectric.com/broadcast/catalogs/RectangularWaveguide.pdf for full details.

73s

2978. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 05:21:02 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310252121.33802c19@posting.google.com>
Source record: 31595

if you have any late seventies ARRL handbook. You will find a pair of FM receiver and transmitter that are as simple as it gets.
The transmitter uses just three transistors in the line-up. A transistor array was used instead of discrete transistors for the modulator.
The receiver is quite sparse too, it uses an LM3089. A few sources still stock them. Although you might have a problem getting the audio amp chip, but an LM386 should do the job just as well.

What I would personally suggest is go ahead and start building it from the scratch. Solid State Design listed a transmitter (probably done by W7ZOI, going by the looks of the construction in the picture) for 144 MHz CW/DSB. You can easily add NBFM with just a varactor and using the same modulator circuit (with limiter added).

Once you do have a transmitter going, make a simple VHF down-converter. that works in conjunction with an HF rig. Almost any HF rig can be pressed into 'emergency' NBFM mode by slope detection (tune slightly off the received NBFM carrier). I would recommend the 'rochester' convertors from the 70s handbooks. Later, you can substitute the HF rig with an NBFM IF strip using any of the several NBFM ICs. Check Harry Lythall's home page for the NBFM receiver circuit.

The great principle of homebrewing was laid down by Julius Caeser: divide and conquer. Split it up into smaller, easily managed projects and achieve each on its own.

Build, Test and Measure, Integrate, Repeat.

- farhan

2979. Re: Looking for UHF Compendium by DJ9HO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 09:19:00 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3f9b9132.58159672@news.freeserve.net>
Source record: 31596

RSGB Sales may have copies still.
Perhaps also that On-line bookshop would be worth a try.
--
On Sat, 25 Oct 2003 20:57:06 -0400, "Steven Olivieri" <n1tyh@arrl.net>
wrote:

>Hi,
>
>I am looking for an english copy of the UHF Compendium, Part I and II by
>DJ9HO <Karl Weiner>.
>Does anyone know where I can get a copy, or does anyone have it for sale?
>Thanks for any info.
>
>73,
>Steve Olivieri, N1TYH
>n1tyh@arrl.net
>
>
>

2980. Re: Looking for UHF Compendium by DJ9HO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 12:13:00 UTC
From: Robert Offer <robert@g1zjp.freeserve.co.uk>
Message-ID: <bngdrsdet1@newsg1.svr.pol.co.uk>
Source record: 31447

Hi
Last time I saw that (other then my copies (:<)))))) it was for sale by
Poole Logic.
Hope it may help a little.
Regards
Bob
G1ZJP

--
Protected by Norton Anti Virus and Norton Internet Securities 2003
Watch out for the SPAM traps.

2981. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 16:58:23 UTC
From: k7itm@aol.com
Message-ID: <20031026115823.28293.00000131@mb-m06.aol.com>
Source record: 31448

I've read through some of the replies and didn't see what I thought was a good answer to "where can I find a good explanation". We've been doing a series of technical seminars at work, and one of the first ones covered AM and FM modulation. (FYI...we build equipment that is very good at analyzing spectral content of signals, so it's an area we care quite a bit about.) We used a vector diagram that I think is fairly easy to understand. Wish I could draw it here! I'll try to describe it verbally in a way you could draw it yourself, and think about it.

For AM: Draw a vector starting at the origin and going one unit right. This is the carrier, at time=0. It rotates counterclockwise (by convention) at the carrier frequency. Now consider, say, 50% modulation with some sinewave, maybe 1/1000 the carrier freq. To represent this, draw two more vectors. The way we've done it is to start them both at the right end of the first (carrier) vector. Both are 1/4 unit long. To start, at time=0, draw them both further to the right from the carrier. Since they are both adding to the carrier, the net at that point in time is 1.5 units long. Now if the carrier didn't move (zero freq), one of the little vectors would rotate clockwise and one would rotate counterclockwise, at just the same rates. (Careful here! The one going clockwise represents your "negative freq" if you will, but there is NO MATH, just a picture, so don't let your mind lock up on this one!) They'd get to be both pointing to the left at just the same time, and at that time they'd subtract from the carrier and leave you with a vector 0.5 units long. But before you got to that point, you'd have one of them pointing straight up, and one pointing down, and they'd cancel out, leaving just the carrier. Now just imagine all that happening as the carrier rotates them around... it's all just the same but produces the carrier plus the two sidebands. One key thing to get from this picture is that the two modulation vectors always sum together to a vector which is parallel to the carrier vector (or else zero length).

For FM: Draw the same picture, but now the modulation vectors both start pointing up, at 90 degrees to the carrier. As they rotate around, they always sum to something that is perpendicular to the carrier vector. Hmmmm...but notice that if they are very short, the net result is practically the same length as the carrier vector all the time, but if they are a bit longer, you'd have the carrier amplitude changing. Draw the picture to see that! Let's say that each of the two are 1/10 as long as the carrier, so that the result is a right triangle with the carrier 1 unit long and the modulation 1/5 unit long. So the net in that case would be sqrt(1^2 + 0.2^2) = 1.02. But this is FM, and the amplitude is not allowed to change. So we have to put in a correction. One way to do that is to add a couple more vectors which correct this initial error. If you think it through, you'll see they have to rotate twice as fast as the initial two modulation vectors. So the initial ones represent the first sidebands, and the next pair represent the second sidebands...and if you draw it out right, you'll be able to see how the whole set of sidebands comes about.

So...why is it FM? Because the sidebands rotate the carrier phase. In fact, that's how you have to draw the set of modulation vectors: to sum up to a carrier whose phase is modulated (which is the same as FM, of course, for this single sine freq modulation).

But notice that if the modulation is low enough, practically all the modulation energy is in those initial two sidebands, represented by the first two vectors. Now if you transmitted ONLY those two and removed the carrier, and someone on the other end inserted the carrier at t=0 pointing UP instead of to the right, why you'd have -- AM! Or at least something very, very close to AM. So, I think it should be clear from that, that single sideband FM (assuming very low modulation index) should be practically equivalent to single sideband AM.

By the way, back several years ago there was a lot of interest in finding ways to make more efficient AM broadcast transmitters. If you use a class C power amplifier, you can get good RF-generator efficiency, but the modulator running class AB or B is inefficient. And if you do the modulation at a low level, you have to run the RF chain AB or B. So one of the ways invented to get AM was to generate two FM signals, which of course can be amplified by class C power amps, whose modulation was generated through a pretty special DSP algorithm, so that when you combined the RF outputs of the two FM transmitters you got, ta-da, AM! I always thought that was pretty cool, but I don't think it ever caught on in a big way, because folk have come up with other ways of efficiently generating AM.

Cheers,
Tom

kizerian@xmission.com (Bruce Kizerian) wrote in message
news:<ee6182da.0310210906.555c40bb@posting.google.com>...
> Can anyone direct me to some good understandable references on single
> sideband frequency modulation? I have no real practical reason for
> wanting to know about this. It is interesting to me in a "mathetical"
> sort of way. Of course, that is dangerous for me because my brain gets
> very stubborn when I try to do math. Such ideas as "negative
> frequency" kind of send my mental faculties into total shutdown.
>
> But I read schematic very well. It is a visual language I can usually
> understand. Seems like years ago there was an article on SSB FM in Ham
> Radio. That would probably be a good start. If anyone can send me a
> copy of that article I would be much appreciative.
>
> Thanks in advance
>
> Bruce kk7zz
>
> www.elmerdude.com

Cheers,
Tom

2982. Re: Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 17:50:21 UTC
From: averyfineman@aol.com
Message-ID: <20031026125021.28496.00001534@mb-m18.aol.com>
Source record: 31449

In article <CzImb.15048$Ec1.1349656@bgtnsc05-news.ops.worldnet.att.net>, "Larry King" <lking@startech.net> writes:

>"J M Noeding" <la8ak.xnd@online.no> wrote in message
>news:3f9b0771.43994077@news.online.no...
>> ......
>> You seldom see such large dimensions, believe they had
>> waveguide for the over hoizon radio link system on 900MHz, but usually
>> WG is not practical below 3.3GHz ....
>
>Nonsense, rectangular waveguide is used quite frequently in UHF television
>broadcast transmitting installations. Granted it's pretty good sized stuff
>to get the lower cutoff frequency down where it needs to be in the 450 - 800
>MHz range (WR1150, WR1500, and WR1800 for example) .. at least 6" x 12"
>outside dimensions. But it's definitely practical at those frequencies
>which are far below 3.3 Ghz.

Rectangular waveguide below 1 GHz (which is above UHF TV)?

Coaxial structures, yes, especially for the visual-aural diplexer.
I've walked INTO the channel 13 diplexer for KCOP on Mount Wilson
(serving Los Angeles with 50 KW into the antenna). Just open the
door in the corner formed by the visual and aural transmitters and
one comes upon a massive array of round structures...:-)

General Electric used rectangular guide based filters for their 1.8
GHz microwave radio relay diplexer, a 1950 design. Efficient as a
multisection pair of narrowband bandpass filters for its time. Big,
though, was as long as four racks are wide.

At a PGMTT meeting in Santa Monica I once heard an informal
chat about three guys using air conditioning duct at high UHF in
lieu of buying special waveguide. It worked at low power. Think
about it...some standard ducting comes in 2:1 width:height ratios
just dandy for TE_1_0 mode. Heckuva lot cheaper than buying
specific waveguide at the same size...probably cheaper than used
waveguide (if such is available).

Len Anderson
retired (from regular hours) electronic engineer person

2983. Re: Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 19:06:50 UTC
From: Larry King <lking@startech.net>
Message-ID: <eXUmb.15515$Ec1.1410794@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31450

"Avery Fineman" <averyfineman@aol.com> wrote in message
news:20031026125021.28496.00001534@mb-m18.aol.com...
> In article <CzImb.15048$Ec1.1349656@bgtnsc05-news.ops.worldnet.att.net>,
"Larry
> King" <lking@startech.net> writes:
>
> >"J M Noeding" <la8ak.xnd@online.no> wrote in message
> >news:3f9b0771.43994077@news.online.no...
> >> ......
> >> You seldom see such large dimensions, believe they had
> >> waveguide for the over hoizon radio link system on 900MHz, but usually
> >> WG is not practical below 3.3GHz ....
> >
> >Nonsense, rectangular waveguide is used quite frequently in UHF
television
> >broadcast transmitting installations. Granted it's pretty good sized
stuff
> >to get the lower cutoff frequency down where it needs to be in the 450 -
800
> >MHz range (WR1150, WR1500, and WR1800 for example) .. at least 6" x 12"
> >outside dimensions. But it's definitely practical at those frequencies
> >which are far below 3.3 Ghz.
>
> Rectangular waveguide below 1 GHz (which is above UHF TV)?
>

Sure, take a look at the URL in my original message from the Dielectric
webpages :-) And the Andrew Corp. extolls the virtues of its circular
waveguide product line for the same application.....

http://www.andrew.com/search/docviewer.aspx?docid=398

> Coaxial structures, yes, especially for the visual-aural diplexer.
> I've walked INTO the channel 13 diplexer for KCOP on Mount Wilson
> (serving Los Angeles with 50 KW into the antenna). Just open the
> door in the corner formed by the visual and aural transmitters and
> one comes upon a massive array of round structures...:-)

When I first read this, I though you meant that you were ***inside*** of the
diplexer [hopefully not while it was 'on the air'] :-) Then I reread it,
and understood what you meant. Yes those coaxial cavities can be quite
impressive.

73s

2984. AD995X series DDS, rig ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 19:59:17 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3F9C2795.90708@bellsouth.net>
Source record: 31451

I just got some samples of the AD9952 and AD9954 DDS chips.
Both look identical, AD9954 has some extra features I don't need
but can simply not program. These parts are real small, will have
to find some VERY small tweezers to bend the leads and file down
a soldering tip to fit. I would try to solder all the gnd and unused
inputs down to a PC ground plane and bend all the power pins up
flat against the top of the chip to be soldered together. The signal
pins would have to be bent up halfway and fly leads soldered on
to go to the rest of the circuit on perfboard.

Anybody try to breadboard one of these 'dead bug' style like this?
Anyone have some circuit advise on using these chips? I am thinking
of using one in a single conversion transceiver. Mixers will be
DBM using push pull digital drive so the DDS will drive a 74xx74
divider and be driven at twice the LO frequency. (several examples
of such receiver front ends in recent ARRL HB's). IF will be 9mhz,
I have 4 identical 9mzh filters, so will use 3 in rx if and 1 in tx.
(got those filters at Dayton about 10 years ago... Clegg surplus).

Was thinking of using 8051 series micro, the built in serial port will
drive the AD98xx and AD99xx dds chips. Question....how do I convert
the 5v digital io of the 8052 micro to the 1.8v levels used by the
AD995x series, or is the DDS chip 5v compatible (on input maybe...
what to do about output? especially on the bidirection serial line....)

Was also thinking about maybe building the rig as a 6 meter single
conversion with an HF transverter front end. What do you think of
this idea?

73's WA2MZE

2985. Re: AD995X series DDS, rig ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 20:45:18 UTC
From: Dan Tayloe <dtayloe@cox.net>
Message-ID: <3F9C325E.60C85F5C@cox.net>
Source record: 31452

I have mounted the 9850 and 9851 chips dead bug like this before. It is an extremely painful process, but doable. Be very careful with the leads, I had one of the pins of a 9851 break off. You really only get to bend a pin once. Don't try bending it twice! I have mounted a lot of DIP and SOIC chips deadbug and have almost never had a pin come off (ok, maybe once, but it was kind of abused), but TSSOP packages such as this are more fragile.

Except for the ground connections, which I bend over for direction connection to the ground, I bent every other pin either up or out a bit to get a little more space for the connections. I used #32 gauge enamel wire for interconnect. When mounting the device, pre-tin all leads in advance and tack the device in place by soldering the ground leads, and connecting the power leads via bypass caps.

When making a connection to the part or wire to the chip, pre-tin the part and touch solder the part or wire to the pin. This is very difficult as the heat from the tip can melt an adjacent connected wire or part.

It is easy to create solder bridges across pins. Solder wick or a solder sucker, or an exacto knife can be use to open up such a bridge as the solder is heated with a iron. Some time a bit of fresh solder with fresh flux helps undo the bridge.

Patience, patience, patience!

It is difficult to do, but it can be done, and the results can be quite rewarding.

As far as 5v to 1.8v logic level conversions, the very simplest thing is to use a 2N7000 MOSFET transistor for each signal. The gate can be directly driven with the 5v signal, and the output can be pulled up to 1.8v with a 2.2K resistor. It is cool to deadbug with the surface mount version of these parts (SOT-23) and use a 805 size chip pull up resistor. The resulting "inverter" in very small! The signal will be inverted, but just keep that in mind when writing the software.

I use the surface mount FETS (BSS123/2N7000) in the receiver diplexer in my home brew transceivers, and they don't take up much space!

- Dan, N7VE

kenneth scharf wrote:
>
> I just got some samples of the AD9952 and AD9954 DDS chips.
> Both look identical, AD9954 has some extra features I don't need

> but can simply not program. These parts are real small, will have
> to find some VERY small tweezers to bend the leads and file down
> a soldering tip to fit. I would try to solder all the gnd and unused
> inputs down to a PC ground plane and bend all the power pins up
> flat against the top of the chip to be soldered together. The signal
> pins would have to be bent up halfway and fly leads soldered on
> to go to the rest of the circuit on perfboard.
>
> Anybody try to breadboard one of these 'dead bug' style like this?
> Anyone have some circuit advise on using these chips? I am thinking
> of using one in a single conversion transceiver. Mixers will be
> DBM using push pull digital drive so the DDS will drive a 74xx74
> divider and be driven at twice the LO frequency. (several examples
> of such receiver front ends in recent ARRL HB's). IF will be 9mhz,
> I have 4 identical 9mzh filters, so will use 3 in rx if and 1 in tx.
> (got those filters at Dayton about 10 years ago... Clegg surplus).
>
> Was thinking of using 8051 series micro, the built in serial port will
> drive the AD98xx and AD99xx dds chips. Question....how do I convert
> the 5v digital io of the 8052 micro to the 1.8v levels used by the
> AD995x series, or is the DDS chip 5v compatible (on input maybe...
> what to do about output? especially on the bidirection serial line....)
>
> Was also thinking about maybe building the rig as a 6 meter single
> conversion with an HF transverter front end. What do you think of
> this idea?
>
> 73's WA2MZE

2986. Re: N2PK Network Analyser?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 21:14:51 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vpoeaind1vhi12@corp.supernews.com>
Source record: 31453

Can someone please tell me thw specific model numbers of the HP 8505 era
test sets that have directional couplers, etc that are good for HF.
tnx
hank wd5jfr
"John Miles" <jmiles@pop.removethistomailme.net> wrote in message
news:MPG.1a030a5a4c096339989691@news-central.giganews.com...
> In article <q7Xlb.3423$I04.386@newsread4.news.pas.earthlink.net>, rae4
> @ix.netcom.com says...
> > Is anyone building or thinking about building the above very interesting
> > project?
> >
> > http://users.adelphia.net/~n2pk/index.html
> >
> >
> > If so, I have two printed circuit boards going spare at cost (about
$22)....
> >
> > Dan
> > ac6ao g3ncr
> >
>
> I may build one to play with it. Paul's documentation is awesome -- I
> can well imagine how much work he put into it.
>
> At a glance, though, there are a couple of things I would have (and may
> still) do differently if/when I get around to building a VNA:
>
> 1) I don't know that I'd use DDS synthesizers for an application like
> this. There's no need for serious close-in spectral purity, but you'd
> certainly like to have a higher frequency-coverate limit. Also, to
> achieve truly-meaningful measurements with an untuned receiver section,
> suppression of harmonic content in the test signal might be more
> critical than the existing design allows. (Imagine trying to
> characterize a high-pass filter with an untuned receiver and DDS
> harmonics coming through at -30 dBc.) The latter may not be a concern
> if the AD9851's harmonics (and those generated in any subsequent output
> buffer stage) are very low in amplitude.
>
> 2) Hand-building couplers and bridges doesn't make much sense when
> surplus HP8505-era test sets good to 1 GHz+ are as cheap as they are.
> If I were only concerned with HF, though, Paul's approach looks fine.
>
> 3) There's no excuse for not releasing the source code to the software,
> IMHO. A proprietary closed-source DOS app doesn't exactly lend itself

> to customization and improvement. In fact, we'll be lucky if this code
> even runs on the next generation of Windows. I'd urge Paul to
> reconsider his software strategy (assuming I'm not mistaken about it
> being closed-source in the first place).
>
> Pretty darned cool project, all in all.
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --

2987. FA: on ebay -16 hours left

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 21:56:28 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <gqXmb.195022$0v4.15125328@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31454

Beautiful Shallcross Wheatstone Bridge in wooden box.
Ceramic acorn tube sockets

+ others

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

or see seller heytubeguy

2988. LOC/VOR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 22:25:14 UTC
From: Pawe&#65533; Stobi&#65533;ski <NO_sq9nry@wp.pl_SPAM>
Message-ID: <bnhe10$73v$1@julia.coi.pw.edu.pl>
Source record: 31455

Hi;

I've recently bought two aircraft rx modules, there's only 'LOC/VOR receiver' written on the chassis, neither manufacturer nor any additional infos. Single aerial input, and several connectors. As I inspected, it is a complete 108-117MHz rx, with RF amp, LO, mixers, quartz filters, and demodulator. One of them (1990) is equipped with a PLL synthesis, and the other (1975) has 10 switched crystals instead. Whole RX is a metal, rigid can (as for high-end devices used in aircrafts). Unfortunately, I haven't found any documentation concerned with it. The schematic diagram would be the best, however I suppose this stuff is not widely available. Nevertheless, if anyone had any info how to connect such things or make them work, would be appreciated. Of course, I can redraw the wiring; although that could take weeks :)

Cheers,
--
Pawe&#65533; Stobi&#65533;ski SQ9NRY @ JO90WP
Republic of Poland

2989. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 22:30:01 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <viiopvo9dsogqm2n4ff587h5p4eqjjqak1@4ax.com>
Source record: 31456

Let's start at the other end and see what happens;

If we have a final amp with 1000 dc volts on the plate and we want to plate modulate it to 100% or very near so, we need 1000 volts peak to peak audio to do it.
On positive audio peaks the dc plate voltage and the positive peak audio voltage will add together to provide 2000 volts plate voltage.

On negative audio peaks the negative audio voltage will subtract from the dc plate voltage with a net of zero volts left on the plate at that time. (or very nearly zero volts if we do not quite hit 100%)

How does the tube put out any power (carrier) at the time there is near zero plate voltage on it?

The negative audio cycle portion is going to be much longer than many rf cycles so the tank circuit is not going to maintain it on its own.

Why does the carrier stay full?

73
Gary K4FMX

On 25 Oct 2003 03:52:07 GMT, averyfineman@aol.com (Avery Fineman) wrote:

>In article <ql2hpv09geqel8vive0m7907vesbvqe1hm@4ax.com>, Gary Schafer
><gaschafer@comcast.net> writes:
>
>>I understand all of the points that you have made and agree that
>>looking at a spectrum analyzer with a modulated signal, less than 100%
>>modulation, shows a constant carrier. I also agree that looking at the
>>time domain with a scope shows the composite of the carrier and side
>>bands.
>>I understand that AM modulation and demodulation is a mixing process
>>that takes place.
>>
>>My question of "at what point does the carrier start to be effected" I
>>was referring to low frequency modulation. Meaning when would you
>>start to notice the carrier change.
>
> As long as the AM is less than 100% there won't be any change.
>
> The qualifier there is the MEASURING INSTRUMENT that is
> looking at the carrier.
>
> With low and very low modulation frequencies, the sidebands

> created will be very close to the carrier frequency. If the measuring
> instrument cannot select just the carrier, then the instrument
> "sees" both the carrier and sidebands...and that gets into the
> time domain again which WILL show an APPARENT amplitude
> modulation of the carrier (instrument is looking at everything).
>
>>I don't know how you would observe the carrier in the frequency domain
>>with very low frequency modulation as the side bands would be so close
>>to the carrier.
>
> DSP along with very narrow final IF filtering can do it, but that isn't
> absolutely necessary to prove the point.
>
> Using "ordinary" narrowband filtering like a very sharp skirt 500 Hz
> BW filter and variable frequency audio modulation from about 1 KHz
> on up to some higher, one can separately measure the carrier and
> sideband amplitudes. It will also show that the sidebands and
> carrier do not change amplitude for a change in modulation
> frequency, which is predicted by the general AM equations. Ergo,
> decreasing the modulation frequency will not change amplitude
> but one bumps into the problem of instrument/receiver selectivity.
> That problem is one of instrumentation, not theory.
>
>>In my scenario of plate modulating a transmitter with a very low
>>modulation frequency (sine or square wave), on the negative part of
>>the modulation cycle the plate voltage will be zero for a significant
>>amount of time of the carrier frequency. The modulation frequency
>>could be 1 cycle per day if we chose. In that case the plate voltage
>>would be zero for 1/2 a day (square wave modulation) and twice the DC
>>plate voltage for the other half day. During the time the plate
>>voltage is zero there would be no RF out of the transmitter as there
>>would be no plate voltage.
>
> It's a problem of observation again. Even with a rate of 1 cycle per
> day, the sidebands are still going to be there and the observing
> instrument is going to be looking at carrier AND sidebands at the
> same time.
>
> That would be right at 100% modulation, has to be if the carrier
> envelope is observed to go to zero. At 99.999% (or however close
> one wants to get to 100 but not reach it) modulation, the theory
> for frequency domain still holds. Above that 100% modulation,
> another theory has to be there.
>
> For greater-than-100% modulation, an extreme case would be on-
> off keying "CW." Sidebands are still generated, but those are due
> to the very fast transition from off to on and on to off. Those sidebands
> definitely exist and can be heard as "clicks" away from the carrier.
> In designs of on-off keyed carrier transmitters, the good rule is to limit
> the transition rate, to keep it slower rather than faster. [that's in the

> ARRL Handbook, BTW] Slowing the transition rate reduces the
> sidebands caused by transient effects (the on-off thing).
>
> Modulation indexes greater than 100% fall under different theory.
> For on-off keyed "CW" transmitters, the transient effect sideband
> generation is much farther away from the carrier than low-frequency
> audio at less than 100% modulation. It can be observed (heard)
> readily with a strong signal.
>
>>This is where I get into trouble visualizing the "carrier staying
>>constant with modulation". As the above scenario, there would be zero
>>output so zero carrier for 1/2 a day. The other 1/2 day the plate
>>voltage would be twice so we could say that the carrier power during
>>that time would be twice what it would be with no modulation and that
>>the average carrier power would be constant. (averaged over the entire
>>day).
>>
>>But we know that the extra power supplied by the modulator appears in
>>the side bands and not the carrier.
>>
>>What is happening?
>
> A lack of a definitive terribly-selective observation instrument is what
> is happening.
>
> Theory predicts no change in sideband amplitude with AM's modulating
> frequency and practical testing with instruments proves that, right down
> to the limit of the instruments. So, lowering the modulation frequency
> to very low, even sub-audio, doesn't change anything. The instruments
> run out of selectivity and start measuring the combination of all
> products at the same time. Instrumentation will observe time domain
> (the envelope) instead of frequency domain (individual sidebands).
>
> There's really nothing wrong with theory or the practicality of it all.
> The general equations for modulated RF use a single frequency for
> modulation in the textbooks because that is the easiest to show to a
> student. A few will show the equations with two, possibly three
> frequencies...but those quickly become VERY cumbersome to
> handle, are avoided when starting in on teaching of modulation theory.
> The simple examples are good enough to figure out necessary
> communications bandwidth...which is what counts in the practical
> situation of making hardware that works for AM or FM or PM.
>
> In the real world, everyone is really working in time domain. But, the
> frequency domain theory tells what the bandwidth has to be for all
> to get time domain information. In SSB with very attenuated carrier
> level, that single sideband is carrying ALL the information needed.
> We can't "hear" RF so the very amplitude stable receiver carrier
> frequency resupply allows recovery of the original audio. With very
> very stable propagation and a constant circuit strength, the original

> audio could go way down in frequency to DC. The SSB receiver could
> theoretically recover everything all the way down to DC...except the
> practicality of minimizing the total SSB bandwidth and suppressing
> the carrier puts the low frequency cutoff around 300 to 200 Hz.
>
> The carrier isn't transmitted, and it is substituted in the receiver at a
> stable amplitude in a SSB total circuit. Yet, theoretically it would be
> possible to get a very low modulation rate but nobody cares to do so.
> There ARE remote telemetering FM systems that DO go all the way
> down to DC...but most communications applications have a practical
> low-frequency cutoff. Theory allows it but practicality dictates other-
> wise. The same in instrumentation recording/observing what is
> happening...that also has practical limitations.
>
> If most folks stop at the "traditional" AM modulation envelope scope
> photos, fine. One can go fairly far just on those. To go farther, one
> has to delve into the theory just as deeply, perhaps moreso. Staying
> with the simplistic AM envelope-only view is what made a lot of hams
> angry in the 1950s when SSB was being adopted very quickly in
> amateur radio. They couldn't grasp phasing well; it didn't have any
> relation to the "traditional" AM modulation envelope concept. They
> couldn't grasp the frequency domain well, either, but that was a bit
> simpler than phasing vectors and caught on better than phasing
> explanations. :-)
>
> Basic theory is still good, still useable. Nothing has been violated
> for the three basic modulation types. Practical hardware by the ton
> has shown that theory is indeed correct in radio and on landline (the
> first "SSB" was in long-distance wired telephony).
>
> BLENDING two basic modulation types takes a LOT more skull
> sweat to grasp and nothing can be "proved" using simplistic
> statements or examples (like AM from just RF envelope scope
> shots) either for or against.
>
> I like to use the POTS modem example...getting (essentially
> equivalent) 56 K rate communications through a 3 KHz bandwidth
> circuit. That uses a combination of AM and PM. Blends two basic
> types of modulation, but in a certain way. Nearly all of us use one
> to communicate on the Internet and it works fine, is faster than some
> ISP computers, heh heh. So, the simplistic explanations of "one
> can't get that fast a communication rate through a narrow bandwidth!"
> falls flat on its 0 state when there are all these practical examples
> showing it does work. It isn't magic. It's just a clever way to blend
> two kinds of modulation for a specific purpose. It works.
>
> In the "single-sideband FM" examples, one cannot use the simplistic
> rules for FM in regards to bandwidth or rate. Those experiments were
> combining things in a non-traditional way. It isn't strictly single
> sideband, either, but many are off-put by the name given it.

>
> Len Anderson
> retired (from regular hours) electronic engineer person

2990. Re: AD995X series DDS, rig ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 23:32:45 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a05f9767d6b6c5f989692@news-central.giganews.com>
Source record: 31458

In article <3F9C2795.90708@bellsouth.net>, wa2mze-spamnot-@bellsouth.net says...
> I just got some samples of the AD9952 and AD9954 DDS chips.
> Both look identical, AD9954 has some extra features I don't need
> but can simply not program. These parts are real small, will have
> to find some VERY small tweezers to bend the leads and file down
> a soldering tip to fit.

I'm a big fan of these tweezers: http://www.folica.com/removal/rubis_costwe132.htm They have the finest tips I've ever seen, and are great for working with these sorts of parts.

> I would try to solder all the gnd and unused
> inputs down to a PC ground plane and bend all the power pins up
> flat against the top of the chip to be soldered together. The signal
> pins would have to be bent up halfway and fly leads soldered on
> to go to the rest of the circuit on perfboard.
>
> Anybody try to breadboard one of these 'dead bug' style like this?

Note that TQFP pin spacing (0.5 mm) is half that of the AD9850/AD9851 chips that Dan Tayloe mentions. Still, it can be done, and your strategy sounds reasonable. I have hand-wired several 16-pin TSSOP 0.5-mm chips by hand without losing one. Solder-wick and a fine-tipped iron are mandatory. As Dan says, you can count on being able to bend each lead only once, so make sure you get it right!

On the plus side, these chips appear to be very hard to overheat in the soldering process, probably due to low lead mass and stout internal connections. You can afford to take your time.

It might not be an issue with 1.8V logic, but these chips' 3.3-volt predecessors (the AD9852 and AD9854) really got hot when operated near their maximum clock speeds. On a PC board, the traces offer a definite heat-dissipation advantage over hand-wiring. Don't assume you can run these chips full tilt until you verify that they don't overheat in your dead-bug configuration.

> Was thinking of using 8051 series micro, the built in serial port will
> drive the AD98xx and AD99xx dds chips. Question....how do I convert
> the 5v digital io of the 8052 micro to the 1.8v levels used by the
> AD995x series, or is the DDS chip 5v compatible (on input maybe...
> what to do about output? especially on the bidirection serial line....)

Just use a resistive divider. I don't see any reason to use FETs unless programming speed is a concern. (CMOS inputs look like capacitors, so resistive dividers will slow your signal edges down and limit the speed at which you can program the chip. Some CMOS parts have a minimum-risetime requirement, but I haven't bumped up against it yet personally except for Vcc pins.)

I see in the data sheet that the I/O pins can be configured for 3.3V logic levels, so that might help.

>
> Was also thinking about maybe building the rig as a 6 meter single
> conversion with an HF transverter front end. What do you think of
> this idea?

Sounds like a plan!

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

2991. Re: N2PK Network Analyser?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 23:36:54 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a05fa698e03ff46989693@news-central.giganews.com>
Source record: 31459

In article <vpoeaind1vhi12@corp.supernews.com>, wd5jfr@oklahoma.net
says...
> Can someone please tell me thw specific model numbers of the HP 8505 era
> test sets that have directional couplers, etc that are good for HF.

HP 8503A is the 50-ohm S-parameter test set, good for ~40 dB directivity
from near DC to 1 GHz.

HP 8502A is the 50-ohm transmission-reflection test set, with a similar
frequency range.

The 'B' suffix refers to 75-ohm versions of these units.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

2992. Re: Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 23:42:37 UTC
From: averyfineman@aol.com
Message-ID: <20031026184237.05539.00001853@mb-m16.aol.com>
Source record: 31460

In article <eXUmb.15515$Ec1.1410794@bgtnsc05-news.ops.worldnet.att.net>, "Larry
King" <lking@startech.net> writes:

>"Avery Fineman" <averyfineman@aol.com> wrote in message
>news:20031026125021.28496.00001534@mb-m18.aol.com...
>> In article <CzImb.15048$Ec1.1349656@bgtnsc05-news.ops.worldnet.att.net>,
>"Larry
>> King" <lking@startech.net> writes:
>>
>> >"J M Noeding" <la8ak.xnd@online.no> wrote in message
>> >news:3f9b0771.43994077@news.online.no...
>> >> ......
>> >> You seldom see such large dimensions, believe they had
>> >> waveguide for the over hoizon radio link system on 900MHz, but usually
>> >> WG is not practical below 3.3GHz ....
>> >
>> >Nonsense, rectangular waveguide is used quite frequently in UHF
>television
>> >broadcast transmitting installations. Granted it's pretty good sized
>stuff
>> >to get the lower cutoff frequency down where it needs to be in the 450 -
>800
>> >MHz range (WR1150, WR1500, and WR1800 for example) .. at least 6" x 12"
>> >outside dimensions. But it's definitely practical at those frequencies
>> >which are far below 3.3 Ghz.
>>
>> Rectangular waveguide below 1 GHz (which is above UHF TV)?
>
>Sure, take a look at the URL in my original message from the Dielectric
>webpages :-) And the Andrew Corp. extolls the virtues of its circular
>waveguide product line for the same application.....
>
>http://www.andrew.com/search/docviewer.aspx?docid=398

I'm not going to say it can't be done or even shouldn't. :-)

Rectangular guide at TE-sub-10 mode is convenient to use
in general applications. Except for the choke-joint flanges, it
is fairly easy to fabricate, even in the home workshop; think
raw PCB stock for stiffness and easy solderability or other
sheet metal joined with a copper-pipe-plumber's torch. The
launch probes are also mechanically easy on fabrication.

In circular waveguide, there's a different mode choice and
you can't fabricate that easily in the home workshop. Also

the I/O structures are a bit more difficult for the hobbyist.

I'm not going to drag out the Matthei for this but the above is
looking at practicality.

Andrew is a good company and has been making antennas for
a while. I got very intimate with their 10 foot dishes back in
1954...:-) But then they were using 1 5/8" rigid coax feed,
pressurized over 250-foot length of terminal to antenna.

>> Coaxial structures, yes, especially for the visual-aural diplexer.
>> I've walked INTO the channel 13 diplexer for KCOP on Mount Wilson
>> (serving Los Angeles with 50 KW into the antenna). Just open the
>> door in the corner formed by the visual and aural transmitters and
>> one comes upon a massive array of round structures...:-)
>
>When I first read this, I though you meant that you were ***inside*** of the
>diplexer [hopefully not while it was 'on the air'] :-) Then I reread it,
>and understood what you meant. Yes those coaxial cavities can be quite
>impressive.

KCOP does the 24/7 bit now as it did in 1958 when a buddy and I got
a tour of it. It was ON when we stepped into the collection of large-
scale plumbing. Not a problem. Two transmitters at right angles,
diplexer at the corner. At the time their older transmitter was on the
other side of the transmitter room, ready to use in case of main xmtr
catastrophe...forget how the antenna connection switchover was done
although it was explained (I'll blame the altitude...Mt. Wilson is about
5700 feet ASL...:-).

Most TV broadcasters don't mind interested viewers visiting their
stations if one calls ahead. Remote transmit sites don't get a lot of
activity. Mt. Wilson for Greater Los Angeles coverage is an exception
with over two dozen transmitters along with a solar observatory, a
couple hotel/motels, and the beginning of a national park area.

Len Anderson
retired (from regular hours) electronic engineer person

2993. Re: AD995X series DDS, rig ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-26 23:56:17 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3F9C5F21.3030501@bellsouth.net>
Source record: 31461

John Miles wrote:
> In article <3F9C2795.90708@bellsouth.net>, wa2mze-spamnot-@bellsouth.net
> says...
>
>>I just got some samples of the AD9952 and AD9954 DDS chips.
>>Both look identical, AD9954 has some extra features I don't need
>>but can simply not program. These parts are real small, will have
>>to find some VERY small tweezers to bend the leads and file down
>>a soldering tip to fit.
>
>
> I'm a big fan of these tweezers:
> http://www.folica.com/removal/rubis_costwe132.htm They have the finest
> tips I've ever seen, and are great for working with these sorts of
> parts.
>
>
>>I would try to solder all the gnd and unused
>>inputs down to a PC ground plane and bend all the power pins up
>>flat against the top of the chip to be soldered together. The signal
>>pins would have to be bent up halfway and fly leads soldered on
>>to go to the rest of the circuit on perfboard.
>>
>>Anybody try to breadboard one of these 'dead bug' style like this?
>
>
> Note that TQFP pin spacing (0.5 mm) is half that of the AD9850/AD9851
> chips that Dan Tayloe mentions. Still, it can be done, and your
> strategy sounds reasonable. I have hand-wired several 16-pin TSSOP 0.5-
> mm chips by hand without losing one. Solder-wick and a fine-tipped iron
> are mandatory. As Dan says, you can count on being able to bend each
> lead only once, so make sure you get it right!
>
> On the plus side, these chips appear to be very hard to overheat in the
> soldering process, probably due to low lead mass and stout internal
> connections. You can afford to take your time.
>
> It might not be an issue with 1.8V logic, but these chips' 3.3-volt
> predecessors (the AD9852 and AD9854) really got hot when operated near
> their maximum clock speeds. On a PC board, the traces offer a definite
> heat-dissipation advantage over hand-wiring. Don't assume you can run
> these chips full tilt until you verify that they don't overheat in your
> dead-bug configuration.
>

Since I was thinking of using a fair sized piece of PC board as a ground
plane
to which ALL the gnd pins would get soldered to, I might have a good enough
heat sink. I could also put some silicon heat sink grease on the bottom
of the
chip, or glue the chip down to the pc board with heat conductive epoxy.

>
>>Was thinking of using 8051 series micro, the built in serial port will
>>drive the AD98xx and AD99xx dds chips. Question....how do I convert
>>the 5v digital io of the 8052 micro to the 1.8v levels used by the
>>AD995x series, or is the DDS chip 5v compatible (on input maybe...
>>what to do about output? especially on the bidirection serial line....)
>
>
> Just use a resistive divider. I don't see any reason to use FETs unless
> programming speed is a concern. (CMOS inputs look like capacitors, so
> resistive dividers will slow your signal edges down and limit the speed
> at which you can program the chip. Some CMOS parts have a minimum-
> risetime requirement, but I haven't bumped up against it yet personally
> except for Vcc pins.)
>
> I see in the data sheet that the I/O pins can be configured for 3.3V
> logic levels, so that might help.
>
>
>>Was also thinking about maybe building the rig as a 6 meter single
>>conversion with an HF transverter front end. What do you think of
>>this idea?
>
>
> Sounds like a plan!
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --

2994. Re: LOC/VOR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 00:03:57 UTC
From: ON5MJ <on5mj@skynet.be>
Message-ID: <3f9c60c5$0$3633$ba620e4c@reader2.news.skynet.be>
Source record: 31462

Hi there,

Maybe publish a picture of the front face (+ address) so we can have an idea.

73, de Jacques - ON5MJ

2995. Re: Need info about 2SC3286 VHF power device

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 00:19:10 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <2wZmb.38635$e01.82190@attbi_s02>
Source record: 31463

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3f9c6424.129674421@news.online.no...
> Hi
>
> tried Google to search data for 2SC3286, but ended up with some
> Japanese lettered sites which Netscape couldn't read. Does somebody
> have a pdf file or know where I could find it?
>
> I am writing some info about recent surplus equipment available here,
> but use Norwegian language to limit the spread of information to
> within DL-LA-OH-OX-OY-OZ-PA-SM-TF http://home.online.no/~la8ak/d24.htm
>
> 73
> Jan-Martin
> LA8AK

Jan-Martin -

I found at interesting web site for a Japanese accelerator using 108 of
these transistors producing
20 kW of power !!

Here is a photo of 8 of these for a 1 kW + amplifier at 144 MHz (JA0TJU)
http://www.ginzado.ne.jp/~hamradio/tju/2c3286.htm

The transistor package is a Gemini (2 transistor chips mounted for push-pull
operation)
Produces about 200 watts at 200 MHz. The transistor appears to have been
developed
for solid-state modules in TV transmitter usage.

w9gb

2996. Re: Need info about 2SC3286 VHF power device

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 00:23:34 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <_zZmb.37237$Fm2.15980@attbi_s04>
Source record: 31464

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3f9c6424.129674421@news.online.no...
> Hi
>
> tried Google to search data for 2SC3286, but ended up with some
> Japanese lettered sites which Netscape couldn't read. Does somebody
> have a pdf file or know where I could find it?

Some follow-up data:

NPN bi-polar

55 V max; 24 Amps (Ic) max; 280 W max; 60 hFE
http://harmsy.freeuk.com/nic.percival/2sc/2sc320.html

w9gb

2997. Need info about 2SC3286 VHF power device

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 00:24:30 UTC
From: la8ak.xnd@online.no
Message-ID: <3f9c6424.129674421@news.online.no>
Source record: 31457

Hi

tried Google to search data for 2SC3286, but ended up with some
Japanese lettered sites which Netscape couldn't read. Does somebody
have a pdf file or know where I could find it?

I am writing some info about recent surplus equipment available here,
but use Norwegian language to limit the spread of information to
within DL-LA-OH-OX-OY-OZ-PA-SM-TF http://home.online.no/~la8ak/d24.htm

73
Jan-Martin
LA8AK
--
remove ,xnd to reply (Spam precaution!)

2998. Re: LOC/VOR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 02:22:18 UTC
From: averyfineman@aol.com
Message-ID: <20031026212218.14837.00003892@mb-m03.aol.com>
Source record: 31466

In article <bnhe10$73v$1@julia.coi.pw.edu.pl>, "Paweï¿½ Stobiï¿½ski"
<NO_sq9nry@wp.pl_SPAM> writes:

>I've recently bought two aircraft rx modules, there's only 'LOC/VOR
>receiver' written on the chassis, neither manufacturer nor any additional
>infos. Single aerial input, and several connectors. As I inspected, it is a
>complete 108-117MHz rx, with RF amp, LO, mixers, quartz filters, and
>demodulator. One of them (1990) is equipped with a PLL synthesis, and the
>other (1975) has 10 switched crystals instead. Whole RX is a metal, rigid
>can (as for high-end devices used in aircrafts). Unfortunately, I haven't
>found any documentation concerned with it. The schematic diagram would be
>the best, however I suppose this stuff is not widely available.

If you can give us some sizes (mm or cm okay) and describe the other
(not coaxial) connectors pin count or connector identification, it would
be a start. If this was used on air-transport aircraft, the box sizes,
connectors, and connector pin functions are all standardized under
ARINC specifications. ARINC documents are available from them but
are very expensive to order from that industry group. The cabinet/box
sizes are described by "ATR-x" and slide into aircraft racks (also
standardized) and lock down through bottom front end pins.

>Nevertheless, if anyone had any info how to connect such things or make them
>work, would be appreciated.

VOR (Very high frequency Omnidirectional radio Range) uses a
combination of AM at 30 Hz (from the ground station antenna pattern
actually rotating at that rate) and a 30 Hz signal derived from FM
demodulating a 9.96 KHz subcarrier as the reference phase for azimuth
bearing to the ground station. There are many ways to show or compare
the two 30 Hz phases (automatic or semi-manual) and would be done in
a pilot's OBS or Omni Bearing Selector, usually a separate panel
mounting instrument. The "open space" from 30 Hz to near 10 KHz can
be used for voice audio from the air traffic controller to the aircraft or
for
automated airport condition recordings.

LOC or Localizer is also a sort-of azimuth bearing radionavigation
system but is specifically for the approach path azimuth for landing.
Uses only two tones and compares the amplitudes (equal when
centered on approach path). In most OBSs, the "left-right" needle
is switchable to either VOR or LOC but the audio signals for each
function are different.

From the basic VOR function, the receivers would have a 10 KHz
minimum bandwidth and tune 108.20 MHz upwards in 200 KHz

increments. LOC tunes from 108.10 MHz upwards in odd increments, interleaved with VOR. Note: Later ICAO (International Civil Aviation Organization) specifications may have 50 KHz increments in some countries, but the even-odd interleaving still holds. AM demodulation for both receivers.

If your receivers are modules that fit into a larger one, the full documentation would have to come from the manufacturer. Nothing secret about it...just isn't widely used outside of the civil aviation world.

ARINC was first organized before World War 2 in the USA as a private airline communication company ("Aeronautical Radio, INC") but became a non-profit industry standards group after the war, principally for airlines and air transport companies to allow very quick substitution of standard communications and radionavigation radios and indicators anywhere in the world.

> Of course, I can redraw the wiring; although
>that could take weeks :)

If you can't identify the receivers from existing website manufacturer's photographs, that might be the unfortunate necessity. Try a search on the Internet using "aircraft radionavigation radio" and see if anything comes close.

Personal story: In 1947 at age 14 I got started in "real radio hardware" by having to generate a schematic for the ARC-5 airborne radios sold as military surplus...the new store owned by two long-time hams did not have a reproducible schematic for less than a few dollars. Took me a week-plus to do it as a beginner using an ordinary multimeter. By then the store had obtained copies of the schematics, selling them for much less than originally...:-) It was good training for me at the time. In 1981 another engineer and myself had to generate several schematics from existing PCB assemblies because a project manager refused to spend extra project money for documentation. Together, we cost the project a LOT more than the documentation and wasted a whole month. :-)

Len Anderson
retired (from regular hours) electronic engineer person

2999. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 02:22:20 UTC
From: averyfineman@aol.com
Message-ID: <20031026212220.14837.00003893@mb-m03.aol.com>
Source record: 31467

In article <viiopvo9dsogqm2n4ff587h5p4eqjjqak1@4ax.com>, Gary Schafer <gaschafer@comcast.net> writes:

>Let's start at the other end and see what happens;
>
>If we have a final amp with 1000 dc volts on the plate and we want to
>plate modulate it to 100% or very near so, we need 1000 volts peak to
>peak audio to do it.
>On positive audio peaks the dc plate voltage and the positive peak
>audio voltage will add together to provide 2000 volts plate voltage.
>
>On negative audio peaks the negative audio voltage will subtract from
>the dc plate voltage with a net of zero volts left on the plate at
>that time. (or very nearly zero volts if we do not quite hit 100%)
>
>How does the tube put out any power (carrier) at the time there is
>near zero plate voltage on it?
>
>The negative audio cycle portion is going to be much longer than many
>rf cycles so the tank circuit is not going to maintain it on its own.
>
>Why does the carrier stay full?

Gary, you are trying to mix the frequency domain and time domain information...and then confusing steady-state conditions in the time domain with repetitive conditions.

The "carrier amplitude is constant" holds true over repetitive audio modulation. In conventional AM, with repetitive modulation from a pure tone, there are three RF spectral products. If you deliberately notch out the carrier component in a receiver, and then reinsert a steady-state, synchronized carrier frequency component in its place, you will recover the original modulation audio. The receiver demodulator sees only a steady, constant-amplitude carrier frequency component. There is absolutely no carrier amplitude variation then. But the original modulation audio is demodulated exactly as if it were the done with the original transmitted carrier. SSB reception is done all the time that way (except the carrier amplitude is so low it might as well be zero).

That's a practical test proving only that the carrier amplitude does not have any change insofar as demodulation is concerned.

As a practical test of just the transmitter, let's consider your basic old-style AM description...Class-C RF PA with linear plate volts v. power output characteristic, modulation by the plate voltage. That

plate voltage is 1 KV steady-state. In steady-state, RF output has a single RF component, the carrier frequency. One.

RF spectral component will follow the general time-domain RF equations with no modulation. [easy math there]

Apply modulation to the plate voltage with a pure tone. Plate voltage swings UP as well as DOWN equally. [theoretical perfect linear situation] Same rate of UP and DOWN. [start thinking dv/dt]

Look at the spectral components with this pure tone modulation. Now we have THREE, not just one. Any high resolution spectrum analyzer sampling the RF output will provide practical proof of that.

So, if you want to examine the total RF in a time-domain situation, you MUST examine it as amplitude versus an infinitely-thin slice of TIME. You cannot take a finite time chunk out of the RF envelope and "prove" anything...anymore than you can justify the existance of three RF components, not just TWO. [if this were the real classroom, you would have to prove that on the whiteboard and justify it in full public view...and maybe have to show the class the spectrum analyzer output]. Remember that the modulation signal also exists in a time domain and is constantly changing.

If the "carrier sinewave goes to zero and thus power output is zero," how do you justify that, a half repetition time of the modulation signal later, "carrier sinewave goes to twice amplitude and power output is double"? You are trying an analogy that has a special condition, by neglecting the RATE of the modulation. It is always changing just as the carrier frequency sinewave is changing. You want to stop time for the modulation to show repetitive RF carrier sinusoids and that is NOT modulation. It is just adjustment of the RF output via plate voltage. No modulation at all.

The basic equation of an AM RF amplitude holds for those infinitely-small slices of TIME. The series expansion of that basic equation will show the spectral components that exist in the frequency domain. Nothing has been violated in the math and practical measurements will prove the existance and nature of the spectral components.

For those that like the vector presentation of things, trying to look at a longer-than-infinitely-small slice of time or just the negative or positive modulation swings is the SAME as removal of the modulation signal vector. Such wouldn't exist in that hypothetical situation. It would be only the RF carrier vector rotating all by itself.

In basic FM or PM, there's NO change in RF envelope amplitude with a perfect source of FM or PM. "The carrier swings from side to side with modulation," right? Okay, then how come for why does the carrier spectral frequency component go to ZERO with a certain modulation/deviation level and STAY there as long as the modulation is held at that level? RF envelope amplitude will remain constant. Good old spectrum analyzer has practical proof of that. [common way

of precise calibration of modulation index with FM] The FM is "just swinging frequency up and down" is much too simple an explanation, excellent for quick-training technicians who have to keep ready-built stuff running, not very good for those who have to use true basics for design, very bad for those involved with unusual combinations of modulation.

If you go back to your original situation and have this theoretical power meter working with conventional AM, prove there are ANY sidebands generated from the modulation of plant voltage...or one or two or more. :-) Going to be a difficult task doing that, yet there obviously ARE sidebands generated with conventional AM and each set has the same information. Lose one and modulation continues. Prove it solely from the time-domain modulation envelope. Prove the carrier component amplitude varies or remains constant.

Hint: You will wind up doing as another Johnny Carson did way back in 1922 (or thereabouts) when the basic modulation equations were presented on paper. [John R. Carson, I'm not going to argue the year, that's in good textbooks for the persnickety] With conventional AM the CARRIER FREQUENCY COMPONENT amplitude remains the same for any modulation percentage less than 100. Period. I not gonna argue this anymore. :-)

Len Anderson
retired (from regular hours) electornic engineer person

3000. Re: LOC/VOR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 02:32:39 UTC
From: Paweł Stobiński <USUN_sq9nry@wp.pl_NOSPAM>
Message-ID: <bnhp0dlkg1@julia.coi.pw.edu.pl>
Source record: 31465

ON5MJ wrote:
> Maybe publish a picture of the front face (+ address) so we can have an
> idea.
> 73, de Jacques - ON5MJ

That could be a problem - I do not posess any digital camera to take a photo. If it's about the device - an ordinary, rigid, metal box, 40x10x2 cm. There are a few holes to make necesary adjustments (IF AGC, RF AGC) too. If it's not any help, will try to find a cam, anyway.

--
Paweďž˝ Stobiďž˝ski SQ9NRY @ JO90WP
Republic of Poland

3001. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 03:48:04 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bni4gq$6lp$1@news.oregonstate.edu>
Source record: 31468

Avery Fineman <averyfineman@aol.com> wrote:
> So, if you want to examine the total RF in a time-domain situation,
> you MUST examine it as amplitude versus an infinitely-thin slice of
> TIME.

You might want to remind everyone that the mathematical Fourier transform of a signal is an integral that extends from time=minus infinity to plus infinity. Since Real Spectrum Analyzers (or network analyzer) need to produce results in something, oh, less than infinite time (probably less than the time between now and the next donut break), they're necessarily limited in the low frequency detail they can provide. True, if Gary's transmitter is transmitting a zero at the moment he connects a spectrum analyzer, he won't see anything at all on the display, but as you point out -- this is an equipment problem, not a mathematical one.

I'm still a believer in SSB-FM, BTW. :-) But I have enough respect for you that I won't attempt to argue it further without first finding the time to prepare a few drawings to demonsrate why!

---Joel Kolstad

3002. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 04:38:45 UTC
From: averyfineman@aol.com
Message-ID: <20031026233845.21457.00001685@mb-m10.aol.com>
Source record: 31469

In article <bni4gq$6lp$1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>Avery Fineman <averyfineman@aol.com> wrote:
>> So, if you want to examine the total RF in a time-domain situation,
>> you MUST examine it as amplitude versus an infinitely-thin slice of
>> TIME.
>
>You might want to remind everyone that the mathematical Fourier transform of
>a signal is an integral that extends from time=minus infinity to plus
>infinity.

The series expansions of the basic modulation type RF time-domain
expression don't use Fourier series. The series expansions show
the sprectral content are still equivalent to that infinitely-thin slice
of time as the function of amplitude.

I think that Panters "Signals, Modulation, and Noise" text has it
worked out in there (by memory, don't have that one handy here).
The "Landee" text I mentioned is an old one and not that familiar
to most.

>Since Real Spectrum Analyzers (or network analyzer) need to
>produce results in something, oh, less than infinite time (probably less
>than the time between now and the next donut break), they're necessarily
>limited in the low frequency detail they can provide. True, if Gary's
>transmitter is transmitting a zero at the moment he connects a spectrum
>analyzer, he won't see anything at all on the display, but as you point
>out -- this is an equipment problem, not a mathematical one.

No, it's an argument problem. :-)

There's no infinitely-fast RF power meter in existance. Yet.

>I'm still a believer in SSB-FM, BTW. :-) But I have enough respect for you
>that I won't attempt to argue it further without first finding the time to
>prepare a few drawings to demonsrate why!

I'm not arguing that "single-sideband FM" won't work. I just don't like
the name. The technique DOES work from all the explanations of
experiments, is reproducible. [it isn't the "cold fusion" thing. :-)]

I've not seen any convincing case that the single-whatever FM thingy
has any practical applications.

For narrowband voice, SSB AM is just dandy and a phasing system
using the Gingell-Yoshida polyphase network is quite easy and

error-tolerant to make a good phasing exciter. It can be used in "reverse" to get an easy-to-select sideband demod or an ordinary AM detector that yields false stereo (one sideband to each ear), already done with simple CW receivers.

Len Anderson
retired (from regular hours) electronic engineer person

3003. Re: Single Sideband FM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 05:52:21 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bnibr1$91s$1@news.oregonstate.edu>
Source record: 31470

Hi Len,

Avery Fineman <averyfineman@aol.com> wrote:
> For narrowband voice, SSB AM is just dandy and a phasing system
> using the Gingell-Yoshida polyphase network is quite easy and
> error-tolerant to make a good phasing exciter. It can be used in
> "reverse" to get an easy-to-select sideband demod or an ordinary
> AM detector that yields false stereo (one sideband to each ear),
> already done with simple CW receivers.

...or real stereo! The Kahn/Hazeltine AM stereo sysem did this -- L in the lower sideband, R in the upper. Hence envelope detectors recovered L+R, and AM radios built back to the beginning of (radio) time kept working.

On the other hand (and I know this is just asking for abuse), the Motorola C-QUAM AM stereo system could be applied to SSB modulation and still work, which obviously Kahn/Hazeltine can't. I don't imagine C-QUAM's designers were considering this, however.

It's almost painful to look at the (complex) envelope of AM and notice that the quadrature signal is completely unused. Sending stereo over I and Q strikes me as a 'interesting,' (does anyone know of a commercial system that does this? Surely somebody's must...) but of course it would break compatibility with current receivers and I imagine someone who's more knowledgeable than I could point out some pitfalls as well.

---Joel

3004. Power amplifier design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 09:00:21 UTC
From: Claude Frantz <claude@pc0312a.rz.unibw-muenchen.de>
Message-ID: <3F9CDEA5.61C2E3BC@pc0312a.rz.unibw-muenchen.de>
Source record: 31471
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Where can I find good information about the principle and the design of linear power amplifier using semiconductors, up to the full legal power limit ?

Is it only possible to use power splitter ? I have seen broadcast transmitters in the power range of many hundred of kW's, having an power efficiency of more than 90 %. Do they use power splitter or another design ?

3005. Re: Power amplifier design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 12:18:29 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bnj29t$mk2$1@bob.news.rcn.net>
Source record: 31472
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Claude Frantz" <claude@pc0312a.rz.unibw-muenchen.de> wrote in message
news:3F9CDEA5.61C2E3BC@pc0312a.rz.unibw-muenchen.de...
> Where can I find good information about the principle and the design of
> linear power amplifier using semiconductors, up to the full legal
> power limit ?
>
> Is it only possible to use power splitter ? I have seen broadcast
> transmitters in the power range of many hundred of kW's, having an
> power efficiency of more than 90 %. Do they use power splitter or
> another design ?

The biggies for AM are often essentially huge D-to-A converters.

The FM ones use splitters and combiners.

Neither are linear amplifiers.

3006. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 13:29:04 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vpq7mkds2uns30@corp.supernews.com>
Source record: 31473

I tried to email you a fair bit of data but yahoo bounced the connection.

..

"Brian Connors" <connorbd@yahoo.com> wrote in message
news:connorbd-5A8F56.00582226102003@news.verizon.net...
> In article <vpi7649jf7442a@corp.supernews.com>,
> "xpyttl" <xpyttl_nospam@earthling.net> wrote:
>
> > "Brian Connors" <connorbd@yahoo.com> wrote in message
> > news:connorbd-819DF7.23112723102003@news.verizon.net...
>
> > Now, if you have a buddy nearby and you want to get your code speed up
for
> > the general, I have a circuit you can build for around $25 that will get
you
> > on the air. But it's CW, fixed frequency, and low power. Given the
> > infrequency of 6 meter openings that are friendly to low power, that
means
> > the QSOs are going to be limited to a nearby station.
>
> I'd be interested, along with any notes on how I could mod it for AM or
> NBFM operation (assuming such a thing could be done by someone with
> little electronics experience, that is).

3007. Re: Power amplifier design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 13:58:02 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <au9nb.31496$9E1.117353@attbi_s52>
Source record: 31474
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Claude Frantz" <claude@pc0312a.rz.unibw-muenchen.de> wrote in message
news:3F9CDEA5.61C2E3BC@pc0312a.rz.unibw-muenchen.de...
> Where can I find good information about the principle and the design of
> linear power amplifier using semiconductors, up to the full legal
> power limit ?
>
> Is it only possible to use power splitter ? I have seen broadcast
> transmitters in the power range of many hundred of kW's, having an
> power efficiency of more than 90 %. Do they use power splitter or
> another design ?

First, you should have references to Helge Granberg (sk) work when he worked
at Motorola.
His work can be found in several Application Notes and a book he wrote with
Norman Dye.

RF Transistors (about 1/2 down this web page)
http://www.rfparts.com/tranbook.html

Motorola Application Notes (this is a subset on CCI web site)
http://www.communication-concepts.com/application_notes.htm

JA0TJU is an excellent resource and reference for "broadcast style"
construction
http://www.ginzado.ne.jp/~hamradio/tju/2c3286.htm

DL4MUP has this article (may not load), he references the earlier work of
W9NUP
http://www.qsl.net/dl4mup/UKW45/UKW45_w.pdf

W9NUP, Ron Purkey article in Issue 3 of the 1999 VHF Communications magazine
on "Another RF Combiner / Splitter".

He built a 1 KW VHF amplifier using 4 MRF 141G modules with a splitter and
combiner running 28v @ 60+ amps.
The amp takes approx 50 watts to drive.

This was NOT the normal "rat race" type of combining, but rather based on
Myat Engineering E*Star (which is a European firm).
Any number of odd or even modules may be employed, making it nice for
growing as can be afforded.

I understand Myat took down their informational Internet web site after this
article appeared (too many hits and questions)

Here are pictures from the K5OE web site
http://members.aol.com/homebrewpics/w9nup_front.jpg

the rear
http://members.aol.com/homebrewpics/w9nup_rear.jpg

the bottom
http://members.aol.com/homebrewpics/w9nup_bottom.jpg

and the top
http://members.aol.com/homebrewpics/w9nup_top.jpg

3008. connecting two old PC supplies for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 16:25:28 UTC
From: clc@conninc.com
Message-ID: <7e9f0c9f.0310270825.3c7f94c9@posting.google.com>
Source record: 31475

I need around 20amps to run my mobile HF rig in the house. I have lots
of old PC switching power supplies that put out 8 - 10 amp @ 12v
without any problem.
Im wondering if anyone has ever had any luck connecting two or more
in parallel
to increase current ? Ive thought of adding a stud mount diode in the
positive
leads to isolate them and connect the commomn or neg togather. I can
raise the voltage to makeup for the .6 volt drop without any problem.
Not having alot of switching supply experience, Im wonder if this
will work or
just go up in smoke?

3009. Re: Power amplifier design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 17:30:03 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vpqlqnho605p2e@corp.supernews.com>
Source record: 31476
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Try:

"Practical RF Power Design Techniques", Irving Gottlieb
ISBN 0-8306-4129-7

..

"Claude Frantz" <claude@pc0312a.rz.unibw-muenchen.de> wrote in message
news:3F9CDEA5.61C2E3BC@pc0312a.rz.unibw-muenchen.de...
> Where can I find good information about the principle and the design of
> linear power amplifier using semiconductors, up to the full legal
> power limit ?
>
> Is it only possible to use power splitter ? I have seen broadcast
> transmitters in the power range of many hundred of kW's, having an
> power efficiency of more than 90 %. Do they use power splitter or
> another design ?

3010. Re: connecting two old PC supplies for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 18:23:52 UTC
From: Bob <balbert@access1.net>
Message-ID: <guadnfulau9T_wCiXTWJkQ@ecrii.com>
Source record: 31477

It should work except that these power supplies generally won't start up unless there is a substantial load on the +5 Volt line. I suppose you could put a load on that line and when the output stabilizes, reduce it to a negligible value with a relay or something.

Radio gear designed for 12 Volts often won't deliver full output unless the supply is at around 13 Volts or more. Check your own gear and see what it takes to work properly. I like running my rigs at around 12.5 to mazimize lamp life but that doesn't work with one rig, the IC-751, which won't put out the full 100 Watts unless the supply is above 13 Volts.

73, Bob

3011. Re: connecting two old PC supplies for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 19:18:38 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3F9D6F7D.A61F8319@earthlink.net>
Source record: 31478

clc wrote:
>
> I need around 20amps to run my mobile HF rig in the house. I have lots
> of old PC switching power supplies that put out 8 - 10 amp @ 12v
> without any problem.
> Im wondering if anyone has ever had any luck connecting two or more
> in parallel to increase current ? Ive thought of adding a stud
> mount diode in the positive leads to isolate them and connect the
> common or neg together. I can raise the voltage to makeup for the .6
> volt drop without any problem.
> Not having a lot of switching supply experience, I wonder if this
> will work or just go up in smoke?

I wouldn't recommend it. There are computer power supplies made for
N+1 hot swapping that will work well in parallel, but they are designed
for that application. Look around for a surplus power supply big enough
to handle the radio.
--

Michael A. Terrell
Central Florida

3012. Re: A simple dual-band SSB transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-27 21:28:36 UTC
From: "John R. Strohm" <strohm@airmail.net>
Message-ID: <bnk3fb$dgi@library2.airnews.net>
Source record: 31479

I see an obvious problem in the schematic.

You show two separate transformers labelled T5. One is clearly a trifilar device, in your two-diode balanced mixer. The other is clearly a bifilar device, coupling output from the IRF510 final into the output filter. You probably want to fix that nomenclature, and add data for the RF output transformer.

Also, I'm curious. Why did you use 2N3866 everywhere, instead of, say, PN2222A (plastic 2N2222A)?

"Ashhar Farhan" <farhan@hotfoon.com> wrote in message news:8331b126.0310241148.7c6abd06@posting.google.com...
> I have been working on an SSB transciever for the last two months, it
> finally went on-air at VU2PEP a fortnight ago. We are quite happy with
> the performance. A number of on-air contacts have asked for the
> details.
>
> Here is the link:
> http://farhan.net.co.nr
>
> I would love to have feedback from you all. I have hastily put the
> detaits together, I might have left something out. I am not sure. This
> is the first time I am putting any of my radio efforts on the Web.
> comments are welcome.
>
> - farhan

3013. connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 03:02:07 UTC
From: clc@conninc.com
Message-ID: <7e9f0c9f.0310271902.5355620d@posting.google.com>
Source record: 31480

Im still trying to come up with a high current DC supply for my mobile HF rig.
I have 4 - transformers that are all the same part number, there output is 4amp
at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
each in parallel to increase current to my regulator circut.
I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
work ok, Im not sure about paralleling DC supplies ?

3014. FS - T2 Transmitter PC Board

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 03:36:20 UTC
From: GLEN JENKINS <wb4ktf@pipeline.com>
Message-ID: <Uulnb.4805$RQ1.2986@newsread3.news.pas.earthlink.net>
Source record: 31481

I have a new Applied Radio Science PC board for the T2 transmitter. See QST May 1993, page 29. Copy of articles are included. $5.00 including postage.
WB4KTF - Houston, TX

3015. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 04:18:22 UTC
From: **THE-RFI-EMI-GUY** <NoSpamBogus@NoSpamBogus.com>
Message-ID: <3F9DEE0E.6010605@NoSpamBogus.com>
Source record: 31482

You can probably make it work with matched parts, but you will need somevery good heatsinking and a crowbar circuit in case one of your pass regulators shorts out.

You should really look at using an ASTRON SS30 or SS30M (M has volt and amp meters). One was for sale on one of the swap boards recently. I have two and they deliver the current without any strain or heat. As far as RFI noise, they are also very quiet. ARRL did a write up a couple years back on various switchers and this one was the quietest. 25 amps continuous, 30 amps intermittent. I run mine to 20 amps all the time and the fan switches on for a short time, no sweat.

clc wrote:

>Im still trying to come up with a high current DC supply for my mobile HF rig.
>I have 4 - transformers that are all the same part number, there output is 4amp
>at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
>each in parallel to increase current to my regulator circut.
> I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
>work ok, Im not sure about paralleling DC supplies ?
>
>

--
Joe Leikhim K4SAT

"Jazz is not dead. It just smells funny." -F.Z.

3016. Newbie qrp homebrew....another update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 05:35:16 UTC
From: XJohn_S_Sandin@osca.state.mo.us
Message-ID: <3f9dfdbb.2337199@news.kcnet.com>
Source record: 31483

The link below shows my attempt to build a 3-watt transmitter for 40 meters or 80 meters, based on an article in QST, June 1967 and an adaptation thereof by KC6WDK.

http://www.kcnet.com/~oyster/transmitter/transmitter.html

I've had some success since I posted last, but I want to get the output clean before I go on the air with it. I've had very little spare time, but I've managed to improve the performance quite a bit, through a lot of frustrating trial and error.

The good news: The transistor does not become egg-frying hot anymore. Now it's just barely warm. I began trying the suggestions about grounding and parts placement provided to me by the good people at rec.radio.amateur.homebrew and qrp-l. What seemed to help the most were the grounding suggestions; I moved several components' chassis connections to within an inch of Q2's emitter, and that seemed to help to increase the output and decrease the self-oscillation, which can now be eliminated via the variable caps for the oscillator and amplifier stages (C1 and C2). I also realized how close the crystal was to Q2 in my original assembly, so I moved the crystal over near the oscillator section, and that seemed to help, also. The chirp is still a little bothersome, but the transmitter appears to be putting out around 2 watts into a dummy load, sans lowpass filter.

I got good results by isolating C2 from the chassis, and grounding it via a separate wire to the point where Q2's emitter is grounded.

I'm having quite a time trying to get rid of harmonics, which I'm "measuring" using my Icom R71A receiver, which is across the room from the transmitter now. Slowly but surely I am making small modifications resulting in small improvements. I'm rebuilding the coils now. More details and new pictures of the rebuilt transmitter are on the website. Thanks to all who offered advice, and any further advice is more than welcome.

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

3017. Re: A simple dual-band SSB transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 06:58:39 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0310272258.182d02f6@posting.google.com>
Source record: 31484

"John R. Strohm" <strohm@airmail.net> wrote in message
news:<bnk3fb$dgi@library2.airnews.net>...
> I see an obvious problem in the schematic.
>
> You show two separate transformers labelled T5. One is clearly a trifilar
> device, in your two-diode balanced mixer. The other is clearly a bifilar
> device, coupling output from the IRF510 final into the output filter. You
> probably want to fix that nomenclature, and add data for the RF output
> transformer.
>
> Also, I'm curious. Why did you use 2N3866 everywhere, instead of, say,
> PN2222A (plastic 2N2222A)?

john and others -

tnx for the corrections. i also forgot to put the half-wave filter's specs and couple of other subtle typos. i am trying to assemble the second prototype (the one in the picture) refering to just the schematic on the web, to check if things are proper. i will post the corrections soon.

what i did discover about 2n3866 vs. 2n2222 was this: the 2n2222 is mostly used in low frequency switching applications in india. therefore, slimy manufacturers change the markings on other lower frequency transistors and palm them off as 2n2222. the BF194s that i have used extensively is a close plastic cousin of 2n2222 that is used as self-oscillating mixer for shortwave radios in india. It does a reasonable job at HF frequencies if you are not too particular about performance.

The 2n3866 is used in india by the cable TV industry for boosting the line signals. We ordinarily get about 70 channels through the cable (at $3 per month, including HBO/Discovery etc.). The 2n3866 has to keep intermod to a minimum. therefore, we get fairly good quality transistors as far as '3866 is concerned.

in anycase, you will see that the post mix (which should have used a 220R as the emitter bias resistor instead of the wrongly shown 560) needs to be a large signal transistor. I tried with a 2N918 first, as the post-mix and noted an immediate increase in the background hiss (compared to the 3866). I tried the BF194/5 and found it was easily overloading from the computer noise (i am using a PC-based scope). I tried also a BD139 as the post-mix(a 15 watt hifi audio beast with Ft of 150 MHz) and found it to be very noisy.

The circuit uses feedback and degeneration quite extensively, so I urge builders to try different transistors. Most should work, some better than the others. You can also try paralleling two 2n2222 with separate emiiter bias (diving the current in half between them) for the driver feeding the IRF510.

also, i am sort of giving up the idea of making the txcvr multi-band. the bandswitch is a pain. and the transciever costs about $10 in parts here in india, so i might as well build one for each band upto 21MHz.

oh, btw, the local spares shops say that the IRF511 has been discontinued. is it true?

3018. Re: connecting two old PC supplies for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 10:59:55 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <_esnb.399$X8.217804@newsfep1-win.server.ntli.net>
Source record: 31485

> > I need around 20amps to run my mobile HF rig in the house. I have lots
> > of old PC switching power supplies that put out 8 - 10 amp @ 12v
> > without any problem.
> > Im wondering if anyone has ever had any luck connecting two or more
> > in parallel to increase current ? Ive thought of adding a stud
> > mount diode in the positive leads to isolate them and connect the
> > common or neg together. I can raise the voltage to makeup for the .6
> > volt drop without any problem.
> > Not having a lot of switching supply experience, I wonder if this
> > will work or just go up in smoke?
>
> I wouldn't recommend it. There are computer power supplies made for
> N+1 hot swapping that will work well in parallel, but they are designed
> for that application. Look around for a surplus power supply big enough
> to handle the radio.
==========
Another consideration is to use a 12 V lead acid battery (sealed) and a say
8 Amperes charger set at 13.8 V. being 1 PC -SMPS

The peak current required for 100 Watts RF operation might be 20 Amperes
,but the average current for SSB during tx is below 8 Amperes ,even when
applying compression. With the current required during rx around 2 Amperes
,the overall average current will probably not exceed 6 Amperes.
With this setup the voltage will hardly drop below 13 volts ever.

An additional advantage of having such a supply system is emergency
operation during an AC power outage. In the latter case you should consider
a large marine type of battery of say 110Ah.
If prolonged operation during an emergency is an important aspect , the
addition of 1 or more solar panels would be beneficial if not essential.

Frank GM0CSZ / KN6WH

3019. Re: Newbie qrp homebrew....another update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 13:28:32 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vpsro3mivckke4@corp.supernews.com>
Source record: 31486

John

Congratulations. It's great to see your progress and thank you for sharing.

Chirp is a fairly common problem, and it almost always has to do with the voltage on the oscillator.

Even though QRP rigs don't draw much current, the inrush on key down can cause the voltage to drop quickly. The first thing to do is to beef up the wires from the power supply to the rig, and keep them short if possible. You might only be drawing an amp on key down, but #12 wire from the power supply isn't overkill, even larger if your run is more than a couple feet. Keep the power wires as fat as possible right up to the oscillator. If you are using batteries and they are getting a little stale, the internal resistance of the batteries could be working against you, as well. Fat wire is pretty reasonable at home supply stores like Lowe's or Home Depot, but generally you want stranded wire as it's a lot more manageable in the larger sizes, tho the solid wire is easier to get.

If that's not adequate, the next move is to regulate the voltage to the oscillator. Some rigs even go to the extreme of adding double regulation to the oscillator. The messy bit is that three terminal requlators need at least a couple of volts extra to do their work. Your supply appears to be 28 volts, so if you were to go with 2 regulators (maybe overkill) then you would need to fiddle with yout oscillator to get it to work at around 20 or 22 volts, instead of 28. Actually, you might consider dropping the oscillator supply below that. After voltage drop, the next most common cause of chirp is heating of the oecillator components, so reducing the energy in that part of the circuit is a good thing. Recognize, though, that changing that voltage means you would need to recalculate the transformer at L1/L2 to account for the new output impedance.

Rich harmonics generally occur as a result of driving the amplifier too hard, although your output pi network could be off, as well. Before getting too carried away, however, keep in mind that even with a clean transmitter, you will hear some harmonics on a radio in the same room. You would like the harmonics to be down at least 40 or 50 db, so if you can transmit into a dummy load and get your receiver far enough away that the fundamental is on scale of the S meter, then you can assess whether the harmonics are in the right neighborhood.

..

"John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message news:3f9dfdbb.2337199@news.kcnet.com...
> The link below shows my attempt to build a 3-watt transmitter for 40

> meters or 80 meters, based on an article in QST, June 1967 and an
> adaptation thereof by KC6WDK.
>
> http://www.kcnet.com/~oyster/transmitter/transmitter.html
>
> I've had some success since I posted last, but I want to get the
> output clean before I go on the air with it. I've had very little
> spare time, but I've managed to improve the performance quite a bit,
> through a lot of frustrating trial and error.
>
> The good news: The transistor does not become egg-frying hot anymore.
> Now it's just barely warm. I began trying the suggestions about
> grounding and parts placement provided to me by the good people at
> rec.radio.amateur.homebrew and qrp-l. What seemed to help the most
> were the grounding suggestions; I moved several components' chassis
> connections to within an inch of Q2's emitter, and that seemed to help
> to increase the output and decrease the self-oscillation, which can
> now be eliminated via the variable caps for the oscillator and
> amplifier stages (C1 and C2). I also realized how close the crystal
> was to Q2 in my original assembly, so I moved the crystal over near
> the oscillator section, and that seemed to help, also. The chirp is
> still a little bothersome, but the transmitter appears to be putting
> out around 2 watts into a dummy load, sans lowpass filter.
>
> I got good results by isolating C2 from the chassis, and grounding it
> via a separate wire to the point where Q2's emitter is grounded.
>
> I'm having quite a time trying to get rid of harmonics, which I'm
> "measuring" using my Icom R71A receiver, which is across the room from
> the transmitter now. Slowly but surely I am making small
> modifications resulting in small improvements. I'm rebuilding the
> coils now. More details and new pictures of the rebuilt transmitter
> are on the website. Thanks to all who offered advice, and any further
> advice is more than welcome.
>
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

3020. Re: connecting two old PC supplies for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 14:04:26 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <JHunb.97166$PD3.5163193@nnrp1.uunet.ca>
Source record: 31487

clc wrote:
> I need around 20amps to run my mobile HF rig in the house. I have lots
> of old PC switching power supplies that put out 8 - 10 amp @ 12v
> without any problem.
> Im wondering if anyone has ever had any luck connecting two or more
> in parallel
> to increase current ? Ive thought of adding a stud mount diode in the
> positive
> leads to isolate them and connect the commomn or neg togather. I can
> raise the voltage to makeup for the .6 volt drop without any problem.
> Not having alot of switching supply experience, Im wonder if this
> will work or
> just go up in smoke?

A couple of interesting websites..I'm sure there are more..
73 de Eskay VE3JUA..

http://www.antennex.com/preview/archive3/powers.htm

http://www.webx.dk/oz2cpu/radios/psu-pc1.htm

3021. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 15:57:08 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <olwnb.6304$4t6.3722@news02.roc.ny>
Source record: 31488

clc wrote:

>Im still trying to come up with a high current DC supply for my mobile HF rig.
>I have 4 - transformers that are all the same part number, there output is 4amp
>at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
>each in parallel to increase current to my regulator circut.
> I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
>work ok, Im not sure about paralleling DC supplies ?
>
>
That should work OK. If you want a regulated supply then connect the
regulator after the combined DC
voltages. That way you don't have to be concerned with the possible
reverse current through one
of the regulator circuits.

Bill K7NOM

3022. Re: LOC/VOR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 20:39:32 UTC
From: Hans <pa3cny@thuis.org>
Message-ID: <bnmd54$131s1j$1@ID-186127.news.uni-berlin.de>
Source record: 31489

Paweďż˝ Stobiďż˝ski wrote:
> ON5MJ wrote:
>
>> Maybe publish a picture of the front face (+ address) so we can have an
>> idea.
>> 73, de Jacques - ON5MJ
>
>
> That could be a problem - I do not posess any digital camera to take a
> photo. If it's about the device - an ordinary, rigid, metal box, 40x10x2
> cm. There are a few holes to make necesary adjustments (IF AGC, RF AGC)
> too. If it's not any help, will try to find a cam, anyway.
>

Do you have a computer scanner? With a scanner you can make perfect
pictures of printed circuit boards and other 3_D objects

Hans

3023. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 20:49:44 UTC
From: Hans <pa3cny@thuis.org>
Message-ID: <bnmdo9$13l2dq$1@ID-186127.news.uni-berlin.de>
Source record: 31490

clc wrote:
> Im still trying to come up with a high current DC supply for my mobile HF rig.
> I have 4 - transformers that are all the same part number, there output is 4amp
> at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
> each in parallel to increase current to my regulator circut.
> I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
> work ok, Im not sure about paralleling DC supplies ?

Why don't you connect the transformers in parallel and rectify /
stabilize the total AC current?

Hans

3024. Re: LOC/VOR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 23:45:42 UTC
From: la8ak.xnd@online.no
Message-ID: <3f9efc8b.49550870@news.online.no>
Source record: 31491

On Tue, 28 Oct 2003 20:39:32 +0000, Hans <pa3cny@thuis.org> wrote:

>>> Maybe publish a picture of the front face (+ address) so we can have an

>> That could be a problem - I do not posess any digital camera to take a
>> photo.
>
>Do you have a computer scanner? With a scanner you can make perfect
>pictures of printed circuit boards

Well provided the distance is only few cm it is usually better
pictures than digital camera. I made much efforts to photograph labels
on rigs with my Olympus C-220 Zoom, but didn't succeed until I put the
rig into the scanner, hi, but when using scanner or digital camera it
has always been neccessary to treat the picture with a photo program
to resize, crop, rotate, and adjust the light and contrast

73
Jan-Martin
LA8AK http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

3025. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 23:45:42 UTC
From: la8ak.xnd@online.no
Message-ID: <3f9efe9b.50079473@news.online.no>
Source record: 31492

On Tue, 28 Oct 2003 20:49:44 +0000, Hans <pa3cny@thuis.org> wrote:

>clc wrote:
>> Im still trying to come up with a high current DC supply for my mobile HF rig.
>> I have 4 - transformers that are all the same part number, there output is 4amp
>> at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
>> each in parallel to increase current to my regulator circut.
>> I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
>> work ok, Im not sure about paralleling DC supplies ?
>
>Why don't you connect the transformers in parallel and rectify /
>stabilize the total AC current?
>
>Hans
>
Connecting transformers in parallel is sometimes a risky business, the
only way to do it around here is to use two 117VAC transformers with
primary in series and secondaries in parallel with 230VAC input -
which I am told is also available in many US homes

73
Jan-Martin
LA8AK
http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

3026. prventing switches melting ???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-28 23:52:40 UTC
From: uk-hamman <uk-hamman@ntlworld.com>
Message-ID: <IvDnb.811$8E3.619@newsfep1-gui.server.ntli.net>
Source record: 31493

Hi there .
I wonder if anyone has any suggestions as to how I can stop sub miniature toggle switches from melting , with the heat that is produced , during the curing and setting process of me using potting compound ,

I don't mean physically melting , but I suppose it heats up and distorts , and makes the switch very stiff to operate until eventually it is useless .

I have thought of wrapping it with self-algmating tape before I put the resin in the box .

any suggestion , welcome ??

de Paul

3027. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 00:20:26 UTC
From: k9sqg@aol.com
Message-ID: <20031028192026.09473.00000268@mb-m28.aol.com>
Source record: 31494

Paralleling DC supplies can be problematic if they are regulated supplies and not designed for paralleling. Another solution to consider is using a deep cycle battery and a charger. Works fine, even during a power outage...

3028. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 00:24:29 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <1NDnb.6338$lt1.4074@news02.roc.ny>
Source record: 31495

Hans wrote:

> clc wrote:
>
>> Im still trying to come up with a high current DC supply for my
>> mobile HF rig.
>> I have 4 - transformers that are all the same part number, there
>> output is 4amp
>> at 18.5 vac. I want to hook a bridge to each & then connect the DC
>> outputs of
>> each in parallel to increase current to my regulator circut.
>> I should end up with 17 - 18 VDC @ 16 amps. Does this sound like
>> it would
>> work ok, Im not sure about paralleling DC supplies ?
>
>
> Why don't you connect the transformers in parallel and rectify /
> stabilize the total AC current?
>
> Hans
>

There is a "chance" that the voltages won't be exactly the same. As a result you can
have circulating currents in the transformers from that difference. The diodes solve
that potential problem.

Bill K7NOM

3029. Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 00:38:39 UTC
From: Biz WD=?ISO-8859-1?B?2A==?=HCO <wd0hco@ev1.net>
Message-ID: <BBC4682F.87EE%wd0hco@ev1.net>
Source record: 31496

After 31 years and a bunch of parts in the garage, I am finally building my dream CW receiver from scratch.

Just wondering if I converted the 6.3 VAC filament voltage to a DC voltage if doing so would be worth the effort to reduce hum.

Opinions ?

Also I would like to cut a round 4" diameter hole in the 1/8" aluminum front panel for the speaker grill. Is there a way to do this without a Greenlee Pneumatic punch? I have a jig saw which I can cut square holes but round holes are another matter. Is there a better way? I can drill round holes up to 7/8" with a unibit but I think 7/8" is as big as they get.

Thanks

Biz - WDï¿½HCO

3030. Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 00:54:53 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bnn34gsgn1@news.oregonstate.edu>
Source record: 31497

I'm curious... with the current popularity of simple (e.g., QRP usage) direct conversion receivers, whatever happened to the problem of having to synchronize the cariier phases? I'm looking at Experimental Methods in RF Design, and they just use an LC oscillator for the input to the mixer. If input carrier is cos(f*t) and the LC oscillator is generating cos(f*t+phi), where phi is the phase offset between them, you end up with a cos(phi) term coming out of the mixer. If the frequencies are ever-so-slightly off, phi essentially varies slowly and cos(phi) should slowly cause the signal to fade in and out.

Why isn't this a problem in practice?

Thanks,
---Joel Kolstad

3031. Re: prventing switches melting ???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 00:55:05 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a08afc78efcddd8989aa6@192.168.42.131>
Source record: 31498

In article <IvDnb.811$8E3.619@newsfep1-gui.server.ntli.net>, uk-hamman@ntlworld.com says...

> Hi there .
> I wonder if anyone has any suggestions as to how I can stop
> sub miniature toggle switches from melting , with the heat
> that is produced , during the curing and setting process of
> me using potting compound ,

Ummm.... Use a different switch? ;-)

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

3032. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 01:04:21 UTC
From: Dan Tayloe <dtayloe@cox.net>
Message-ID: <3F9F1215.8AA93D56@cox.net>
Source record: 31499

This is indeed what happens only if the VFO and an incoming single are
at almost the same frequency ("zero beat"). However, in practice, if
the signal is a cw signal, we listen to a signal that is 600 Hz or so
away from the VFO so that we hear the 600 Hz tone difference.

For a SSB signal, we listen to the audio content contained in the
sideband, which is 300 Hz to 3 KHz away from the VFO signal when it is
tuned in correctly.

- Dan, N7VE

Joel Kolstad wrote:
>
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> direct conversion receivers, whatever happened to the problem of having to
> synchronize the cariier phases? I'm looking at Experimental Methods in RF
> Design, and they just use an LC oscillator for the input to the mixer. If
> input carrier is cos(f*t) and the LC oscillator is generating cos(f*t+phi),
> where phi is the phase offset between them, you end up with a cos(phi) term
> coming out of the mixer. If the frequencies are ever-so-slightly off, phi
> essentially varies slowly and cos(phi) should slowly cause the signal to
> fade in and out.
>
> Why isn't this a problem in practice?
>
> Thanks,
> ---Joel Kolstad

3033. Re: prventing switches melting ???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 02:06:21 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <xgFnb.6528$RQ1.1165@newsread3.news.pas.earthlink.net>
Source record: 31500

In article <IvDnb.811$8E3.619@newsfep1-gui.server.ntli.net>, uk-hamman@ntlworld.com says...

> Hi there .
> I wonder if anyone has any suggestions as to how I can stop
> sub miniature toggle switches from melting , with the heat
> that is produced , during the curing and setting process of
> me using potting compound ,

I would try making a shell of some sort to create a small airspace between the switch body and the potting compound.

Maybe some sort of small plastic cup, or something made from tinfoil type material.

Jim Pennell
N6BIU

3034. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 03:02:50 UTC
From: "Jim, N2VX" <see.message@nospam.com>
Message-ID: <5gaupvcu11ufcacu5avd7f77gmdf8bjl94@4ax.com>
Source record: 31501

On 27 Oct 2003 19:02:07 -0800, clc@conninc.com (clc) wrote:

>Im still trying to come up with a high current DC supply for my mobile HF rig.
>I have 4 - transformers that are all the same part number, there output is 4amp
>at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
>each in parallel to increase current to my regulator circut.
> I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
>work ok, Im not sure about paralleling DC supplies ?

I did it with 2 of them and it worked OK. As you described use a
separate rectifier on each and combine the rectifier outputs.

Start scrounging hamfests, etc. for electrolytic capacitors. You
can't have too much filtering. In this case more is better.

For a regulator use a 7815 IC to drive several 2N3055's. ARRL
handbooks have a good example of 2N3055's in parallel. 5 2N3055's on
a decent heatsink will run nice and cool. Scrounge for heatsinks,
too. They tend to be cheap at hamfests because most people are
appliance operators.

And if you want to make life easier for the rectifiers add a soft
start cicruit using a relay. The handbook has an example of it.

Good luck and 73,
Jim

3035. Re: LOC/VOR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 04:38:16 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bnng82$9gs$1@bob.news.rcn.net>
Source record: 31502

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3f9efc8b.49550870@news.online.no...
>
> Well provided the distance is only few cm it is usually better
> pictures than digital camera. I made much efforts to photograph labels
> on rigs

I don't know about the VOR rig in question, but UL in the USA requires that
PC boards have a manufacturer's identification. Perhaps, being a
professional, not consumer, item, the boards do not carry ID.

3036. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 07:52:52 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <kdqupvgjo6bmef0va05cvbb2rpk9u20733@4ax.com>
Source record: 31503

On Tue, 28 Oct 2003 23:45:42 GMT, la8ak.xnd@online.no (J M Noeding) wrote:

>Connecting transformers in parallel is sometimes a risky business,

Some big power distribution transformers are sometimes connecting in parallel with some external inductance to reduce the imbalance.

Take a separate smallish transformer with a centre tapped low voltage secondary winding. Connect the centre tap to the load and the two end of the small transformer to the respective hot terminals on the main transformers. The primary of the smallish transformer is not connected, but can contain quite voltages.

A similar approach is used when hot switching between different taps on a large power transformer. Normally the two ends of the CT coils are connected to the same tap on the main transformer. Then one end is moved (break before make) to the adjacent tap and after a while the other end is also moved. In this way, the power distribution is not interrupted when changing main transformer taps and it does not cause momentary short circuits on the main transformer.

Paul OH3LWR

3037. Re: prventing switches melting ???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 08:12:14 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <yDKnb.75723$EO3.55918@clgrps13>
Source record: 31504

I have had that too :-(

I have to agree with the Dr..... use a different switch.

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

3038. Re: Frenchmen must have thin skin

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 09:43:30 UTC
From: Alun Palmer <alun@1stcounsel.com>
Message-ID: <Xns9423300C5DF43elektrosmdonet@130.133.1.4>
Source record: 31505
Cross-posted to: alt.ham-radio.hf,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Clint" <rattlehead at computron dot net> wrote in
news:vo1hnman40fn0d@corp.supernews.com:

>
> *PLONK!*
>
> and with that we have a new addition to my killfile.
>
> Clint is now kieren-free...
>

Plonk!!! Cretin

3039. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 10:49:21 UTC
From: swells8044@aol.com
Message-ID: <20031029054921.09445.00000200@mb-m28.aol.com>
Source record: 31506

Go to Home Depot get a 4 in.hole saw.They are made for wood but will cut a few holes in al.
Steve

3040. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 13:33:36 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <NkPnb.97610$PD3.5192543@nnrp1.uunet.ca>
Source record: 31507

Biz WDï¿½HCO wrote:

> After 31 years and a bunch of parts in the garage, I am finally building my
> dream CW receiver from scratch.
>
> Just wondering if I converted the 6.3 VAC filament voltage to a DC voltage
> if doing so would be worth the effort to reduce hum.
>
> Opinions ?
>
> Also I would like to cut a round 4" diameter hole in the 1/8" aluminum front
> panel for the speaker grill. Is there a way to do this without a Greenlee
> Pneumatic punch? I have a jig saw which I can cut square holes but round
> holes are another matter. Is there a better way? I can drill round holes up
> to 7/8" with a unibit but I think 7/8" is as big as they get.
>
> Thanks
>
> Biz - WDï¿½HCO
>

A jig-saw should be able to cut a 4 inch dia hole.
There are also drill held hole cutters that have a lathe type cutter on
the end of a rotating arm..Mean looking device when it rotates but it
does a good job..
73 de VE3JUA

3041. Re: Newbie qrp homebrew....another update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 16:48:15 UTC
From: PJ <pyoung47@yahoo.com>
Message-ID: <vpvko3adbpmmfb@corp.supernews.com>
Source record: 31508

You are cool, John. I checked your site.

It of course makes you appreciate the engineering which goes into a modern radio. It also gives you a sense of accomplishment when you make it work -- and you will.

I used to do a lot of playing around with the stuff -- not because I enjoyed it then -- just because I was trying to make junk work. Not it seems like it would be fun again.

Good luck.
Phil KD0UN
"John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message news:3f9dfdbb.2337199@news.kcnet.com...
> The link below shows my attempt to build a 3-watt transmitter for 40
> meters or 80 meters, based on an article in QST, June 1967 and an
> adaptation thereof by KC6WDK.
>
> http://www.kcnet.com/~oyster/transmitter/transmitter.html
>
> I've had some success since I posted last, but I want to get the
> output clean before I go on the air with it. I've had very little
> spare time, but I've managed to improve the performance quite a bit,
> through a lot of frustrating trial and error.
>
> The good news: The transistor does not become egg-frying hot anymore.
> Now it's just barely warm. I began trying the suggestions about
> grounding and parts placement provided to me by the good people at
> rec.radio.amateur.homebrew and qrp-l. What seemed to help the most
> were the grounding suggestions; I moved several components' chassis
> connections to within an inch of Q2's emitter, and that seemed to help
> to increase the output and decrease the self-oscillation, which can
> now be eliminated via the variable caps for the oscillator and
> amplifier stages (C1 and C2). I also realized how close the crystal
> was to Q2 in my original assembly, so I moved the crystal over near
> the oscillator section, and that seemed to help, also. The chirp is
> still a little bothersome, but the transmitter appears to be putting
> out around 2 watts into a dummy load, sans lowpass filter.
>
> I got good results by isolating C2 from the chassis, and grounding it
> via a separate wire to the point where Q2's emitter is grounded.
>
> I'm having quite a time trying to get rid of harmonics, which I'm
> "measuring" using my Icom R71A receiver, which is across the room from
> the transmitter now. Slowly but surely I am making small

> modifications resulting in small improvements. I'm rebuilding the
> coils now. More details and new pictures of the rebuilt transmitter
> are on the website. Thanks to all who offered advice, and any further
> advice is more than welcome.
>
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

3042. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 17:04:34 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <eisvpv88hlg04ph9kvdh3c3lplsbvrc6d4@4ax.com>
Source record: 31509

On Wed, 29 Oct 2003 07:42:08 -0800, W7TI <noway@nohow.com> wrote:

>On Wed, 29 Oct 2003 08:33:36 -0500, Eskay <sieb_kNOS@PAMyahoo.ca> wrote:
>
>>There are also drill held hole cutters that have a lathe type cutter on
>>the end of a rotating arm..Mean looking device when it rotates but it
>>does a good job..
>____
>
>I have one of these but I would NOT recommend it. Way too hard to
>control and dangerous to boot. Use a hole saw instead.

I thought the ones with the rotating arm were intended for use with a
drill press, not for a handheld drill.

There is a lot of torque from that lever arm, and a moment of
inattention could result in serious injury.

A hole saw is far safer with a handheld drill. Make sure you get one
that will work with metal, though, the wood cutting ones only do wood
and some plastics.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

3043. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 18:16:56 UTC
From: clc@conninc.com
Message-ID: <7e9f0c9f.0310291016.7af5b2f6@posting.google.com>
Source record: 31510

"Jim, N2VX" <see.message@nospam.com> wrote in message
news:<5gaupvcu11ufcacu5avd7f77gmdf8bjl94@4ax.com>...
> On 27 Oct 2003 19:02:07 -0800, clc@conninc.com (clc) wrote:
>
> >Im still trying to come up with a high current DC supply for my mobile HF rig.
> >I have 4 - transformers that are all the same part number, there output is 4amp
> >at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
> >each in parallel to increase current to my regulator circut.
> > I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
> >work ok, Im not sure about paralleling DC supplies ?
>
> I did it with 2 of them and it worked OK. As you described use a
> separate rectifier on each and combine the rectifier outputs.
>
> Start scrounging hamfests, etc. for electrolytic capacitors. You
> can't have too much filtering. In this case more is better.
>
> For a regulator use a 7815 IC to drive several 2N3055's. ARRL
> handbooks have a good example of 2N3055's in parallel. 5 2N3055's on
> a decent heatsink will run nice and cool. Scrounge for heatsinks,
> too. They tend to be cheap at hamfests because most people are
> appliance operators.
>
> And if you want to make life easier for the rectifiers add a soft
> start cicruit using a relay. The handbook has an example of it.
>
> Good luck and 73,
> Jim

A 7815 would give 15 volts, wouldnt that be alittle high? A 7812 would be a
little low, so i thought of a 723 ang just adjust the voltage to 13.8.

3044. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 19:46:53 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <NOUnb.6513$rO5.5364@news02.roc.ny>
Source record: 31511

Swells8044 wrote:

>Go to Home Depot get a 4 in.hole saw.They are made for wood but will cut a few
>holes in al.
>Steve
>
>
And use oil or something to keep the Al. from sticking to the teeth.

Bill K7NOM

3045. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 19:54:51 UTC
From: Allen Windhorn <Allen.Windhorn@LSUSA.com>
Message-ID: <uptgf3jjw.fsf@LSUSA.com>
Source record: 31512

W7TI <noway@nohow.com> writes:

> On Tue, 28 Oct 2003 18:38:39 -0600, Biz WDï¿½HCO <wd0hco@ev1.net> wrote:
>
>> Just wondering if I converted the 6.3 VAC filament voltage to a DC
>> voltage if doing so would be worth the effort to reduce hum.
>>
>> Opinions ?
>
> AC will work fine, but here's the key: Don't ground either side of
> the 6.3 volt line. Many hum problems are caused by ground loops
> where one side of the filament voltage is run through the chassis.
> Manufacturers used to do this to save a few pennies by having only
> one filament wire. In a mass production situation this can be made
> to work, but for one-off design it's easier and better to just keep
> the filament voltage isolated from the chassis or anything else.
> Use a twisted pair and run it from socket to socket.

If I did this I would put a 0.01 uF capacitor to ground at each
filament pin, to keep RF from propegating through the wires. I would
also put a resistor to ground somewhere in the string to bleed off any
stray leakage current (maybe 1000 ohms or so), otherwise you might get
voltage buildup that could cause problems.

What about an inadvertent short between the cathode and filament?

Allen

3046. Re: prventing switches melting ???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 20:10:50 UTC
From: Jim_not_from_nigeria_! <jimbo@nospam.com>
Message-ID: <3FA01EC8.6D2EB557@nospam.com>
Source record: 31513

Try using some foam tape over the switch assembly before applying the pot compound.

Another solution is to use a cold compound instead of heat generating pot compound.

uk-hamman wrote:

> Hi there .
> I wonder if anyone has any suggestions as to how I can stop
> sub miniature toggle switches from melting , with the heat
> that is produced , during the curing and setting process of
> me using potting compound ,
>
> I don't mean physically melting , but I suppose it heats up
> and distorts , and makes the switch very stiff to operate
> until eventually it is useless .
>
> I have thought of wrapping it with self-algmating tape
> before I put the resin in the box .
>
> any suggestion , welcome ??
>
> de Paul

3047. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 20:12:51 UTC
From: "Jim, N2VX" <see.message@nospam.com>
Message-ID: <ro60qvck0fek1rl3vf5bu6f6hbg85enelr@4ax.com>
Source record: 31514

On 29 Oct 2003 10:16:56 -0800, clc@conninc.com (clc) wrote:

>"Jim, N2VX" <see.message@nospam.com> wrote in message
news:<5gaupvcu11ufcacu5avd7f77gmdf8bjl94@4ax.com>...
>> On 27 Oct 2003 19:02:07 -0800, clc@conninc.com (clc) wrote:
>>
>> >Im still trying to come up with a high current DC supply for my mobile HF rig.
>> >I have 4 - transformers that are all the same part number, there output is 4amp
>> >at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
>> >each in parallel to increase current to my regulator circut.
>> > I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
>> >work ok, Im not sure about paralleling DC supplies ?
>>
>> I did it with 2 of them and it worked OK. As you described use a
>> separate rectifier on each and combine the rectifier outputs.
>>
>> Start scrounging hamfests, etc. for electrolytic capacitors. You
>> can't have too much filtering. In this case more is better.
>>
>> For a regulator use a 7815 IC to drive several 2N3055's. ARRL
>> handbooks have a good example of 2N3055's in parallel. 5 2N3055's on
>> a decent heatsink will run nice and cool. Scrounge for heatsinks,
>> too. They tend to be cheap at hamfests because most people are
>> appliance operators.
>>
>> And if you want to make life easier for the rectifiers add a soft
>> start cicruit using a relay. The handbook has an example of it.
>>
>> Good luck and 73,
>> Jim
>
> A 7815 would give 15 volts, wouldnt that be alittle high? A 7812 would be a
>little low, so i thought of a 723 ang just adjust the voltage to 13.8.

You get 15 - (transistor drop + balancing emitter resistor drop). I
got 14 volts out of it. That's in the range of car charging systems
and I've measured that much on some cars with the engine running.

There's another setup where you get IC regulator voltage + transistor
drop + resistor drop, using PNP transistors. Check the handbook for
details. Power PNP's are less common and it's hard to beat the
venerable 2N3055's price and availability.

How about a LM317? As I recall they are good for more current than
723's and easy to use. Regulator current at the IC is

(output current) / (transistor gain)
Then you can adjust to get 13.8 on the output.

73,
Jim

3048. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 21:28:28 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bnpbjskmm1@nic.grnet.gr>
Source record: 31515

the 6.3 VAC is ok ,no need to go into the fuss for dc.
dont take my word for it, after making the nice rig put some diodes on the
ac line and you will not see anythig special..
73's

--
http://www.qsl.net/sv1hao

"Biz WD&#65533;HCO" <wd0hco@ev1.net> wrote in message
news:BBC4682F.87EE%wd0hco@ev1.net...
> After 31 years and a bunch of parts in the garage, I am finally building
my
> dream CW receiver from scratch.
>
> Just wondering if I converted the 6.3 VAC filament voltage to a DC voltage
> if doing so would be worth the effort to reduce hum.
>
> Opinions ?
>
> Also I would like to cut a round 4" diameter hole in the 1/8" aluminum
front
> panel for the speaker grill. Is there a way to do this without a Greenlee
> Pneumatic punch? I have a jig saw which I can cut square holes but round
> holes are another matter. Is there a better way? I can drill round holes
up
> to 7/8" with a unibit but I think 7/8" is as big as they get.
>
> Thanks
>
> Biz - WD&#65533;HCO
>

3049. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 22:09:24 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <hsb0qvk3mqcc7bk11elju2mhbtfpll9poe@4ax.com>
Source record: 31516

On 29 Oct 2003 10:16:56 -0800, clc@conninc.com (clc) wrote:

>>
>> For a regulator use a 7815 IC to drive several 2N3055's. ARRL
>> handbooks have a good example of 2N3055's in parallel. 5 2N3055's on
>> a decent heatsink will run nice and cool. Scrounge for heatsinks,
>> too. They tend to be cheap at hamfests because most people are
>> appliance operators.

> A 7815 would give 15 volts, wouldnt that be alittle high? A 7812 would be a
>little low, so i thought of a 723 ang just adjust the voltage to 13.8.

The Vbe for the 2N3055 is quite high, it might be well over 1 V at
some larger current. Thus, the output voltage would be under 14 V and
with some emitter resistors to share the load between the transistors
even less than that.

Nominally, the 7815 can only supply 1 A and assuming worst case hFE
for the 2N3055 of 20 at 4 A, the output current would only be 20 A, so
five 2N3055 devices would nicely give 20 A. If more current is needed,
more series pass transistors are needed, but the 7815 is not capable
of supplying the required amount of base current, so a driver
transistor is required between the 7815 and the series pass 2N3055
transistors. With two Vbe drops, the output voltage would be 13 V or
less.

Paul OH3LWR

3050. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 22:09:25 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <eic0qv00aa9vj121c96mfp6s42v3a1ffhk@4ax.com>
Source record: 31517

On Wed, 29 Oct 2003 19:54:51 GMT, Allen Windhorn
<Allen.Windhorn@LSUSA.com> wrote:

>
>If I did this I would put a 0.01 uF capacitor to ground at each
>filament pin, to keep RF from propegating through the wires. I would
>also put a resistor to ground somewhere in the string to bleed off any
>stray leakage current (maybe 1000 ohms or so), otherwise you might get
>voltage buildup that could cause problems.

In many audio amplifiers, the filament was powered from a 6.3 V
winding with a grounded centre tap. If the centre tap was not
available, a potentiometer was connected across the filament winding
and the wiper was connected to ground and the wiper was adjusted for
minimum hum.

In RF applications, using bypass capacitors to ground at each tube is
a good idea.

Paul OH3LWR

3051. ICF2001 schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 22:23:41 UTC
From: yt1dl@eunet.yu
Message-ID: <3fa33de1.8059156@news.eunet.yu>
Source record: 31519

I need schematics for Sony ICF2001 (not ICF2001D). It has very bad reciption.

Dusan, YT1DL

3052. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 22:30:26 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <t5f0qvgtvbei6lja8g7rqndndu02chj8pk@4ax.com>
Source record: 31518

On Wed, 29 Oct 2003 23:28:28 +0200, "Deos" <lineoffiretoday@yahoo.com>
wrote:

>the 6.3 VAC is ok ,no need to go into the fuss for dc.
>dont take my word for it, after making the nice rig put some diodes on the
>ac line and you will not see anythig special..

Using a single floating 6.3V secondary winding with a potentiometer
connected across it and the wiper connected to the ground and adjusted
for minimum hum should be enough.

This kind of system works quite well when you have a single high
sensitivity input (such as in a radio receiver), but if you have
multiple sensitive inputs (as in audio mixing consoles) you would need
a separate filament winding for each input tube, in order to be able
to adjust the filament balance without compromises. In such situations
a DC filament system would be simpler to implement.

Paul OH3LWR

3053. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-29 23:10:51 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bnphctmec1@news.oregonstate.edu>
Source record: 31532

Dan Tayloe <dtayloe@cox.net> wrote:
> This is indeed what happens only if the VFO and an incoming single are
> at almost the same frequency ("zero beat"). However, in practice, if
> the signal is a cw signal, we listen to a signal that is 600 Hz or so
> away from the VFO so that we hear the 600 Hz tone difference.

...or at least, say, 595-605Hz is the local oscillator tends to drift +/-5Hz over time, eh? Good enough.

With SSB, presumably you have the same 'problem' -- the entire voice signal is shifted in pitch by the difference between the LO and the real carrier. In fact, with SSB and direct conversion, how do you even decide you have the correct LO frequency? Just when people sound 'most natural?'

Thanks,
---Joel Kolstad

3054. Re: Newbie qrp homebrew....another update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 00:03:08 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA0553C.7020001@bellsouth.net>
Source record: 31520

PJ wrote:
> You are cool, John. I checked your site.
>
> It of course makes you appreciate the engineering which goes into a modern
> radio. It also gives you a sense of accomplishment when you make it work --
> and you will.
>
> I used to do a lot of playing around with the stuff -- not because I enjoyed
> it then -- just because I was trying to make junk work. Not it seems like
> it would be fun again.
>
> Good luck.
> Phil KD0UN
> "John Sandin" <XJohn_S_Sandin@osca.state.mo.us> wrote in message
> news:3f9dfdbb.2337199@news.kcnet.com...
>
>>The link below shows my attempt to build a 3-watt transmitter for 40
>>meters or 80 meters, based on an article in QST, June 1967 and an
>>adaptation thereof by KC6WDK.
>>
>>http://www.kcnet.com/~oyster/transmitter/transmitter.html
>>
>>I've had some success since I posted last, but I want to get the
>>output clean before I go on the air with it. I've had very little
>>spare time, but I've managed to improve the performance quite a bit,
>>through a lot of frustrating trial and error.
>>
>>The good news: The transistor does not become egg-frying hot anymore.
>>Now it's just barely warm. I began trying the suggestions about
>>grounding and parts placement provided to me by the good people at
>>rec.radio.amateur.homebrew and qrp-l. What seemed to help the most
>>were the grounding suggestions; I moved several components' chassis
>>connections to within an inch of Q2's emitter, and that seemed to help
>>to increase the output and decrease the self-oscillation, which can
>>now be eliminated via the variable caps for the oscillator and
>>amplifier stages (C1 and C2). I also realized how close the crystal
>>was to Q2 in my original assembly, so I moved the crystal over near
>>the oscillator section, and that seemed to help, also. The chirp is
>>still a little bothersome, but the transmitter appears to be putting
>>out around 2 watts into a dummy load, sans lowpass filter.
>>
>>I got good results by isolating C2 from the chassis, and grounding it
>>via a separate wire to the point where Q2's emitter is grounded.
>>

>>I'm having quite a time trying to get rid of harmonics, which I'm
>>"measuring" using my Icom R71A receiver, which is across the room from
>>the transmitter now. Slowly but surely I am making small
>>modifications resulting in small improvements. I'm rebuilding the
>>coils now. More details and new pictures of the rebuilt transmitter
>>are on the website. Thanks to all who offered advice, and any further
>>advice is more than welcome.
>>
>>
>>-John Sandin KC0QWE
>>
>>Remove the "T" to respond by e-mail
>>John_S_Sandin@Tosca.state.mo.us
>
>
>

I don't know what the gain of the final is but I wonder if shielding
one of the two plug in coils (since they are not at right angles to each
other) would be a good idea..

3055. Re: Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 00:10:46 UTC
From: Larry King <lking@startech.net>
Message-ID: <aGYnb.20057$Ec1.1795967@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31521

"> >When I first read this, I though you meant that you were ***inside*** of
the
> >diplexer [hopefully not while it was 'on the air'] :-) Then I reread it,
> >and understood what you meant. Yes those coaxial cavities can be quite
> >impressive.
>
> KCOP does the 24/7 bit now as it did in 1958 when a buddy and I got
> a tour of it. It was ON when we stepped into the collection of large-
> scale plumbing. Not a problem.

I think my confusion stems from your choice of words :-) You equate
standing, walking, climbing, etc. in the open spaces amongst the coax lines,
cavities, etc. to being "in the diplexer" which I suppose in one sense is a
reasonable interpretation. I took your remark about being "in the diplexer"
to mean that you were actually inside one of the cavities during maintenance
or whenever it was not on-the-air ! You are correct, there is no absolutely
reason that you can't be in the immediate vicinity of all the components'
exteriors while it is in use [although you obviously would take great care
to avoid tripping over any cables powering fans, interlocks, reflectometers,
etc. as well as staying clear of any high temperature surfaces and generally
avoiding banging into or denting anything mechanical].

> Two transmitters at right angles,
> diplexer at the corner. At the time their older transmitter was on the
> other side of the transmitter room, ready to use in case of main xmtr
> catastrophe...forget how the antenna connection switchover was done
> although it was explained

Probably a 3-1/8" coaxial line patch panel of some sort....either manually
operated or maybe motor driven with suitable interlocks.

>
> Most TV broadcasters don't mind interested viewers visiting their
> stations if one calls ahead. Remote transmit sites don't get a lot of
> activity.

Well, times have changed a bit since 9/11. But you are correct in
principle, especially if you make the proper initial contacts in the
Engineering Dept (or what little bit is left of it at most stations). And
being a licensed ham always helps :-)

> Mt. Wilson for Greater Los Angeles coverage is an exception
> with over two dozen transmitters along with a solar observatory, a
> couple hotel/motels, and the beginning of a national park area.

Always wanted to see it "up close", but I never have on my brief trips to LA. Maybe one of these days ?

> Len Anderson
> retired (from regular hours) electronic engineer person

Former UHF-TV C.E. ("It's not a real transmitter if it's not water cooled !")

3056. novel (?) AM restoration method

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 00:12:02 UTC
From: dt@dt.prohosting.com
Message-ID: <uism74m99.fsf@dt.prohosting.com>
Source record: 31522

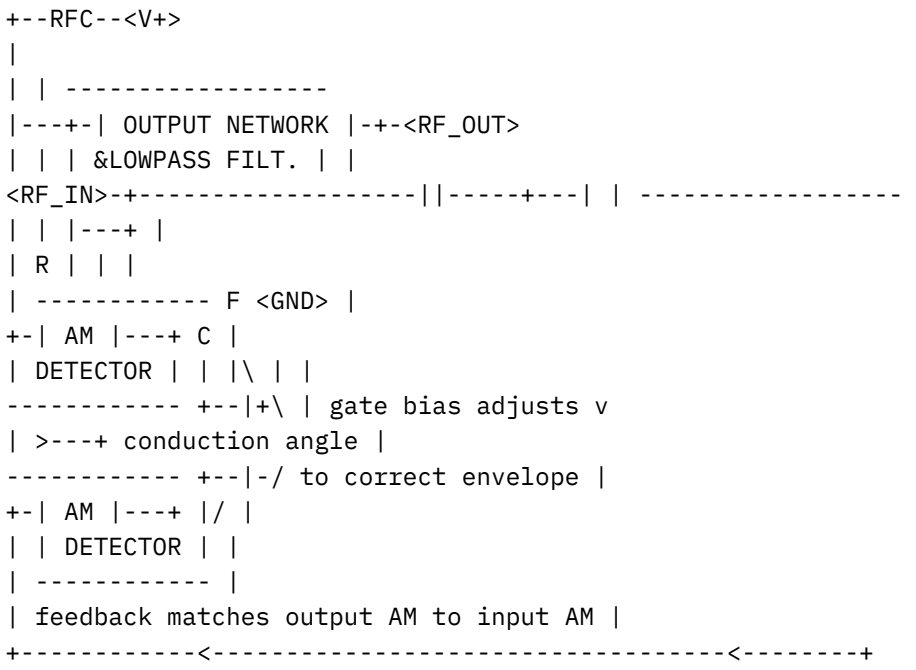
Recently I've been thinking of building an RF power amplifier (for HF, as it happens), and I ran into the age-old problem where I'd love to have high efficiency but I need to be able to reproduce AM and SSB signals without distortion.

There are many ways to do this, but I find myself strangely attracted to this idea that just came to me. It seems so simple and obvious that it must be at least 50 years old, but I've never seen it before. Has anyone seen this technique before, and/or does anyone foresee any drawbacks to using it?

Note: the ASCII art drawing must be viewed with a fixed-width font, such as Courier, in order for it to look right.

FEEDBACK ENVELOPE RESTORATION FOR CLASS C (or D or E) FET RF AMPLIFIER

This feedback technique allows a class C (or D or E) FET RF amplifier to be used in some situations where a linear amplifier would normally be required. Even though the amplifier still distorts at radio frequencies, producing harmonics which must be filtered out, the AM envelope is correctly restored so that the entire functional block behaves as an efficient linear amplifier.



David
--
http://www.qrz.com/n5izu

3057. Re: Looking for WR430 waveguides

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 00:52:23 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA060B0.9ECAD6C4@earthlink.net>
Source record: 31523

Larry King wrote:
>
> "> >When I first read this, I though you meant that you were ***inside*** of
> the
> > >diplexer [hopefully not while it was 'on the air'] :-) Then I reread it,
> > >and understood what you meant. Yes those coaxial cavities can be quite
> > >impressive.
> >
> > KCOP does the 24/7 bit now as it did in 1958 when a buddy and I got
> > a tour of it. It was ON when we stepped into the collection of large-
> > scale plumbing. Not a problem.
>
> I think my confusion stems from your choice of words :-) You equate
> standing, walking, climbing, etc. in the open spaces amongst the coax lines,
> cavities, etc. to being "in the diplexer" which I suppose in one sense is a
> reasonable interpretation. I took your remark about being "in the diplexer"
> to mean that you were actually inside one of the cavities during maintenance
> or whenever it was not on-the-air ! You are correct, there is no absolutely
> reason that you can't be in the immediate vicinity of all the components'
> exteriors while it is in use [although you obviously would take great care
> to avoid tripping over any cables powering fans, interlocks, reflectometers,
> etc. as well as staying clear of any high temperature surfaces and generally
> avoiding banging into or denting anything mechanical].
>
> > Two transmitters at right angles,
> > diplexer at the corner. At the time their older transmitter was on the
> > other side of the transmitter room, ready to use in case of main xmtr
> > catastrophe...forget how the antenna connection switchover was done
> > although it was explained
>
> Probably a 3-1/8" coaxial line patch panel of some sort....either manually
> operated or maybe motor driven with suitable interlocks.
>
> >
> > Most TV broadcasters don't mind interested viewers visiting their
> > stations if one calls ahead. Remote transmit sites don't get a lot of
> > activity.
>
> Well, times have changed a bit since 9/11. But you are correct in
> principle, especially if you make the proper initial contacts in the
> Engineering Dept (or what little bit is left of it at most stations). And
> being a licensed ham always helps :-)
>
> > Mt. Wilson for Greater Los Angeles coverage is an exception

> > with over two dozen transmitters along with a solar observatory, a
> > couple hotel/motels, and the beginning of a national park area.
>
> Always wanted to see it "up close", but I never have on my brief trips to
> LA. Maybe one of these days ?
>
> > Len Anderson
> > retired (from regular hours) electronic engineer person
>
> Former UHF-TV C.E. ("It's not a real transmitter if it's not water cooled
> !")

I worked for WACX CH-55 In Orlando. Their first transmitter was an
RCA TTU-25B, and was replaced with a Comark 130 KW UHF transmitter that
you had to change the coolant and antifreeze twice a year. Later, I
moved the TTU-25B to Destin Florida, rebuilt it, and moved it to CH 58.
--

Michael A. Terrell
Central Florida

3058. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 01:49:18 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA06E1E.3040703@bellsouth.net>
Source record: 31524

Bill Janssen wrote:
> Swells8044 wrote:
>
>> Go to Home Depot get a 4 in.hole saw.They are made for wood but will
>> cut a few
>> holes in al.
>> Steve
>>
>>
> And use oil or something to keep the Al. from sticking to the teeth.
>
> Bill K7NOM
>

And DON'T try to use a hand drill! MUST use a drill press!

3059. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 01:52:10 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA06ECA.3020505@bellsouth.net>
Source record: 31525

W7TI wrote:
> On Wed, 29 Oct 2003 08:33:36 -0500, Eskay <sieb_kNOS@PAMyahoo.ca> wrote:
>
>
>>There are also drill held hole cutters that have a lathe type cutter on
>>the end of a rotating arm..Mean looking device when it rotates but it
>>does a good job..
>
>
> ----------
>
> I have one of these but I would NOT recommend it. Way too hard to
> control and dangerous to boot. Use a hole saw instead.
>

I have used one of these to cut a hole in an aluminum panel. The panel
was clamped to a piece of pine and the table on my drill press. The drill
press was set to the lowest possible speed and the chuck was lowered slowly.
Took a while to cut and the cutter did get stuck a few times requiring
me to raise
the chuck and clear the problem. Did cut a nice hole, but required a
chissel
to break out the center and a file to clean up afterwards.

3060. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 01:55:24 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA06F8C.9040209@bellsouth.net>
Source record: 31526

Paul Keinanen wrote:
> On Wed, 29 Oct 2003 23:28:28 +0200, "Deos" <lineoffiretoday@yahoo.com>
> wrote:
>
>
>>the 6.3 VAC is ok ,no need to go into the fuss for dc.
>>dont take my word for it, after making the nice rig put some diodes on the
>>ac line and you will not see anythig special..
>
>
> Using a single floating 6.3V secondary winding with a potentiometer
> connected across it and the wiper connected to the ground and adjusted
> for minimum hum should be enough.
>
> This kind of system works quite well when you have a single high
> sensitivity input (such as in a radio receiver), but if you have
> multiple sensitive inputs (as in audio mixing consoles) you would need
> a separate filament winding for each input tube, in order to be able
> to adjust the filament balance without compromises. In such situations
> a DC filament system would be simpler to implement.
>
> Paul OH3LWR
>

Except for high gain AF stages, a center tapped filament winding with the
center tap grounded should be ok. Otherwise a resistor of a few hundred to
a few thousand ohms from each side to ground (resistors of identical value).
Use of a pot is probably overkill, but if you have one in the junk box and
room to mount it ok.

3061. Re: AD995X series DDS, rig ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 01:58:24 UTC
From: novatech@eskimo.com
Message-ID: <bnpr80$vf3$1@eskinews.eskimo.com>
Source record: 31527

kenneth scharf <wa2mze-spamnot-@bellsouth.net> writes:

>Was thinking of using 8051 series micro, the built in serial port will
>drive the AD98xx and AD99xx dds chips. Question....how do I convert
>the 5v digital io of the 8052 micro to the 1.8v levels used by the
>AD995x series, or is the DDS chip 5v compatible (on input maybe...
>what to do about output? especially on the bidirection serial line....)

The IO lines are 3.3volt compatible-- there is a pin for that. You can
get 8052 that run fine on 3.3 volts, or you can use resistors to divide down.
VHC logid (and others) can also translate down just fin.

>73's WA2MZE

--
Steven D. Swift, novatech@eskimo.com, http://www.novatech-instr.com
NOVATECH INSTRUMENTS, INC. P.O. Box 55997
206.301.8986, fax 206.363.4367 Seattle, Washington 98155 USA

3062. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 02:03:45 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA07181.8080506@bellsouth.net>
Source record: 31528
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
> The "dead bug" way? I'm not sure what this means - please forgive me I'm
> new to this :-)
>
>
> Dave
>
>
>
> "Bill Hennessy" <hennessy@281.com> wrote in message
> news:3f929005$0$215$9a6e19ea@news.newshosting.com...
>
>>Yes, I have found when building regenerative receivers wood is the best
>>chassi. However a metal front panel is a must. However I only use
>
> battery
>
>>tubes with low voltage. Never more than 45 volts. But when building
>>solid-state regeneratives. A good ground plane helps. Build it the dead
>>bug way.
>>
>>
>
>
>

'Dead bug' refers to IC's mounted upside down with their legs
sticking up in the air like a dead roach.

3063. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 02:07:20 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA07258.80608@bellsouth.net>
Source record: 31529
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Michael A. Terrell wrote:
> Michael Black wrote:
>
>>"Ralph Mowery" (rmowery@ctc.net) writes:
>>
>>>Aluminum is usually easier for most to work with with simple hand tools.
>>>Steel is fine but it might rust and look bad after a while. Make the
>>>chassie out of whatever kind of metel that you think is the best for you to
>>>work with . Electrically there will be little if any differance.
>>>
>>>
>>
>>And of course, everyone did use steel (once things progressed beyond
>>wood and bakelite chassis) right up until aluminum because readily
>>available and/or cheap enough, at which point I doubt anyone used
>>steel except if what they were building was really really heavy, ie
>>a kilowatt modulator or final.
>>
>> Michael VE2BVW
>
>
> I have seen a few nice layouts on Brass chassis, as well. Easier to
> work than steel, and you can still solder to it. I built some tube RF
> decks on 1/16" brass sheet stock, and mounted them into a steel cabinet
> years ago.

I think RL Drake used copper chassis on their tube ham gear. Looked
real nice when new and shiny! I've build some equipment in home made
boxes made out of copper (you can get small pieces of sheet copper from
the hobby shop). Not cheap, but solders easy and makes a great ground
plane!

3064. Re: power transistor for PS. what to uses?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 02:20:16 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA07560.30706@bellsouth.net>
Source record: 31530

Dave Platt wrote:
>>Dave Platt wrote:
>>
>>>In this particular application - pass transistors in a linear
>>>regulator - I don't see that MOSFETs would have any particular
>>>advantage.
>>>. . .
>>
>
>>Someone mentioned the 2 to 4 amps of base current you'd have to supply
>>for bipolar pass transistors.
>
>
> Good point. The base current wouldn't be wasted (it'd flow into the
> load), but the need for a fairly high-current driver would certainly
> complicate the circuitry and require the use of a higher-voltage
> transformer and unregulated supply, compared to a MOSFET solution.
>
>
>> You wouldn't need it if you used FETs. I'd
>>look seriously at P-channel VMOS for pass devices, myself.
>
>
> Might be even more advantageous to use N-channel VMOS, and regulate on
> the negative side of the load. N-channel power MOSFETs are
> significantly less expensive than the closest P-channel equivalents,
> and there seems to be quite a bit more choice in terms of size and
> rating. If I recall properly, the charge-carrier mobility in an N
> channel (electrons) is a good deal higher than in a P channel (holes),
> which means that N-channel MOSFETs can have smaller channel areas than
> equivalent P-channel devices, hence more dice per wafer, hence lower
> prices.
>

I built a cheap ps using a bunch of 2n3055's as pass transistors. (think
I had 5 or 6
of them in parallel). Each had a 0.1 ohm resistor in the emitter lead
to balance
out the current (or one might try to hog it all if the transistors
aren't well
matched). They well darlington connected to another 2n3055 which acted
as a driver (and helps increase the gain at high collector current).
Yet another
transistor was used to drive the driver (TO-5 si, probably a 2n3053 or

equal)
from the regulator IC. A large heat sink was used and I mounted surplus computer power supply fans on it to add cooling.

I used a heavy transformer and the input voltage to the pass regulator was about 15-16 volts for 13.6 out. Key here is that with a large transformer and
enough filter C the voltage won't droop on high current (guess that means it's well regulated without the regulator!) , and we don't ask the transistors to disapate too much power.

Course' such a supply is HEAVY, a switcher is much lighter, but a good switcher with low noise is hard to come by! (Not to mention problems of rf feed back!).

3065. Re: Steel no good for chassis? (Which metal is best for old regendesigns?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 02:54:12 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA07D40.544042E5@earthlink.net>
Source record: 31531
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

kenneth scharf wrote:
>
> Michael A. Terrell wrote:
> > Michael Black wrote:
> >
> >>"Ralph Mowery" (rmowery@ctc.net) writes:
> >>
> >>>Aluminum is usually easier for most to work with with simple hand tools.
> >>>Steel is fine but it might rust and look bad after a while. Make the
> >>>chassie out of whatever kind of metel that you think is the best for you to
> >>>work with . Electrically there will be little if any differance.
> >>>
> >>>
> >>
> >>And of course, everyone did use steel (once things progressed beyond
> >>wood and bakelite chassis) right up until aluminum because readily
> >>available and/or cheap enough, at which point I doubt anyone used
> >>steel except if what they were building was really really heavy, ie
> >>a kilowatt modulator or final.
> >>
> >> Michael VE2BVW
> >
> >
> > I have seen a few nice layouts on Brass chassis, as well. Easier to
> > work than steel, and you can still solder to it. I built some tube RF
> > decks on 1/16" brass sheet stock, and mounted them into a steel cabinet
> > years ago.
>
> I think RL Drake used copper chassis on their tube ham gear. Looked
> real nice when new and shiny! I've build some equipment in home made
> boxes made out of copper (you can get small pieces of sheet copper from
> the hobby shop). Not cheap, but solders easy and makes a great ground
> plane!

Yes, I know what you mean. I still have some pieces of sheet brass,
angles, and small tubes for RF work. I use to solder small brass boxes
together for shields when I built filters and RF pre amps. I was using
K&S Engineering materials sold at hobby shops, but the last hobby shop
in Ocala closed about four years ago. I am looking for a place to get
some deep drawn brass boxes and small tubing to build some DC blocks,
detectors, and dummy antennas to sell as alignment aids for older
radios.
--

Michael A. Terrell
Central Florida

3066. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 03:25:58 UTC
From: Jeffrey D Angus <jangus@socal.rr.com>
Message-ID: <ax%nb.4123$Ub4.2092@twister.socal.rr.com>
Source record: 31533
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

kenneth scharf wrote:
> I think RL Drake used copper chassis on their tube ham gear. Looked
> real nice when new and shiny!

No, it was copper plated steel.

Jeff

--
"They that can give up essential liberty to obtain a little temporary
safety deserve neither liberty nor safety." Benjamin Franklin
"A life lived in fear is a life half lived."
Tara Morice as Fran, from the movie "Strictly Ballroom"

3067. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 03:31:49 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <FC%nb.45216$9E1.191906@attbi_s52>
Source record: 31534

"Jim, N2VX" <see.message@nospam.com> wrote in message
news:5gaupvcu11ufcacu5avd7f77gmdf8bjl94@4ax.com...
> On 27 Oct 2003 19:02:07 -0800, clc@conninc.com (clc) wrote:
>
> Start scrounging hamfests, etc. for electrolytic capacitors. You
> can't have too much filtering. In this case more is better.
>
> For a regulator use a 7815 IC to drive several 2N3055's. ARRL
> handbooks have a good example of 2N3055's in parallel. 5 2N3055's on
> a decent heatsink will run nice and cool. Scrounge for heatsinks,
> too. They tend to be cheap at hamfests because most people are
> appliance operators.
>
> And if you want to make life easier for the rectifiers add a soft
> start cicruit using a relay. The handbook has an example of it.
>
> Good luck and 73,
> Jim
>

Here is the article (schematic link at bottom)
http://www.seits.org/features/pwrsup.htm

KBT Info page on linear supplies
http://www.kbt-dc-supplies.com/index.php

and Astron schematics are already on the Internet
http://www.repeater-builder.com/rbtip/astron-index.html

Greg
w9gb

3068. Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 04:38:34 UTC
From: Jason Dugas <kb5urq@hotmail.com>
Message-ID: <vq15emev53rvc8@corp.supernews.com>
Source record: 31535
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I'm interested in measuring the velocity factor of some coax I have (more of an exercise than necessity). In order to do this, the MFJ-259 Operations manual states that the "stub" to be measured should be attached with a 50-ohm noninductive resistor in series to that center conductor of the Antenna connector on the analyzer.

What would be a good way of making this connection? I've thought about it quite a bit; the best idea I've come up with so far is to have a small metal enclosure w/ two SO-239's mounted. The resistor would go from center conductor to center conductor of each SO-239. But this requires too many extra connections & lengths. Is there a better way to do this? Would love to see anyone else's experimental setup, particularly if there are pictures or details on the web.

Thanks & 73,

Jason
KB5URQ

3069. Re: novel (?) AM restoration method

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 05:40:23 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <bv1ob.1630$EY3.1369@edtnps84>
Source record: 31536

This method is often employed in NDB transmitters

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

3070. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 11:31:22 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <N49ob.156$VT4.1182957@newsfep1-win.server.ntli.net>
Source record: 31540

> >Connecting transformers in parallel is sometimes a risky business,
>
> Some big power distribution transformers are sometimes connecting in
> parallel with some external inductance to reduce the imbalance.
>
> Take a separate smallish transformer with a centre tapped low voltage
> secondary winding. Connect the centre tap to the load and the two end
> of the small transformer to the respective hot terminals on the main
> transformers. The primary of the smallish transformer is not
> connected, but can contain quite voltages.

==========

Question : With a load having 2 connections , with the centre tap connected to 1 connection of the load ,where to connect the other connection of the load ?

Frank GM0CSZ / KN6WH

3071. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 12:08:12 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <N49ob.157$VT4.1182957@newsfep1-win.server.ntli.net>
Source record: 31539

> Also I would like to cut a round 4" diameter hole in the 1/8" aluminum
front
> panel for the speaker grill. Is there a way to do this without a Greenlee
> Pneumatic punch? I have a jig saw which I can cut square holes but round
> holes are another matter. Is there a better way? I can drill round holes
up
> to 7/8" with a unibit but I think 7/8" is as big as they get.
==========
Suggest you drill multiple holes (as close to each other as possible) with
a 1/8 inch drill all around a circle with a diameter of
3 13/16 inch .
Then knock out the circular bit of aluminium and file with a half round file
to 4 inch diameter.
It is a bit of a job but will give a good result.
Alternatively you can cut out the 4 inch circular bit with a jig saw ,using
methylated spirit as 'lubricant'.
Finish with a fine file or emery paper.

Frank GM0CSZ / KN6WH

3072. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 12:50:16 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <O49ob.158$VT4.1182957@newsfep1-win.server.ntli.net>
Source record: 31541
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

> I'm interested in measuring the velocity factor of some coax I have (more
of
> an exercise than necessity). In order to do this, the MFJ-259 Operations
> manual states that the "stub" to be measured should be attached with a
> 50-ohm noninductive resistor in series to that center conductor of the
> Antenna connector on the analyzer.
>
> What would be a good way of making this connection? I've thought about it
> quite a bit; the best idea I've come up with so far is to have a small
metal
> enclosure w/ two SO-239's mounted. The resistor would go from center
> conductor to center conductor of each SO-239. But this requires too many
> extra connections & lengths. Is there a better way to do this? Would
love
> to see anyone else's experimental setup, particularly if there are
pictures
> or details on the web.
==========
Since no power is involved the non-inductive resistor can be very small .
If accuracy is a point ,get a 50 Ohms , 1% metal film resistor or select a
near 50 Ohms resistor from a batch of standard 5% resistors with an accurate
Ohm meter .
Cut the leads as short as possible but adequate for insertion and soldering
into the SO 239 coaxial socket.
You now know the minimum distance between de 2 SO 239 sockets and can make a
suitable enclosure from bits of scrap plain printed circuit board (in
Europe available at amateur radio fleamarkets and often sold by the
kilogramme)
With the enclosure completed and holes drilled for the SO 239 connectors
,fit one connector with the resistor soldered and subsequently fit the other
connector and solder it to the resistor.
The result is a resistor in between the 2 SO 239 connectors with hardly any
wire visible.
Finally finish the enclosure by soldering a cover of the same PCB material
or keep the cover removable by means of soldered nuts inside the enclosure
and matching screws.

Frank GM0CSZ / KN6WH

3073. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 13:03:52 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <P49ob.159$VT4.1182957@newsfep1-win.server.ntli.net>
Source record: 31542
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

> > I have seen a few nice layouts on Brass chassis, as well. Easier to
> > work than steel, and you can still solder to it. I built some tube RF
> > decks on 1/16" brass sheet stock, and mounted them into a steel cabinet
> > years ago.
>
> I think RL Drake used copper chassis on their tube ham gear. Looked
> real nice when new and shiny! I've build some equipment in home made
> boxes made out of copper (you can get small pieces of sheet copper from
> the hobby shop). Not cheap, but solders easy and makes a great ground
> plane!
========
For equipment NOT involving heavy components like large transformers ,you could consider making a chassis out of (scrap) double sided printed circuit board material , which is very easy to handle (drill ,cut ,solder) .
Components can be directly soldered to the chassis and RF screens of the same material can be readily added.
When screening sections ,feed-through capacitors can be easily soldered .
Over the years I bought cut-offs up to large sheets of double sided PCB (at amateur radio flea markets) , which can also be used to make front panels and small cabinets/ enclosures.

Frank GM0CSZ / KN6WH

3074. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 13:33:28 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <Iq8ob.8892$Q9.6770@nwrddc02.gnilink.net>
Source record: 31537

> ----------
>
> Sissy-pants! I've used hand drills many times with hole saws. Just
> gotta know what you're doing. Like I said, brace the work piece nice
> and steady and hold on tight.
>
> Do you think carpenters use a drill press to make holes in framing?
>
> --
> Bill, W7TI
>

Seems to me the framing can't move- unlike a piece of sheet metal. I have many times used 2.5" bimetal hole saws to make openings for meters in 0.125 and 0.25" aluminum panels. The panels were in each case held to the mill (or drill press) table with at least 2 clamps. There is absolutely no way that one person could make that size hole with a hole saw w/o clamping. And forget a hand drill if you want the hole to look decent.

Dale W4OP

3075. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 13:41:10 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-540A18.08411130102003@news.verizon.net>
Source record: 31538

In article <3FA06F8C.9040209@bellsouth.net>,
kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote:

> Paul Keinanen wrote:
> > On Wed, 29 Oct 2003 23:28:28 +0200, "Deos" <lineoffiretoday@yahoo.com>
> > wrote:
> >
> >
> >>the 6.3 VAC is ok ,no need to go into the fuss for dc.
> >>dont take my word for it, after making the nice rig put some diodes on the
> >>ac line and you will not see anythig special..
> >
> >
> > Using a single floating 6.3V secondary winding with a potentiometer
> > connected across it and the wiper connected to the ground and adjusted
> > for minimum hum should be enough.
> >
> > This kind of system works quite well when you have a single high
> > sensitivity input (such as in a radio receiver), but if you have
> > multiple sensitive inputs (as in audio mixing consoles) you would need
> > a separate filament winding for each input tube, in order to be able
> > to adjust the filament balance without compromises. In such situations
> > a DC filament system would be simpler to implement.
> >
> > Paul OH3LWR
> >
>
> Except for high gain AF stages, a center tapped filament winding with the
> center tap grounded should be ok. Otherwise a resistor of a few hundred to
> a few thousand ohms from each side to ground (resistors of identical value).
> Use of a pot is probably overkill, but if you have one in the junk box and
> room to mount it ok.
>

Maybe he's thinking about the antique radio sets which just ran off
batteries. Weren't the filaments run off 6 Vdc?

Al

--
There's never enough time to do it right the first time.....

3076. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 16:22:33 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <c2d2qv4k09tgq8e0t8c0hgqdrqgs450772@4ax.com>
Source record: 31543

On Thu, 30 Oct 2003 11:31:22 -0000, "Frank Dinger"
<gm0csz.kn6wh@ntlworld.com> wrote:

>> >Connecting transformers in parallel is sometimes a risky business,
>>
>> Some big power distribution transformers are sometimes connecting in
>> parallel with some external inductance to reduce the imbalance.
>>
>> Take a separate smallish transformer with a centre tapped low voltage
>> secondary winding. Connect the centre tap to the load and the two end
>> of the small transformer to the respective hot terminals on the main
>> transformers. The primary of the smallish transformer is not
>> connected, but can contain quite voltages.
>===========
>Question : With a load having 2 connections , with the centre tap connected
>to 1 connection of the load ,where to connect the other connection of the
>load ?

To the "cold" end of both main transformers, which are connected
together. You have to connect the primaries in such a way that the
"hot" ends of the secondary of each transformer is in the same phase,
thus the voltage of the hot end of each secondary is nearly equal and
the centre tapped choke will take care of the rest.

In three phase systems, connect the star points of the transformers
together, which is also used as a return for single phase loads. A
balancing CT choke is needed for each phase and also in this case you
have to observe the primary polarity when connecting the primaries.

Paul OH3LWR

3077. Parts for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 16:46:07 UTC
From: Bill <brianspam86@iquest.net>
Message-ID: <jfbob.11120$X22.8833@newsread2.news.atl.earthlink.net>
Source record: 31544
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Junkbox Surplus Parts for Sale
==========
I have about 100 excess pcs of 5.000 Mhz crystals. These are the miniture
crystals. Tiny round crystals with two wire leads, I think I've seen these
in watches.
The whole pile for $8.00

DPDT slide switches - these are .75 inch by .5 inch - 5 for a buck

I have surplus 50K 1 Turn linear taper pots, about 25 each. These
are chassis mount pots with the nut. About the size of a nickle, and
about 1/2 inch deep with a 1/4 inch shaft about 1/2 inch long.
5 for $5.00 including USA shipping.

9.8304 Mhz Crystals, 1/4 in tall - 20 for $5.00

27mH inductors with radial leads - 25 for $3.50

2.5/5.5mm Coaxial Power Jacks for PCB insertion or Manhattan install
10 for $2.50

L7805ACV - 5v Regulator, 1.5A, TO220 Format - 10 for $2.50
LM317T Adjust. Positive Voltage Regulator TO220. 10/$5.00

Caps - All new, old stock. No pulls.
==========
All listed caps now 50/$3 or 100/$5
==========
8pf NPO Ceramic - Loose
11pf NPO Ceramic - Loose
12pf NPO ceramics on tape
22pf Kemet Ceramic Caps, 200v, 10%
150pf ceramics, 100v, 10%
470pf Ceramics on paper tape, rated 5% (NPO)
560pf Kemet Ceramic Caps, 200v, 10%
1000pf blue mono caps, 10% 100v
3300pf Kemet Ceramic Caps, 100v, 10%
.01 uF ceramic caps, 10% 100v brand new by Kyocera
and
.01 uF ceramic caps, 20% 50v, new old stock, not used
50/2.50 100/$4

TP2222 plastic TO92 NPN (House brand 2N2222)50/$4 100/$7
2N3904's plastic TO92. NPN - 50/$4 100/$7
2N3704's plastic TO92, NPN - 50/$4

LM386N-1 - Audio Amps 5 for $3.00

LM741CN - Single Op Amp, 8 Pin Dip, 6 for $3.00
http://www.hep.ph.ic.ac.uk/~hallg/Instrumentation/Data/LM741.pdf

Diodes
======
1N4148 - You always need these. 100 for $2.50

Let me know if you're interested. All prices are post paid to the
USA, unless otherwise noted. I will ship to non USA addresses but we
need to discuss the shipping charges first.

--
==
KB9BVN/QRP QRP-L 1540 QRP-ARCI 10223
39.558 N 86.095 W Johnson Co., Indiana
GRID: EM69WN - Elecraft K1 - Attic Dipole - 5w
Member of the ARRL - SOC #400
FISTS 5695 CC 764 FPQRP #-57
==

3078. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 17:06:04 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bnrgdgari1@bob.news.rcn.net>
Source record: 31545
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
news:P49ob.159$VT4.1182957@newsfep1-win.server.ntli.net...

> Over the years I bought cut-offs up to large sheets of double sided PCB
(at
> amateur radio flea markets) , which can also be used to make front panels
> and small cabinets/ enclosures.

My stock of double sided epoxy board is a 4 ft by 4 ft sheet I bought at a hamfest for $20 or 25 IIRC. I have some smaller pieces left over from the past.

If you don't want to solder partitions or sides, you might do as I and buy a 10-ft length of extruded aluminum angle, 0.25 inches on a side. This way you can screw things together without worrying about overheating / delaminating the PC board. You can also take things apart if needed :-(

3079. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 17:33:04 UTC
From: jakdedert <jdedert@bellsouth.net>
Message-ID: <fVbob.102$ns.3@bignews4.bellsouth.net>
Source record: 31546
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:bnrgdgari1@bob.news.rcn.net...
>
> "Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
> news:P49ob.159$VT4.1182957@newsfep1-win.server.ntli.net...
>
> > Over the years I bought cut-offs up to large sheets of double sided PCB
> (at
> > amateur radio flea markets) , which can also be used to make front
panels
> > and small cabinets/ enclosures.
>
> My stock of double sided epoxy board is a 4 ft by 4 ft sheet I bought at a
> hamfest for $20 or 25 IIRC. I have some smaller pieces left over from the
> past.
>
> If you don't want to solder partitions or sides, you might do as I and buy
a
> 10-ft length of extruded aluminum angle, 0.25 inches on a side. This way
you
> can screw things together without worrying about overheating /
delaminating
> the PC board. You can also take things apart if needed :-(
>
>
I'd be careful about using aluminum for this. You could set up a situation where over the years, the dissimilar metals would begin to react and cause all sorts of gremlins. I'd think you'd want to use copper or brass angle stock, which is also available, albeit more expensive...or plastic; or even wood. The plastic channel stock that is used to join masonite wall panels comes to mind. If you used nonconductive material, it would be easy to connect the chassis parts electrically with a few bits of copper braid or brackets.

I could be wrong about this, but judging by the debacle during the 70's where a lot of aluminum wiring got installed in a lot of homes--and later caused at least a few fires--I'd at least be cautious. I've also seen several places in my old houses where iron piping was screwed directly into brass fittings. I just dug up the faucet in my front yard, which a neighborhood kid had hit with a lawnmower. Water was bubbling up out of the ground. The shock from the mower was the final straw which crumbled the iron pipe at the threads where it screwed into the brass tee. When finally I got down to it, there was practically nothing of the threaded end left,

although the rest of the pipe was in good condition. I replaced it with a plastic nipple...didn't really need a second faucet in the front yard anyway.

jak

3080. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 17:44:42 UTC
From: Jeffrey D Angus <jangus@socal.rr.com>
Message-ID: <e6cob.11728$Ub4.10853@twister.socal.rr.com>
Source record: 31397
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

jakdedert wrote:
> I'd be careful about using aluminum for this. You could set up a situation
> where over the years, the dissimilar metals would begin to react and cause
> all sorts of gremlins.

> I could be wrong about this, but judging by the debacle during the 70's
> where a lot of aluminum wiring got installed in a lot of homes--and later
> caused at least a few fires--I'd at least be cautious.

That was mostly hype stirred up by Jeraldo Riviera. Back when he
was still caucasion.

The real problem with aluminum wiring was three fold. 1. For a
given current ration, the aluminum wire has to be bigger than
copper. 2. Special terminations (screw and or compression type)
marked CuAl shoud be used along with a gel like "No-Ox" to protect
the connection 3. Proper torque on the fastenings is manditory.

Given the special requirements and the attitude of most workers
that "I know what I'm doing" of course it was a disaster.

> I've also seen several places in my old houses where iron piping
> was screwed directly into brass fittings. [snip] When finally
> I got down to it, there was practically nothing of the threaded
> end left, although the rest of the pipe was in good condition.

This is more the fault of the iron pipe. Not the bronze/brass
fittings. When you thread the end of a pipe, you remove the
galvanized coating. Exposed metal pipe = weak spot.

Jeff

--
"They that can give up essential liberty to obtain a little temporary
safety deserve neither liberty nor safety." Benjamin Franklin
"A life lived in fear is a life half lived."
Tara Morice as Fran, from the movie "Strictly Ballroom"

3081. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 17:48:58 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <kgj2qvkg37e6cqi3tgb7qlgbpgcdsi4g41@4ax.com>
Source record: 31398

On Thu, 30 Oct 2003 09:06:55 -0800, W7TI <noway@nohow.com> wrote:

>On Thu, 30 Oct 2003 13:33:28 GMT, "Dale Parfitt"
><par@parelectronics.com> wrote:
>
>>Seems to me the framing can't move- unlike a piece of sheet metal.
>
>Correct, that's why I said to clamp it securely.
>
>>I have
>>many times used 2.5" bimetal hole saws to make openings for meters in 0.125
>>and 0.25" aluminum panels. The panels were in each case held to the mill (or
>>drill press) table with at least 2 clamps. There is absolutely no way that
>>one person could make that size hole with a hole saw w/o clamping.
>
>Correct, clamp it.
>
>>And forget a hand drill if you want the hole to look decent.
>
>Incorrect. Easily done if you hold it tightly. Of course you MUST USE
>a hole saw which has a center drill bit for alignment purposes. I
>believe there may be hole saws without the center drill bit, made for
>use ONLY IN A DRILL PRESS. I don't own any of those. Done it with a
>hand held drill many times, works fine.

Yes, one can use a handheld drill with the circular hole cutters with
center bit, although a drill press will give a neater job.

The problem was with the fly-cutter style, which has a center drill
bit and an arm holding the single cutter. Small misalignments will
cause a lot of torque to fling the workpiece or the drill.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

3082. Re: Steel no good for chassis? (Which metal is best for old regendesigns?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 18:00:42 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA151B7.A52FD111@earthlink.net>
Source record: 31399
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Jeffrey D Angus wrote:
>
>
> That was mostly hype stirred up by Geraldo Riviera. Back when he
> was still caucasion.
>
> The real problem with aluminum wiring was three fold. 1. For a
> given current ration, the aluminum wire has to be bigger than
> copper. 2. Special terminations (screw and or compression type)
> marked CuAl shoud be used along with a gel like "No-Ox" to protect
> the connection 3. Proper torque on the fastenings is manditory.
>
> Given the special requirements and the attitude of most workers
> that "I know what I'm doing" of course it was a disaster.
>
> Jeff

Aluminum wiring really made the news after the "Beverly Hills"
Nightclub (Just across the Ohio river from Cincinnati, in Soutgate,
Kentucky) burnt down, and it was completely wired with aluminum wire.
The fire was so hot that there was little left to determine the quality
of the the wiring job. The nightclub was built with very nice, real wood
paneling (3/4" thick), and the heat of the fire vaporized a lot of the
wire and fixtures.

It was a very nice place. One of the TV manufacturers used to have
their annual classes there. I think it was Admiral, but its been so long
I really don't remember.

http://www.cincypost.com/bhfire/
--

Michael A. Terrell
Central Florida

3083. Re: prventing switches melting ???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 18:11:21 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <bnrke7$je0$1@nic.grnet.gr>
Source record: 31400

OMG
please use bigger switches!!!!

--
http://www.qsl.net/sv1hao
"uk-hamman" <uk-hamman@ntlworld.com> wrote in message
news:IvDnb.811$8E3.619@newsfep1-gui.server.ntli.net...
> Hi there .
> I wonder if anyone has any suggestions as to how I can stop
> sub miniature toggle switches from melting , with the heat
> that is produced , during the curing and setting process of
> me using potting compound ,
>
> I don't mean physically melting , but I suppose it heats up
> and distorts , and makes the switch very stiff to operate
> until eventually it is useless .
>
> I have thought of wrapping it with self-algmating tape
> before I put the resin in the box .
>
> any suggestion , welcome ??
>
> de Paul
>
>
>

3084. DEBEG 2000 card extenders

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 18:49:09 UTC
From: mikea@mikea.ath.cx
Message-ID: <bnrmf4$3rl$4@puck.litech.org>
Source record: 31401

Hi.

I'm trying to get my DEBEG 2000 HF receiver back into service, and suspect that I'll need one or two card extenders. I know of another SWL with one, and think he may be interested as well.

Does anyone have a lead on a fab shop that'll run off one or two sets of extenders for US$100 or so max? Specs on request, pointers to fab shops _very_ gratefully accepted.

The address below is valid and gets read regularly.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin

3085. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 18:57:59 UTC
From: --exray-- <a@b.c>
Message-ID: <vq2nou8giu6t66@corp.supernews.com>
Source record: 31402
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

jakdedert wrote:

>>>and small cabinets/ enclosures.
>>
>>My stock of double sided epoxy board is a 4 ft by 4 ft sheet I bought at a
>>hamfest for $20 or 25 IIRC. I have some smaller pieces left over from the
>>past.
>>
>>If you don't want to solder partitions or sides, you might do as I and buy
>
> a
>
>>10-ft length of extruded aluminum angle, 0.25 inches on a side. This way
>
> you
>
>>can screw things together without worrying about overheating /
>
> delaminating
>
>>the PC board. You can also take things apart if needed :-(
>>
>>
>
> I'd be careful about using aluminum for this. You could set up a situation
> where over the years, the dissimilar metals would begin to react and cause
> all sorts of gremlins. I'd think you'd want to use copper or brass angle
> stock, which is also available, albeit more expensive...or plastic; or even
> wood.

You can tin the edge of the PCB and avoid this for the most part.

-Bill

3086. Direct conversion receivers for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 21:22:01 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bnrvdmghr1@news.oregonstate.edu>
Source record: 31403

I had this crazy idea to attempt to build a direct conversion receiver for regular old AM (i.e., two sidebands, carrier included). It eventually occurred to me, however, that there's the very significant problem of synchronizing the LO to the incoming RF carrier. In diagrams I've seen, normally a PLL is used at the IF frequency (455kHz being common for AM receivers, of course) to lock the two together. Is there anything comparable one can do with direct conversion? It seems that if your LO is sync'd with the incoming carrier, you'll have a very large DC component (the AM carrier!)... if not, however, you still might get some DC that's been aliased and while this will (should) always be less than the DC component when you're locked, it gives no indication of which way your LO needs to move to achieve lock.

So apparently what I'm really asking is... can one build a phase detector that works at DC? Or does an AM direct conversion receiver necessarily require an IF strip?

Thinking out loud,
---Joel Kolstad

3087. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 21:52:27 UTC
From: jakdedert <jdedert@bellsouth.net>
Message-ID: <plfob.629$ns.478@bignews4.bellsouth.net>
Source record: 31404
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"Jeffrey D Angus" <jangus@socal.rr.com> wrote in message
news:e6cob.11728$Ub4.10853@twister.socal.rr.com...
> jakdedert wrote:
> > I'd be careful about using aluminum for this. You could set up a
situation
> > where over the years, the dissimilar metals would begin to react and
cause
> > all sorts of gremlins.
>
> > I could be wrong about this, but judging by the debacle during the 70's
> > where a lot of aluminum wiring got installed in a lot of homes--and
later
> > caused at least a few fires--I'd at least be cautious.
>
> That was mostly hype stirred up by Jeraldo Riviera. Back when he
> was still caucasion.
>
> The real problem with aluminum wiring was three fold. 1. For a
> given current ration, the aluminum wire has to be bigger than
> copper. 2. Special terminations (screw and or compression type)
> marked CuAl shoud be used along with a gel like "No-Ox" to protect
> the connection 3. Proper torque on the fastenings is manditory.
>
> Given the special requirements and the attitude of most workers
> that "I know what I'm doing" of course it was a disaster.
>
> > I've also seen several places in my old houses where iron piping
> > was screwed directly into brass fittings. [snip] When finally
> > I got down to it, there was practically nothing of the threaded
> > end left, although the rest of the pipe was in good condition.
>
> This is more the fault of the iron pipe. Not the bronze/brass
> fittings. When you thread the end of a pipe, you remove the
> galvanized coating. Exposed metal pipe = weak spot.
>
That might be the case if every iron pipe also exhibited this effect. The
only place I've found it was when an iron pipe was mated with a brass
fitting. A similar situation occurred in my kitchen wall, where the faucets
(mounted on the wall) were connected to the brass elbows nailed to the studs
with a short iron pipe. The ends of both pipes were corroded to hell within
the brass. I had to dig the rotton bits of iron out of the brass threads
(not as difficult as it sounds, the iron was completely oxidised and
crumbling) without damaging the brass. Otherwise, I'd have to had opened up

the wall to replace the elbows. Just a few years later, when the kitchen was remodeled and a more conventional sink installed, the replacement pipes were already noticably corroded. Any time two dissimilar metals are placed in contact with each other, galvanic action occurs. Given a bit of moisture, corrosion occurs; thus the No-Ox paste for copper to aluminum terminals.

A Galvanic chart appears on this manufacturers website:
http://www.katonet.com/Techinfo/Newsletter/2000/may-jun-00.htm

jak

> Jeff
>
>
>
> --
> "They that can give up essential liberty to obtain a little temporary
> safety deserve neither liberty nor safety." Benjamin Franklin
> "A life lived in fear is a life half lived."
> Tara Morice as Fran, from the movie "Strictly Ballroom"
>

3088. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 21:56:44 UTC
From: jakdedert <jdedert@bellsouth.net>
Message-ID: <qMfob.654$ns.64@bignews4.bellsouth.net>
Source record: 31405
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"--exray--" <a@b.c> wrote in message
news:vq2nou8giu6t66@corp.supernews.com...
> jakdedert wrote:
>
> >>>and small cabinets/ enclosures.
> >>
> >>My stock of double sided epoxy board is a 4 ft by 4 ft sheet I bought at
a
> >>hamfest for $20 or 25 IIRC. I have some smaller pieces left over from
the
> >>past.
> >>
> >>If you don't want to solder partitions or sides, you might do as I and
buy
> > > a
> > >
> >>10-ft length of extruded aluminum angle, 0.25 inches on a side. This way
> > > you
> > >
> >>can screw things together without worrying about overheating /
> > >
> > > delaminating
> > >
> >>the PC board. You can also take things apart if needed :-(
> >>
> >>
> > >
> > > I'd be careful about using aluminum for this. You could set up a
situation
> > > where over the years, the dissimilar metals would begin to react and
cause
> > > all sorts of gremlins. I'd think you'd want to use copper or brass
angle
> > > stock, which is also available, albeit more expensive...or plastic; or
even
> > > wood.
>
> You can tin the edge of the PCB and avoid this for the most part.
>
> -Bill
>

Probably, but the object was to eliminate heating the copper board. Other coatings would work, as well. Zinc chromate primer is what they use in aircraft construction.

jak

3089. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 22:13:47 UTC
From: dplatt@radagast.org
Message-ID: <vq338rgjb45o50@corp.supernews.com>
Source record: 31406
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

In article <pIfob.629$ns.478@bignews4.bellsouth.net>,
jakdedert <jdedert@bellsouth.net> wrote:

>> > I've also seen several places in my old houses where iron piping
>> > was screwed directly into brass fittings. [snip] When finally
>> > I got down to it, there was practically nothing of the threaded
>> > end left, although the rest of the pipe was in good condition.
>>
>> This is more the fault of the iron pipe. Not the bronze/brass
>> fittings. When you thread the end of a pipe, you remove the
>> galvanized coating. Exposed metal pipe = weak spot.
>>
>That might be the case if every iron pipe also exhibited this effect. The
>only place I've found it was when an iron pipe was mated with a brass
>fitting.

The hardware stores around here sell special unions, with insulated
threaded fittings, for mating iron/steel pipes to brass. I've
pondered whether these might be useful for making certain forms of
(non-DC-connected) copper-tubing J-pole antennas.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3090. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 22:40:06 UTC
From: jgboyles@aol.com
Message-ID: <20031030174006.01033.00000013@mb-m03.aol.com>
Source record: 31407

>I'm interested in measuring the velocity factor of some coax I have (more of
>an exercise than necessity). In order to do this, the MFJ-259 Operations
>manual states that the "stub" to be measured should be attached with a
>50-ohm noninductive resistor

Hi Jason, I just looked at the manual for the 259 and the 259B and it did not mention a 50 ohm resistor in the velocity factor section. With both instruments you measure the electrical length of the coax and compare to the physical length to obtain velocity factor. It is a bit easier with a 259B using the "distance to fault" function. The coax can be open or shorted (far end) during measurement. No resistor needed as far as I can tell.
73 Gary N4AST

3091. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-30 23:23:05 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <6h63qvsaa7lpfssev0822e3ih9rvrikal7@4ax.com>
Source record: 31408
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

On Thu, 30 Oct 2003 22:13:47 -0000, dplatt@radagast.org (Dave Platt)
wrote:

>In article <pIfob.629$ns.478@bignews4.bellsouth.net>,
>jakdedert <jdedert@bellsouth.net> wrote:
>
>>> > I've also seen several places in my old houses where iron piping
>>> > was screwed directly into brass fittings. [snip] When finally
>>> > I got down to it, there was practically nothing of the threaded
>>> > end left, although the rest of the pipe was in good condition.
>>>
>>> This is more the fault of the iron pipe. Not the bronze/brass
>>> fittings. When you thread the end of a pipe, you remove the
>>> galvanized coating. Exposed metal pipe = weak spot.
>>>
>>That might be the case if every iron pipe also exhibited this effect. The
>>only place I've found it was when an iron pipe was mated with a brass
>>fitting.
>
>The hardware stores around here sell special unions, with insulated
>threaded fittings, for mating iron/steel pipes to brass. I've
>pondered whether these might be useful for making certain forms of
>(non-DC-connected) copper-tubing J-pole antennas.

We used similar fittings when building water-cooled RF coils, used in
plasma deposition vacuum systems. Since the skin effect means that
most of the RF is transmitted on or near the outer surface anyway,
there was little loss compared to a solid copper rod. We could have a
complete plumbing circuit with an electrical discontinuity.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

3092. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 00:03:46 UTC
From: Jeffrey D Angus <jangus@socal.rr.com>
Message-ID: <CFhob.12342$Ub4.4132@twister.socal.rr.com>
Source record: 31409
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Dave Platt wrote:
> The hardware stores around here sell special unions, with insulated
> threaded fittings, for mating iron/steel pipes to brass. I've
> pondered whether these might be useful for making certain forms of
> (non-DC-connected) copper-tubing J-pole antennas.

Those are specifically mating up old iron piping with new copper.
For the prevention of galvanic action.

Jeff

--
"They that can give up essential liberty to obtain a little temporary
safety deserve neither liberty nor safety." Benjamin Franklin
"A life lived in fear is a life half lived."
Tara Morice as Fran, from the movie "Strictly Ballroom"

3093. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 00:19:58 UTC
From: --exray-- <a@b.c>
Message-ID: <vq3akosddsmv72@corp.supernews.com>
Source record: 31410
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

jakdedert wrote:

>>You can tin the edge of the PCB and avoid this for the most part.
>>
>>-Bill
>>
>
> Probably, but the object was to eliminate heating the copper board. Other
> coatings would work, as well. Zinc chromate primer is what they use in
> aircraft construction.
>
> jak

I jumped in at the "make them removable" part. Doing a bit of tinning
wouldn't really qualify as heating the board enough for the copper to
peel up.
Actually I think that would be preferable to "paint on" coatings that
might flake/chip around the screw holes in this case.
But we have now made a simple everyday PCB board box into a home project
that meets FAA specs.
:-)
-Bill

3094. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 02:02:55 UTC
From: Cliff Curry <cliffcurry323@comcast.net>
Message-ID: <epjob.64617$Fm2.50522@attbi_s04>
Source record: 31411

This is a problem in general in direct conversion schemes: and this is the reason that "quadrature" detectors are made, with two mixing channels 90 degrees apart, so that the phasing is no longer a problem. (the sqrt of sum of squares of the signal out of the two channels (or "magnitude") is not sensitive to phase.)

Cliff

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message news:bnn34gsgn1@news.oregonstate.edu...
> I'm curious... with the current popularity of simple (e.g., QRP usage)
> direct conversion receivers, whatever happened to the problem of having to
> synchronize the cariier phases? I'm looking at Experimental Methods in RF
> Design, and they just use an LC oscillator for the input to the mixer.
If
> input carrier is cos(f*t) and the LC oscillator is generating
cos(f*t+phi),
> where phi is the phase offset between them, you end up with a cos(phi)
term
> coming out of the mixer. If the frequencies are ever-so-slightly off, phi
> essentially varies slowly and cos(phi) should slowly cause the signal to
> fade in and out.
>
> Why isn't this a problem in practice?
>
> Thanks,
> ---Joel Kolstad
>
>

3095. Pwr Adj Points DR453T

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 02:41:11 UTC
From: Dennis <dedey1@bigpond.net.au>
Message-ID: <bZjob.171756$bo1.60106@news-server.bigpond.net.au>
Source record: 31412

please,
Tnxs

3096. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 03:11:13 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bnsjrnnqv1@news.oregonstate.edu>
Source record: 31413

Cliff Curry <cliffcurry323@comcast.net> wrote:
> This is a problem in general in direct conversion schemes: and this is the
> reason that "quadrature" detectors are made, with two mixing channels 90
> degrees apart, so that the phasing is no longer a problem. (the sqrt of
> sum of squares of the signal out of the two channels (or "magnitude") is
> not sensitive to phase.)

Hmm... I went through the math, and indeed, this is the case!

But this then begs the question: Since the quadrature detector obtains the correct magnitude of the transmitted signal for ANY phase difference between the carrier and the LO, and if we model the phase difference as a function of time that slowly changes due to the fact that, in actuality, our LO isn't _quite_ the same frequency as the carrier, will the system still work? This almost seems too good to be true...

Thanks,
---Joel Kolstad

3097. Re: Pwr Adj Points DR435T

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 04:18:54 UTC
From: Dennis <dedey1@bigpond.net.au>
Message-ID: <Oolob.171857$bo1.161070@news-server.bigpond.net.au>
Source record: 31414

Powe LO/MID/HI adjustment points please anyone got the workshop manual for DR435T

Rgds

Dennis

"Dennis" <dedey1@bigpond.net.au> wrote in message news:bZjob.171756$bo1.60106@news-server.bigpond.net.au...
> please,
> Tnxs
>
>

3098. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 07:33:42 UTC
From: k7itm@aol.com
Message-ID: <3200347.0310302333.6fa3fa50@posting.google.com>
Source record: 31415

Of course, if you were demodulating DSB suppressed carrier and you injected the carrier at the wrong phase, you indeed would get the two sidebands going through constructive and destructive phases. If you're 90 degrees out with your LO, it looks a lot like narrowband FM, though very slightly different as I posted in the thread on SSB-FM. If you do the quadrature detector thing with DSB-suppressed carrier, then when one of the two is just the wrong phase (and you get no output from that one), the other will be just the right phase, and vice-versa. When it's in between, does it work out right to just sum the two? I suppose so, though it's worth going through the math to make sure. And of course, with quadrature mixers, you can combine the outputs with audio phase shifting to select just one of the two sidebands (or just CW signals on one side of the LO). In fact, the mixer LO inputs don't have to be exactly in quadrature: it's possible to apply a calibration to account for a phase error (and also an amplitude error, where the gain through one mixer path is slightly different from the gain through the other). That's all practical to do digitally...we do that sort of thing at 100 megasamples per second with some custom chips.

Cheers,
Tom

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message news:<bnphctmec1@news.oregonstate.edu>...
> Dan Tayloe <dtayloe@cox.net> wrote:
> > This is indeed what happens only if the VFO and an incoming single are
> > at almost the same frequency ("zero beat"). However, in practice, if
> > the signal is a cw signal, we listen to a signal that is 600 Hz or so
> > away from the VFO so that we hear the 600 Hz tone difference.
>
> ...or at least, say, 595-605Hz is the local oscillator tends to drift +/-5Hz
> over time, eh? Good enough.
>
> With SSB, presumably you have the same 'problem' -- the entire voice signal
> is shifted in pitch by the difference between the LO and the real carrier.
> In fact, with SSB and direct conversion, how do you even decide you have the
> correct LO frequency? Just when people sound 'most natural?'
>
> Thanks,
> ---Joel Kolstad

3099. Re: Direct conversion receivers for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 07:46:58 UTC
From: k7itm@aol.com
Message-ID: <3200347.0310302346.4d8f4482@posting.google.com>
Source record: 31416

I guess this is further to the followup I just posted in another
thread!

Consider the quadrature mixers. If your LO is in phase with the
incoming carrier on one, as you say, there will be a high DC coming
out of that mixer. But out of the other mixer at that time, you'll
see zero DC. If you move the phase just a bit one way, the quadrature
detector output will go up; move it the other way and the quadrature
detector output will go down. So, if you appropriately filter that DC
signal, you in theory will be able to lock the phase of the LO. The
problem? You'll need to be darned sure your mixer is really balanced!
If you are receiving, let's say, a 10 microvolt carrier, then you
only get around +/-10uV of DC to work with, and if the mixer is
imbalanced enough with no signal at all into the RF input to give you
that much DC, you'll be in trouble trying to "see" the DC from the
small carrier.

But not all is lost. As noted in the other thread, you may be able to
combine the outputs of the two quadrature detectors and use that.
What you won't get is rejection of noise that's in quadrature with the
transmitted carrier, which is an advantage of synchronous detection
(properly phase locked).

I've thought that if you have two broadcast stations whose carriers
are phase locked, it should be possible to find an antenna location
for receiving that puts the two carriers 90 degrees out of phase, at
the receiver, and you could listen to the two stations independently.
I have a spectrum analyzer that can resolve (very) small fractions of
a Hz at RF, and it's interesting to put a few feet of wire on it as an
antenna and set it up on a standard MW broadcast frequency with a 10Hz
span. Even in the presence of a strong local carrier, you can see
typically several other carriers in there, at least during nighttime
propagation.

Cheers,
Tom

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:<bnrvdmghr1@news.oregonstate.edu>...
> I had this crazy idea to attempt to build a direct conversion receiver for
> regular old AM (i.e., two sidebands, carrier included). It eventually
> occurred to me, however, that there's the very significant problem of
> synchronizing the LO to the incoming RF carrier. In diagrams I've seen,
> normally a PLL is used at the IF frequency (455kHz being common for AM
> receivers, of course) to lock the two together. Is there anything
> comparable one can do with direct conversion? It seems that if your LO is

> sync'd with the incoming carrier, you'll have a very large DC component (the
> AM carrier!)... if not, however, you still might get some DC that's been
> aliased and while this will (should) always be less than the DC component
> when you're locked, it gives no indication of which way your LO needs to
> move to achieve lock.
>
> So apparently what I'm really asking is... can one build a phase detector
> that works at DC? Or does an AM direct conversion receiver necessarily
> require an IF strip?
>
> Thinking out loud,
> ---Joel Kolstad

3100. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 12:05:19 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <%Tsob.521$747.195613@newsfep1-win.server.ntli.net>
Source record: 31418

> >> >Connecting transformers in parallel is sometimes a risky business,
> >>
> >> Some big power distribution transformers are sometimes connecting in
> >> parallel with some external inductance to reduce the imbalance.
> >>
> >> Take a separate smallish transformer with a centre tapped low voltage
> >> secondary winding. Connect the centre tap to the load and the two end
> >> of the small transformer to the respective hot terminals on the main
> >> transformers. The primary of the smallish transformer is not
> >> connected, but can contain quite voltages.
> >==========
> >Question : With a load having 2 connections , with the centre tap
connected
> >to 1 connection of the load ,where to connect the other connection of the
> >load ?
>
> To the "cold" end of both main transformers, which are connected
> together. You have to connect the primaries in such a way that the
> "hot" ends of the secondary of each transformer is in the same phase,
> thus the voltage of the hot end of each secondary is nearly equal and
> the centre tapped choke will take care of the rest.
>
> In three phase systems, connect the star points of the transformers
> together, which is also used as a return for single phase loads. A
> balancing CT choke is needed for each phase and also in this case you
> have to observe the primary polarity when connecting the primaries.
==========
Tnx Paul , for the very useful info ,which I have filed for future
reference.

Frank GM0CSZ / KN6WH

3101. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 12:39:30 UTC
From: Jason Dugas <kb5urq@hotmail.com>
Message-ID: <vq4m0lc462spac@corp.supernews.com>
Source record: 31417

"JGBOYLES" <jgboyles@aol.com> wrote in message
news:20031030174006.01033.00000013@mb-m03.aol.com...
> >I'm interested in measuring the velocity factor of some coax I have (more
of
> >an exercise than necessity). In order to do this, the MFJ-259 Operations
> >manual states that the "stub" to be measured should be attached with a
> >50-ohm noninductive resistor
>
> Hi Jason, I just looked at the manual for the 259 and the 259B and it did
not
> mention a 50 ohm resistor in the velocity factor section. With both
> instruments you measure the electrical length of the coax and compare to
the
> physical length to obtain velocity factor. It is a bit easier with a 259B
> using the "distance to fault" function. The coax can be open or shorted
(far
> end) during measurement. No resistor needed as far as I can tell.
> 73 Gary N4AST

Gary, the manual indicates to 'Set up the line to measure 1/4 wave stubs as
in the section on "Testing and Tuning Stubs"'... In that section, it
requires a 50-ohm resistor in series to the center conductor. Perhaps, the
resistor isn't needed to measure VF? This is really a poorly written
manual-- while it acknowledges possibilities, it really isn't clear in its
procedures :-/

Let me know what you think. Maybe you're right and the resistor isn't
needed for VF.

Thanks,

Jason

3102. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 14:40:43 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bnts9b$o8k$1@hercules.btinternet.com>
Source record: 31419
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

The velocity factor of ALL solid polyethylene coax cable, regardless of impedance, is 0.665

3103. Re: Direct conversion receivers for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 15:41:18 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bntvrl$5en$1@news.oregonstate.edu>
Source record: 31420

Tom Bruhns <k7itm@aol.com> wrote:
> I guess this is further to the followup I just posted in another
> thread!

Yep!

> Consider the quadrature mixers. If your LO is in phase with the
> incoming carrier on one, as you say, there will be a high DC coming
> out of that mixer. But out of the other mixer at that time, you'll
> see zero DC. If you move the phase just a bit one way, the quadrature
> detector output will go up; move it the other way and the quadrature
> detector output will go down. So, if you appropriately filter that DC
> signal, you in theory will be able to lock the phase of the LO.

This makes sense to me if you stick, e.g., (1+s(t)) -- where s(t) has not DC component -- on your I modulator and, say, t(t) -- where t(t) has no DC component -- on your Q modulator. DC filtering the I output, then, should directly provide cos(phi) -- where phi is the phase offset phase the RF and LO carriers -- and DC filtering the Q output provides sin(phi) (which is probably the more useful signal for the sake of feedback). (For regular AM transmissions, t(t)=0... I'm just thinking ahead to AM stereo here.)

> The
> problem? You'll need to be darned sure your mixer is really balanced!

A pair of NE602s sitting side by side doesn't really cut it? :-) I was actually thinking that the solution here is that you let the AGC run off of the quadrature detector output (sqrt(s(t)^2+t(t)^2), assuming you removed DC from both channels) and only when the signal strength is above a certain level do you allow the phase locking circuitry to kick in and attempt to null out the phase differences.

> I've thought that if you have two broadcast stations whose carriers
> are phase locked, it should be possible to find an antenna location
> for receiving that puts the two carriers 90 degrees out of phase, at
> the receiver, and you could listen to the two stations independently.

Good point!

Side note: In looking up quadrature detectors, I was amused to find that someone has a patent on using one for standard commercial AM band reception. Amazing...

For more on LO vs. RF carrier phasing differences, I'm going to follow up to the other thread.

---Joel

3104. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 15:47:42 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bnu07o$5fs$1@news.oregonstate.edu>
Source record: 31421

With all this discussion of phasing fun... could someone answer the following question for me?

Say I'm transmitting binaural audio, with I being L and Q being R. I receive this signal and generate my own I' and Q' outputs. However, if the RF carrier and my LO have a phase difference, the entire IQ (phasor) diagram is rotated by that difference and, e.g., a 90 degree difference will result in the left and right channels I receive being swapped.

How do IQ-binaural receivers recover a phase lock to present this?

> If you do the quadrature detector thing with DSB-suppressed carrier,
> then when one of the two is just the wrong phase (and you get no
> output from that one), the other will be just the right phase, and
> vice-versa. When it's in between, does it work out right to just sum
> the two? I suppose so, though it's worth going through the math to
> make sure.

I went through the math and you end up with the magnitude of the original signal. What's unclear to me is how to recover the phase offset between your signal and the original -- although adding a DC component (or some other unique frequency component) to either I or Q (or placed at some strategic angle between them) would allow you to synchronize the phases.

Have any suggestions for a nice simple mixer (ala the NE602) that retains both the I and Q signals at the output?

---Joel Kolstad

3105. Re: Direct conversion receivers for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 16:53:20 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0310310853.5d7dff09@posting.google.com>
Source record: 31422

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:<bnrvdmghr1@news.oregonstate.edu>...
> I had this crazy idea to attempt to build a direct conversion receiver for
> regular old AM (i.e., two sidebands, carrier included). It eventually
> occurred to me, however, that there's the very significant problem of
> synchronizing the LO to the incoming RF carrier. In diagrams I've seen,
> normally a PLL is used at the IF frequency (455kHz being common for AM
> receivers, of course) to lock the two together. Is there anything
> comparable one can do with direct conversion? It seems that if your LO is
> sync'd with the incoming carrier, you'll have a very large DC component (the
> AM carrier!)... if not, however, you still might get some DC that's been
> aliased and while this will (should) always be less than the DC component
> when you're locked, it gives no indication of which way your LO needs to
> move to achieve lock.
>
> So apparently what I'm really asking is... can one build a phase detector
> that works at DC? Or does an AM direct conversion receiver necessarily
> require an IF strip?

Of course: this is how synchronous AM detection works.
They generate a clean, in-phase carrier and use that to
demodulate the incoming signal.

To make a direct conversion receiver on similar principles
would require a frequency-agile PLL. You could use a Costas
loop, for example. If I was to do it today I'd convert
to I/Q baseband and do the rest in DSP.

Laura Halliday VE7LDH "Que les nuages soient notre
Grid: CN89mg pied a terre..."
ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

3106. Re: Direct conversion receivers for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 17:03:19 UTC
From: dt@dt.prohosting.com
Message-ID: <u1xstfig8.fsf@dt.prohosting.com>
Source record: 31423

The trick of phase locking to the IF definitely works. I believe it's called synchronous detection. One trick that might allow for simpler hardware would be to use a 5 kHz IF. (You'd need to use filtering or phase cancellation to get rid of the unwanted product on the other side of the desired signal.)

It should even be possible to use quadrature detection with the LO off by 5 kHz, then feed both the I and Q channels into a DSP and "phase lock" to the IF frequency in software.

A coworker of mine told me about still another DSP trick, where you tune as close as you can to the carrier, but of course you're a few hertz off. Looking at an I/Q diagram, the slightly off-frequency AM signal will look like a rotating vector. So long as there isn't a lot of noise, the DSP can keep track of the polarity as the phase rotates, and recover the AM as the magnitude of the vector.

David
--
In electronics, no one thinks you're strange if you blow your PAL.

3107. Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 17:16:53 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vq55qtencg9c70@corp.supernews.com>
Source record: 31424
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would like to obtain some for winding RF coils for homebrew radio receivers. Anybody know of a supplier or maybe have some on hand?

thanks,

Dave

3108. Re: Steel no good for chassis? (Which metal is best for old regen designs?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 17:41:23 UTC
From: jakdedert <jdedert@bellsouth.net>
Message-ID: <Z6xob.2974$ns.50@bignews4.bellsouth.net>
Source record: 31425
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"--exray--" <a@b.c> wrote in message
news:vq3akosddsmv72@corp.supernews.com...
> jakdedert wrote:
>
> >>You can tin the edge of the PCB and avoid this for the most part.
> >>
> >>-Bill
> >>
> >
> > Probably, but the object was to eliminate heating the copper board.
Other
> > coatings would work, as well. Zinc chromate primer is what they use in
> > aircraft construction.
> >
> > jak
>
> I jumped in at the "make them removable" part. Doing a bit of tinning
> wouldn't really qualify as heating the board enough for the copper to
> peel up.
> Actually I think that would be preferable to "paint on" coatings that
> might flake/chip around the screw holes in this case.
> But we have now made a simple everyday PCB board box into a home project
> that meets FAA specs.
> :-)
> -Bill

LOL...but, naah...the original idea would work with just a quick squirt of
z.c. primer (from a can) on the inside of the aluminum angle stock, I
guess...not that much trouble, in order to avoid further troubles down the
line. If the assembly never got wet--or stored/used in a humid
environment--those problems would likely never show up. OTOH, probably best
to avoid problems in the first place.

jak

>

3109. Re: AC978 ICOM751A 4 SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 17:55:34 UTC
From: Gabba Gabba Hey <zippy@nospam.com>
Message-ID: <6q75qv8ioi6tvkso39ffp52tt8tfqodt6i@4ax.com>
Source record: 31426
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space

Give you $25, you ship, if you stop spamming all the newsgroups and
stick to .swap.

On Fri, 31 Oct 2003 13:47:08 GMT, "Me" <j.dauphinais@worldnet.att.net>
wrote:

>snip

3110. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 18:09:16 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA2A53C.F57F22FF@earthlink.net>
Source record: 31427
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
>
> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> like to obtain some for winding RF coils for homebrew radio receivers.
> Anybody know of a supplier or maybe have some on hand?
>
> thanks,
>
> Dave

Both belden and Alpha made it, so I would start with Newark, Allied, or another large OEM distributor. Also, see if there is a motor rewinding shop in your area that might use it on small motors. You might pick up a partial spool at a decent price.
--

Michael A. Terrell
Central Florida

3111. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 21:19:54 UTC
From: k7itm@aol.com
Message-ID: <3200347.0310311319.c0ae73@posting.google.com>
Source record: 31428

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:<bnu07o$5fs$1@news.oregonstate.edu>...
> With all this discussion of phasing fun... could someone answer the
> following question for me?
>
> Say I'm transmitting binaural audio, with I being L and Q being R. I
> receive this signal and generate my own I' and Q' outputs. However, if the
> RF carrier and my LO have a phase difference, the entire IQ (phasor) diagram
> is rotated by that difference and, e.g., a 90 degree difference will result
> in the left and right channels I receive being swapped.
>
> How do IQ-binaural receivers recover a phase lock to present this?

For standard broadcast, don't they always put L+R on I and L-R on Q,
so standard receivers get L+R? All this is not my forte; I know only
enough to be dangerous with it. But I assume that in any transmission
standard, there is something transmitted that lets you recover the
right phase at the receiver. If you're sending symbols, presumably
there can be some symbol you transmit periodically to insure things
stay synched, a complex version of the old RS-232 start and stop bits
if you will. For analog signals, you can transmit some sort of pilot
tone, perhaps the carrier itself, which of course must be done for
compatible AM anyway.
>
> > If you do the quadrature detector thing with DSB-suppressed carrier,
> > then when one of the two is just the wrong phase (and you get no
> > output from that one), the other will be just the right phase, and
> > vice-versa. When it's in between, does it work out right to just sum
> > the two? I suppose so, though it's worth going through the math to
> > make sure.
>
> I went through the math and you end up with the magnitude of the original
> signal. What's unclear to me is how to recover the phase offset between
> your signal and the original -- although adding a DC component (or some
> other unique frequency component) to either I or Q (or placed at some
> strategic angle between them) would allow you to synchronize the phases.
>
> Have any suggestions for a nice simple mixer (ala the NE602) that retains
> both the I and Q signals at the output?

One easy way is with a "Tayloe mixer" -- you should be able to find
info on that on the web, but it's basically just a commutating switch
that switches the signal (through its source resistance) among four
different capacitors. The I and Q outputs are V(C1)-V(C3) and
V(C2)-v(C4) respectively. It must be driven with a "LO" at four times

the detected frequency: that is, the switch must rotate through all four positions in one cycle of what would normally be considered the LO frequency. If you use care in its construction, you should be able to get very good balance. The size of the capacitors determines the bandwidth. There are commercial quadrature active mixers, too, but they typically cover a modest frequency range in the VHF region or higher.

Cheers,
Tom

3112. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 21:43:32 UTC
From: k7itm@aol.com
Message-ID: <3200347.0310311343.6c48ea01@posting.google.com>
Source record: 31429
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
news:<bnts9b$o8k$1@hercules.btinternet.com>...
> The velocity factor of ALL solid polyethylene coax cable, regardless of
> impedance, is 0.665

And this comes from someone who I could swear posted not long ago a
table that had velocity factors for solid polyethylene cable that were
significantly different from this magic number?

But even if we just limit ourselves to HF and above, there's a
problem: most "solid poly" cable I've encountered has small gas
bubbles in the dielectric, and the v.f. does not measure exactly
0.665. Most of the time, the difference doesn't matter, but sometimes
it does, and then it's not safe to assume it's 0.665. And of course a
lot of cable these days uses foam dielectric, which can be noticably
different from batch to batch.

3113. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-10-31 22:08:35 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bnumhkdlp1@news.oregonstate.edu>
Source record: 31430

Tom Bruhns <k7itm@aol.com> wrote:
> "Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
> news:<bnu07o$5fs$1@news.oregonstate.edu>...
> For standard broadcast, don't they always put L+R on I and L-R on Q,
> so standard receivers get L+R?

They may well -- I'm not sure which 'standard' we're talking about here (there seem to be several out there...). :-) But note that with L+R on I and L-R on Q, you only get L+R if you manage to synchronize with the phase (the original problem)! If you use a quadrature detector and extract the magnitude, you of course get sqrt(L^2+R^2) -- good, but not exactly L+R either. The Motorola C-QUAM AM stereo system forces the magnitude of the I-Q phasor to be L+R, which makes it compatible with both envelope detectors and quadrature detectors. (I probably sound like a Motorola sales guy these day... I just think it's clever and the end goal here is to build a direct conversion receiver to decode it...)

> But I assume that in any transmission
> standard, there is something transmitted that lets you recover the
> right phase at the receiver.

For AM, it would appear that the carrier itself is what people use for that purpose.

If it very clear to me now why TV transmission need to send the colorburst sequence these days -- otherwise they'd have no way to synchronize the chroma decoder, which is taking in a DSB-SC modulated in both I and Q.

> One easy way is with a "Tayloe mixer" -- you should be able to find
> info on that on the web, but it's basically just a commutating switch
> that switches the signal (through its source resistance) among four
> different capacitors.

I was just thinking of doing something like this -- from a square wave, get a 4 bit shift register (that always has one output active) and feed the outputs to a 4066 such that I sample the 'I' channel during, say, clocks #1 and #4 and the 'Q' channel during clocks #1 and #2. Add some filtering and -- presto chango! -- we've got I and Q.

Thanks for all the help -- this just might end up working after all.

---Joel Kolstad

3114. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 00:38:58 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bnuvb2rih1@titan.btinternet.com>
Source record: 31431
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Tom Bruhns" wrote > "Reg Edwards"
> > The velocity factor of ALL solid polyethylene coax cable, regardless of
> > impedance, is 0.665

==========

> And this comes from someone who I could swear posted not long ago a
> table that had velocity factors for solid polyethylene cable that were
> significantly different from this magic number?
>
> But even if we just limit ourselves to HF and above, there's a
> problem: most "solid poly" cable I've encountered has small gas
> bubbles in the dielectric, and the v.f. does not measure exactly
> 0.665. Most of the time, the difference doesn't matter, but sometimes
> it does, and then it's not safe to assume it's 0.665. And of course a
> lot of cable these days uses foam dielectric, which can be noticably
> different from batch to batch.

==========

Your para. 1. You can swear till you're appoplectic black and blue in the face - it wasn't me. I'm not THAT stupid. So who was it then?

Your para. 2. If there are little bubbles in it, it is not solid. If it is foamed, it is not solid.

Just to add a little more useless information, did you know the stuff also varies with pressure and temperature as at the bottoms of the oceans? Also, under pressure, water disassociates and hydrogen slowly diffuses through it. Rodents seem to take a fancy to it.

Velocity factor = (Permittivity)^(- 1/2). Permittivity of polyethylene = 2.26 but it does vary slighty from one book to the next.

Reg.

3115. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 00:51:34 UTC
From: Jason Dugas <kb5urq@hotmail.com>
Message-ID: <vq60t3lpnait5f@corp.supernews.com>
Source record: 31432
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Asswipe,

The question I posed wasn't "What's the velocity factor of ALL solid polyethylene coax cable". Next time read the question and answer it. If you don't know the answer then DON'T POST A REPLY!

Too many ignorant people in these groups anymore!

"Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message news:bnts9b$o8k$1@hercules.btinternet.com...
> The velocity factor of ALL solid polyethylene coax cable, regardless of
> impedance, is 0.665
>
>

3116. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 01:23:16 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA30B04.4090303@bellsouth.net>
Source record: 31433

W7TI wrote:
> On Wed, 29 Oct 2003 17:04:34 GMT, Gary S. <Idontwantspam@net> wrote:
>
>
>>I thought the ones with the rotating arm were intended for use with a
>>drill press, not for a handheld drill.
>
>
> --
>
> Even in a drill press, I don't like 'em. They can catch on the work
> piece and fling it who knows where. Use them if you must, but a hole
> saw is much more user friendly.
>

I've used this kind on metal and wood in a drill press with the work
clamped.
I really think this kind of cutter was made to cut wood judging on how
it worked.
In any case I wouldn't use it on steel, only soft metals such as copper
or aluminum, and
then with a wood backing board.

3117. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 01:24:22 UTC
From: averyfineman@aol.com
Message-ID: <20031031202422.08626.00001529@mb-m27.aol.com>
Source record: 31435

In article <3200347.0310311343.6c48ea01@posting.google.com>, k7itm@aol.com (Tom Bruhns) writes:

>But even if we just limit ourselves to HF and above, there's a
>problem: most "solid poly" cable I've encountered has small gas
>bubbles in the dielectric, and the v.f. does not measure exactly
>0.665. Most of the time, the difference doesn't matter, but sometimes
>it does, and then it's not safe to assume it's 0.665. And of course a
>lot of cable these days uses foam dielectric, which can be noticably
>different from batch to batch.

I tend to agree, based on past experiences in finding VP of lots of different RF-video cables. That includes some "economy" type cables where the dielectric looked like polyethylene but a burn-and-sniff test proved it was some other polymer.

There's some good formulas for finding out the VP of coax in the May, 1978, issue of HAM RADIO magazine. The title is "Antenna Bridge Calculations" with my byline and was for folks using a calibrated Noise Bridge and had access to an HP pocket calculator. A Noise Bridge nulls for admittance but this will convert to impedance with a complex inversion...much handier on the newer HP 32 SII calculator.

The formulas in the May '78 issue of HR will work with the MFJ analyzer's impedance read-out values.

Len Anderson
retired (from regular hours) electronic engineer person

3118. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 01:24:23 UTC
From: averyfineman@aol.com
Message-ID: <20031031202423.08626.00001530@mb-m27.aol.com>
Source record: 31437

In article <3FA2A53C.F57F22FF@earthlink.net>, "Michael A. Terrell"
<mike.terrell@earthlink.net> writes:

>David Forsyth wrote:
>>
>> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
>> like to obtain some for winding RF coils for homebrew radio receivers.
>> Anybody know of a supplier or maybe have some on hand?
>>
>> thanks,
>>
>> Dave
>
>Both belden and Alpha made it, so I would start with Newark, Allied, or
>another large OEM distributor. Also, see if there is a motor rewinding
>shop in your area that might use it on small motors. You might pick up a
>partial spool at a decent price.

I don't think that Belden or Alpha has made that kind of wire for at
least 2 decades. Got both of their big factory catalogs here and
all I find is "magnet wire" in either light or heavy (two coat) plastic
insulation. My new Mouser catalog has only part of two pages
with "magnet wire," both being the equivalent to old "enamel
covered coil wire." Might try the search engine at Digi-Key, but I
doubt there will be any success.

Last I was at a place that rewound electric motors was 8 years
ago and they had only heavy plastic covered "magnet wire."

The old cotton-coverd coil wire was okay 4 to 5 decades ago but
doesn't offer much for coil building except for the cotton insulation
being excellent to absorb shellac that will dry and hold everything
together very nicely. Actually, back in the old days, a ceresin wax
application was more likely to be applied...dried quicker and moved
the product through production faster. I happen to like McCloskey
"Gym-Seal" floor varnish to coat home-wound inductors, solenoidal
to toroidal...it's all petroleum-based, not a polyurethane, and doesn't
come loose in high moisture environments like some polyurethanes.
"Gym-Seal" seems to stick to polyester and polyamide magnet
wire coatings very well.

There's a slight difference in distributed capacity between DCC and
enameled wire, DCC usually being slightly less (any coating applied
over it will change that to not less). Not enough distributed capacity
to worry about in my estimation.

There's a slight difference in inductance for a given coil form dimension
between DCC and enamel-covered, the DCC having slightly less for
the same number of turns. Again, not enough to worry about.

Len Anderson
retired (from regular hours) electronic engineer person

3119. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 01:24:25 UTC
From: averyfineman@aol.com
Message-ID: <20031031202425.08626.00001531@mb-m27.aol.com>
Source record: 31436

In article <bnu07o$5fs$1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>With all this discussion of phasing fun... could someone answer the
>following question for me?
>
>Say I'm transmitting binaural audio, with I being L and Q being R. I
>receive this signal and generate my own I' and Q' outputs. However, if the
>RF carrier and my LO have a phase difference, the entire IQ (phasor) diagram
>is rotated by that difference and, e.g., a 90 degree difference will result
>in the left and right channels I receive being swapped.
>
>How do IQ-binaural receivers recover a phase lock to present this?

You are using an example of separation of conventional AM
sidebands. Phase synchronization to the carrier can be done
separately or by using parts of the multi-mixer I-Q circuitry.
Phase synchronization is not absolutely necessary for listening
and still hearing separate sidebands.

Relative phase in mixers is NOT disturbed. (basic fact)

Single-sideband phasing systems use at least two mixers, the
LO of one in quadrature (90 degrees) phase with the other LO.
Since the LO frequency is the same, the two mixers' output will
have a relative phase difference of 90 degrees.

In addition to that, the mixer outputs are put through an audio-
frequency-range wideband phasing network. The Gingell 4-phase
network is ideal for this (it works fine with just two phase inputs).
With the Yoshida value optimization, the Gingell network can be
made with excellent constant-relative-phase-quadrature over a
broad audio frequency range without using precision tolerance parts.

The "trick" now is to linearly combine two of the four audio phases
such that the TOTAL relative phase shift is 0 degrees (or very nearly
so). With the LO having a relative phase differential of 90 degrees
the audio output of the mixers will have a differential phase of 90
degrees. Since the audio polyphase network provides additional
90 degrees relative phase difference, the total is 180 degrees...or 0
degrees if an inverting unity gain amplifier is used.

So, what happens if the LO isn't "locked" to the incoming carrier?
Actually, very little. If the 2 LOs remain in quadrature phase realation-
ship, the two mixer output relative phase relationships are STILL in
quadrature. The only thing that has changed is the slight frequency

difference in the mixer outputs relative to the original modulation frequency. This has no effect on any broadband audio phasing network following the mixer outputs...those maintain the additional quadrature relative phase and linear addition and subtraction will be the same. Unwanted sideband AND carrier suppression in demodulation will be essentially unaffected.

In going back through messages after a short absence, I detect some worry about a slow "beat" effect if the LO isn't synchronized. That's not a real worry if you've gone through the full expansion of the basic AM equation and shifted the whole series in phase by 90 degrees, then did a linear comparison with the same series unshifted in phase, then taking the TWO audio frequency components from the series and did a linear addition or subtraction with an additional 90 degree relative difference.

Synchronization-to-the-carrier-frequency-and-phase is necessary only with conventional AM and the audio circuitry being broadband all the way down to DC. There are several ways to make the DC component represented by the carrier mixed down to baseband either disappear or reduce greatly in value. Hint: Using the full series expansion, use a small phase shift error and note the comparisons of all series components, including the carrier.

With SSB, there's no real worry since the transmitting end carriers are already reduced reduced in amplitude. If the LO isn't quite in sync or even not on-frequency, all that will be noticed is the slight change in demodulated audio frequency relative to original frequency. The amount of rejection of RF in the unwanted side of the carrier will vary by the error of exact LO quadrature and the error of the phasing network quadrature. On conventional AM, those errors are the same as the isolation between sideband modulation content. If the AM has left ear content on lower sideband and right ear content on upper, that isolation is the same as "left-ear v. right-ear separation of stereo."

>Have any suggestions for a nice simple mixer (ala the NE602) that retains
>both the I and Q signals at the output?

"A" mixer, no. You must use at least two to get an In-phase and Quadrature output. The Tayloe detector has several advantages. First, the CMOS switch can be driven with 4 phases, not just 2, and the equivalent conversion transconductance is far higher than any passive mixer; mixer noise is also reduced relative to active mixers due to the nature of the CMOS switch structure. With four phases in the output, all at 90 degree multiples, it fits the Gingell-Yoshida polyphase network just dandy such that quadrature errors from network components are greatly diminished.

The original Gingell polyphase network as described by Peter Martinez* in RSGB's Radio Communication magazine in 1973 had only 0 and 180 degree audio phase differences at the input. The network outputs were still at 90 degree multiples over a wide audio bandwidth. That bandwidth will increase and with less error when

inputs are already at four phases of relative quadrature.

The only disadvantage of the Tayloe mixer is the need to use a 4x frequency master LO if the four phases are derived digitally for broad tuning range.

*G3PLX, the same that inovated PSK31 some years later.

Len Anderson
retired (from regular hours) electronic engineer person

3120. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 01:25:54 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FA30BA2.6050104@bellsouth.net>
Source record: 31434

Al wrote:
> In article <3FA06F8C.9040209@bellsouth.net>,
> kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote:
>
>
>>Paul Keinanen wrote:
>>
>>>On Wed, 29 Oct 2003 23:28:28 +0200, "Deos" <lineoffiretoday@yahoo.com>
>>>wrote:
>>>
>>>
>>>
>>>>the 6.3 VAC is ok ,no need to go into the fuss for dc.
>>>>dont take my word for it, after making the nice rig put some diodes on the
>>>>ac line and you will not see anythig special..
>>>
>>>
>>>Using a single floating 6.3V secondary winding with a potentiometer
>>>connected across it and the wiper connected to the ground and adjusted
>>>for minimum hum should be enough.
>>>
>>>This kind of system works quite well when you have a single high
>>>sensitivity input (such as in a radio receiver), but if you have
>>>multiple sensitive inputs (as in audio mixing consoles) you would need
>>>a separate filament winding for each input tube, in order to be able
>>>to adjust the filament balance without compromises. In such situations
>>>a DC filament system would be simpler to implement.
>>>
>>>Paul OH3LWR
>>>
>>
>>Except for high gain AF stages, a center tapped filament winding with the
>>center tap grounded should be ok. Otherwise a resistor of a few hundred to
>>a few thousand ohms from each side to ground (resistors of identical value).
>>Use of a pot is probably overkill, but if you have one in the junk box and
>>room to mount it ok.
>>
>
>
> Maybe he's thinking about the antique radio sets which just ran off
> batteries. Weren't the filaments run off 6 Vdc?
>
> Al
>

Old radios used 5v tubes off 6v batteries and a rheostat to control filament voltage. I was talking about using resistors to create a center tap for a transformer
without one. While this was used to power directly heated tubes off ac, it could be
used as a hum balance for heater cathode types.

3121. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 02:11:24 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA31634.CA412757@earthlink.net>
Source record: 31438

Avery Fineman wrote:
>
> In article <3FA2A53C.F57F22FF@earthlink.net>, "Michael A. Terrell"
> <mike.terrell@earthlink.net> writes:
>
> >David Forsyth wrote:
> >>
> >> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> >> like to obtain some for winding RF coils for homebrew radio receivers.
> >> Anybody know of a supplier or maybe have some on hand?
> >>
> >> thanks,
> >>
> >> Dave
> >
> >Both belden and Alpha made it, so I would start with Newark, Allied, or
> >another large OEM distributor. Also, see if there is a motor rewinding
> >shop in your area that might use it on small motors. You might pick up a
> >partial spool at a decent price.
>
> I don't think that Belden or Alpha has made that kind of wire for at
> least 2 decades. Got both of their big factory catalogs here and
> all I find is "magnet wire" in either light or heavy (two coat) plastic
> insulation. My new Mouser catalog has only part of two pages
> with "magnet wire," both being the equivalent to old "enamel
> covered coil wire." Might try the search engine at Digi-Key, but I
> doubt there will be any success.
>
> Last I was at a place that rewound electric motors was 8 years
> ago and they had only heavy plastic covered "magnet wire."
>
> The old cotton-coverd coil wire was okay 4 to 5 decades ago but
> doesn't offer much for coil building except for the cotton insulation
> being excellent to absorb shellac that will dry and hold everything
> together very nicely. Actually, back in the old days, a ceresin wax
> application was more likely to be applied...dried quicker and moved
> the product through production faster. I happen to like McCloskey
> "Gym-Seal" floor varnish to coat home-wound inductors, solenoidal
> to toroidal...it's all petroleum-based, not a polyurethane, and doesn't
> come loose in high moisture environments like some polyurethanes.
> "Gym-Seal" seems to stick to polyester and polyamide magnet
> wire coatings very well.
>
> There's a slight difference in distributed capacity between DCC and

> enameled wire, DCC usually being slightly less (any coating applied
> over it will change that to not less). Not enough distributed capacity
> to worry about in my estimation.
>
> There's a slight difference in inductance for a given coil form dimension
> between DCC and enamel-covered, the DCC having slightly less for
> the same number of turns. Again, not enough to worry about.
>
> Len Anderson
> retired (from regular hours) electronic engineer person

The last cotton covered wire I used was around 1970. I bought a large spool surplus to make a bunch of heavy duty degaussing coils for early color TV sets. 300 turns of 17 AWG DCC, double enameled wire that was surplused by Picker X-ray, and sold to Mendelson's, in Dayton Ohio. They had hundreds of partial spools, and I think they still had some in 1987, (The last time I was at their store in Dayton, Ohio) It was still listed in the last belden and Alpha catalogs I received, but I would have to dig them out to get the dates.
--

Michael A. Terrell
Central Florida

3122. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 02:43:16 UTC
From: John Moriarity <k6qq@hdo.net>
Message-ID: <vq8rp2qfesrb7d@corp.supernews.com>
Source record: 31312
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"BFoelsch" <BFoelsch@snet.ditch.this.net> wrote in message
news:VZqdnQ9TFPVF9zmiU-KYlg@giganews.com...
> For disbelievers, I have posted a photo over on
alt.binaries.pictures.radio
> showing a miniscule section of a 1972 vintage pipe organ relay with
> hundreds of
> conductors of white DCC conductors.

Tell me about it!!

Back in the 1950s I helped restore a pipe organ
that was removed from a movie theater. The
guy removing it just wanted to scrap the pipes for
their metal, but died shortly after he started the
process. A friend got it free, just for getting it
out of there. This was a four manual Wurlitzer.

All the cable bundles had been cut with an axe!!

It took a whole summer to buzz out *thousands*
of wires and get two ranks of pipes playing on
two manuals.

73, John - K6QQ

3123. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 04:06:52 UTC
From: "Geoffrey G. Rochat" <777geoff777@777pkworks777.777com777>
Message-ID: <bnvap8$2q7$1@news.utelfla.com>
Source record: 31439
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> like to obtain some for winding RF coils for homebrew radio receivers.
> Anybody know of a supplier or maybe have some on hand?
>

Both Radio Daze (www.radiodaze.com) and Antique Electronic Supply
(www.tubesandmore.com) list cotton-covered wire in their catalogs for radio
restoration.

3124. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 04:15:10 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <irGob.73438$HS4.636881@attbi_s01>
Source record: 31440
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"David Forsyth" <foda01@ncx.com> wrote in message
news:vq55qtencg9c70@corp.supernews.com...
> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> like to obtain some for winding RF coils for homebrew radio receivers.
> Anybody know of a supplier or maybe have some on hand?
>
> thanks,
>
> Dave

Dave -

Contrary to what has been posted, cotton cloth braiding machines still
exist --
even at the big wire manufacturers -- however today they are usually used
for special orders.

Now, Odis W. LeVrier OWNS a cloth braider and makes beautiful replacement
cloth wire for
antique telephones (cloth covered tinsel, cloth covered line cords, desk set
cords) Photos are on
his web page. Please contact Odis directly for your special requests or
orders - he may be able to accommodate!
http://www.houseoftelephones.com/index.htm

Other "urban legend" - No one is fixing classic WE, AE, SC telephones
anymore - WRONG
Steve Hilsz just fixed my Dad's old Northern Electric desk phone - now worth
over $ 200
in collectable/antique telephone market ! You should see what the original
candlesticks sell for !!
http://www.navysalvage.com/

w9gb

3125. Re: connecting dc supplies in parallel for more current

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 07:15:32 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FA35D8F.AAB745FA@bellatlantic.net>
Source record: 31441

clc wrote:
>
> Im still trying to come up with a high current DC supply for my mobile HF rig.
> I have 4 - transformers that are all the same part number, there output is 4amp
> at 18.5 vac. I want to hook a bridge to each & then connect the DC outputs of
> each in parallel to increase current to my regulator circut.
> I should end up with 17 - 18 VDC @ 16 amps. Does this sound like it would
> work ok, Im not sure about paralleling DC supplies ?

It should work fine, but your DC output voltage will end
up higher with the addition of the required filter cap.
Voltage across the cap will be about 26 volts, no load.
Parallel the output of the bridges, install a big filter
cap, and run the resultant voltage to a voltage regulator.
Do not regulate prior to paralleling the supplies!

Your regulator can be an LM317 or 7812, with pass
transistors in a "collector wraparound" configuration.
I'll describe such configuration below, using a 7812.
You can parallel a number of pass transistors - I'd use 4
2N3055's (2N3055's because I have a lot of them) with
a .1 ohm 5W resistor in each emitter leg. You can use a
7812 with 2 or 3 diodes in the ground leg between the leg
and ground, connect the output of the 7812 to the parallel
xsistors collectors. The base of the transistor goes to
the input pin of the 7812. From there, a 2 ohm 1 watt
resistor connects to the + side of the cap where the emitter
resistors also connect. If you look at the 7812 datasheet
application notes, you will find an example of the circuit
there with a single pass transistor (and thus no emitter
resistors) and no diodes in the ground leg.
http://www.national.com/ds/LM/LM340.pdf

The pass transistors have to handle about 205 watts
(12.8 volts * 16 amps) so you need a good heatsink
for them. You also need to heatsink the 7812.

The LM317 circuit is essentially the same. Look at
its datasheet. You won't need the 2 diodes in the
ground leg, but you will need to add a couple of
resistors.

3126. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 08:58:42 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vq6t0q1q6nb5d@corp.supernews.com>
Source record: 31442
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

As far as I can see, these web sites are offering cloth-covered stranded wire, such as would be used for hook-ups under chassis and such. I'm looking for "D.C.C." wire such as was used for winding coils. I guess it would be considered "magnet wire" ?

Dave

"Geoffrey G. Rochat" <777geoff777@777pkworks777.777com777> wrote in message news:bnvap8$2q7$1@news.utelfla.com...
> > Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> > like to obtain some for winding RF coils for homebrew radio receivers.
> > Anybody know of a supplier or maybe have some on hand?
> >
>
> Both Radio Daze (www.radiodaze.com) and Antique Electronic Supply
> (www.tubesandmore.com) list cotton-covered wire in their catalogs for radio
> restoration.
>
>
>

3127. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 09:02:15 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vq6t7eoq9tdgca@corp.supernews.com>
Source record: 31443
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Thanks for the tip, Michael. I checked out the Belden and Alpha web sites as well as Allied and Newark, and I didnt see anything about D.C.C. or cotton-covered wire. Perhaps I sould be looking under a different name?

Dave

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message news:3FA2A53C.F57F22FF@earthlink.net...
> David Forsyth wrote:
> >
> > Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> > like to obtain some for winding RF coils for homebrew radio receivers.
> > Anybody know of a supplier or maybe have some on hand?
> >
> > thanks,
> >
> > Dave
>
> Both belden and Alpha made it, so I would start with Newark, Allied, or
> another large OEM distributor. Also, see if there is a motor rewinding
> shop in your area that might use it on small motors. You might pick up a
> partial spool at a decent price.
> --
>
>
> Michael A. Terrell
> Central Florida

3128. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 09:17:01 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <bnvr84$c24$1@news1.kornet.net>
Source record: 31444
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"David Forsyth" <foda01@ncx.com> wrote in message
news:vq6t7eoq9tdgca@corp.supernews.com...
> Thanks for the tip, Michael. I checked out the Belden and Alpha web sites
> as well as Allied and Newark, and I didnt see anything about D.C.C. or
> cotton-covered wire. Perhaps I sould be looking under a different name?
>

Perhaps this is what you are looking for???

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2199234934&category=7275

3129. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 12:05:58 UTC
From: --exray-- <a@b.c>
Message-ID: <vq78c84u4jr0de@corp.supernews.com>
Source record: 31445
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

G.Beat wrote:

>
> Contrary to what has been posted, cotton cloth braiding machines still
> exist --
> even at the big wire manufacturers -- however today they are usually used
> for special orders.
>
> Now, Odis W. LeVrier OWNS a cloth braider and makes beautiful replacement
> cloth wire for
> antique telephones (cloth covered tinsel, cloth covered line cords, desk set
> cords) Photos are on
> his web page. Please contact Odis directly for your special requests or
> orders - he may be able to accommodate!
> http://www.houseoftelephones.com/index.htm

I think Charles Days in So. Dartmouth, Mass also makes the wire. (He collects old textile machinery) He used to be quite regular here but I haven't seen him posting in quite a while. He was juggling email addresses towards the end and I recall the most recent to be shortNOSPAMcircuit@att.bi.com. His mailing address is on qrz.com-ham call WA1JFD.

-Bill

3130. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 13:15:53 UTC
From: Bill <wjeffrey@alum.mit.edu>
Message-ID: <dmOob.27961$ZC4.4027@twister.nyroc.rr.com>
Source record: 31446
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:

> As far as I can see, these web sites are offering cloth-covered stranded
> wire, such as would be used for hook-ups under chassis and such. I'm
> looking for "D.C.C." wire such as was used for winding coils. I guess it
> would be considered "magnet wire" ?
>
> Dave

"Magnet wire" is not fabric-insulated. Instead, it has a coating of
varnish, formvar, etc. It will work well for winding coils, but it
won't look like DCC.

Bill Jeffrey

3131. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 13:24:19 UTC
From: BFoelsch <BFoelsch@snet.ditch.this.net>
Message-ID: <JsmdndiAJoeTKT6iU-KYkg@giganews.com>
Source record: 31297
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

To the best of my knowledge, the last "high-volume" use of DCC wire was making cables for pipe organs. The pipe organ guys used it because you could treat it as pushback wire, and that saved time due to the many thousands of connections and conductors a typical pipe organ contains. The last manufacturer was, I believe, the Philadelphia Insulated Wire Company.

This stuff was getting very hard to find around 1980, I have no real reason to suspect that it is made at all any more. But, I am sure that there is a lot of it laying around. I just don't have any!

"David Forsyth" <foda01@ncx.com> wrote in message news:vq55qtencg9c70@corp.supernews.com...
> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> like to obtain some for winding RF coils for homebrew radio receivers.
> Anybody know of a supplier or maybe have some on hand?
>
>
> thanks,
>
> Dave
>
>

3132. Re: Direct conversion receivers for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 15:24:48 UTC
From: fmmck@aol.com
Message-ID: <20031101102448.15013.00000104@mb-m13.aol.com>
Source record: 31298

<< Of course: this is how synchronous AM detection works.
They generate a clean, in-phase carrier and use that to
demodulate the incoming signal. >>

Laura & Joel-

I was just thinking that. I recall there used to be (may still be) a shortwave broadcast station just above the 15 Meter band, that broadcasted with a partly suppressed carrier. Apparently the SWL community has access to equipment with Synchronous detection capability.

Listening to it on an AM receiver, it could be understood but was distorted. It was easy to tune it on a Ham transceiver as if it was SSB, but tuning was critical for music to sound good.

Addressing the original question about direct conversion, what if you used a temperature compensated oscillator with a phase-locked-loop? If the assumption could be made that the broadcast station will not drift, then you could tune each station dead on with an RIT-like adjustment of the oscillator.

73, Fred, K4DII

3133. Wanted: 23cms preamp and linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 16:31:38 UTC
From: Al Bolton <al.bolton@ntlworld.com>
Message-ID: <KdRob.743$u9.705@newsfep1-gui.server.ntli.net>
Source record: 31299
Cross-posted to: uk.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Wanted: A 23cms preamplifier, prefer an RF switched type. Well made home brew example is fine, so long as it works properly!

Also wanted: A linear amplifier for 23cms, approximately 1.5 Watts input, minimum of 15 Watts output required. Again, good home brew example is fine.

Can collect (located near Reading, Berkshire,U.K.) or will pay postage. I have a PayPal account available to speed things up.

Please e-mail me if you can help.

Thanks,
Al, G4VSQ

3134. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 16:43:53 UTC
From: la8ak.xnd@online.no
Message-ID: <3fa3be8e.63933952@news.online.no>
Source record: 31300

On Sat, 01 Nov 2003 02:11:24 GMT, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

> The last cotton covered wire I used was around 1970. I bought a large
>spool surplus to make a bunch of heavy duty degaussing coils for early
>color TV sets. 300 turns of 17 AWG DCC, double enameled wire that was
>surplused by Picker X-ray, and sold to Mendelson's, in Dayton Ohio. They
>had hundreds of partial spools, and I think they still had some in 1987,
>(The last time I was at their store in Dayton, Ohio) It was still listed
>in the last belden and Alpha catalogs I received, but I would have to
>dig them out to get the dates.
>--
>
>Michael A. Terrell
>Central Florida

Just curious. I got some spools from a friend, but don't really know
when it is an advantage to use the cotton covered wire instead of the
normal enamelled copper wire. Used it for some VLF purposes to make
lower self capacitance of coils, but appying single strand wire was
just to use what was available instead of multistranded wire

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

3135. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 19:07:55 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <b9u7qv8890r05sgdduvfqc05qn61evtco6@4ax.com>
Source record: 31301
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

On Fri, 31 Oct 2003 18:09:16 GMT "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

>David Forsyth wrote:
>>
>> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
>> like to obtain some for winding RF coils for homebrew radio receivers.
>> Anybody know of a supplier or maybe have some on hand?

>Both belden and Alpha made it

How sure are you of this? I don't recall seeing it in the Belden
catalog, and when I built a Tesla coil in the 50s a Belden engineer
helped me (Belden is still located in the town where I grew up, a
GREAT field trip, BTW.) The instructions we were following called for
DCC magnet wire, but we couldn't buy any even then. The Belden
engineer even inquired to see if their prototype shop could whip up a
batch just for us, but they didn't have any way to do it by then.

I suspect that it's been 50 years since anyone in the US has made SCC,
DCC, SSC, or DSC wire.

Everyone remember those?

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

3136. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 20:48:54 UTC
From: BFoelsch <BFoelsch@snet.ditch.this.net>
Message-ID: <zGednff5EOiigTmiU-KYjA@giganews.com>
Source record: 31302
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

As I mentioned in another post, I was using good quantities of it (on a "serious hobby" basis), in 22 - 26 awg until the late 1970's. Curiously, until that time you could also buy DCC cable, 20 - 26 awg, conductors were bundled in groups of 11 and the whole assembly was enclosed in PVC and impregnated with paraffin; this cable again being a specialty item for the pipe organ market.

I also remember silk covered wire, somewhere around here I have a small roll of #40 silk covered. I always loved those cute little wooden rolls that old magnet wire came on, kind of like a giant roll of thread. I am trying to remember some of the manufacturers, maybe I'll look around and see if I still have an old spool laying around with a label on it.

"Jim Adney" <jadney@vwtype3.org> wrote in message
news:b9u7qv8890r05sgdduvfqc05qn61evtco6@4ax.com...
> On Fri, 31 Oct 2003 18:09:16 GMT "Michael A. Terrell"
> <mike.terrell@earthlink.net> wrote:
>
> >David Forsyth wrote:
> >>
> >> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I
would
> >> like to obtain some for winding RF coils for homebrew radio receivers.
> >> Anybody know of a supplier or maybe have some on hand?
>
> >Both belden and Alpha made it
>
> How sure are you of this? I don't recall seeing it in the Belden
> catalog, and when I built a Tesla coil in the 50s a Belden engineer
> helped me (Belden is still located in the town where I grew up, a
> GREAT field trip, BTW.) The instructions we were following called for
> DCC magnet wire, but we couldn't buy any even then. The Belden
> engineer even inquired to see if their prototype shop could whip up a
> batch just for us, but they didn't have any way to do it by then.
>
> I suspect that it's been 50 years since anyone in the US has made SCC,
> DCC, SSC, or DSC wire.
>
> Everyone remember those?
>
> -
> --
> Jim Adney jadney@vwtype3.org
> Madison, WI 53711 USA

> ----------

3137. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 21:39:21 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <QGVob.125276$sp2.59628@lakeread04>
Source record: 31303
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Herman Gross has been advertising 22AWG cotton covered
enamel wire in ARC for ages. W9ITT.

Pete

email sent via private mail.

"David Forsyth" <foda01@ncx.com> wrote in message
news:vq55qtencg9c70@corp.supernews.com...
> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> like to obtain some for winding RF coils for homebrew radio receivers.
> Anybody know of a supplier or maybe have some on hand?
>
>
> thanks,
>
> Dave
>
>

3138. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 22:52:45 UTC
From: Bill Hennessy <hennessy@281.com>
Message-ID: <3fa4398a$0$75715$9a6e19ea@news.newshosting.com>
Source record: 31305
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Antique Electronic Supply has it. Thay have a web site.

Bill, N5NOB

3139. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 22:53:02 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <iPWob.60355$275.148147@attbi_s53>
Source record: 31304
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Well it is not DCC ... but 2 bobbins of DC 20 AWG just appeared on eBay !

Item number: 3056601638

GB

"David Forsyth" <foda01@ncx.com> wrote in message
news:vq55qtencg9c70@corp.supernews.com...
> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> like to obtain some for winding RF coils for homebrew radio receivers.
> Anybody know of a supplier or maybe have some on hand?
>
>
> thanks,
>
> Dave
>
>

3140. No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 23:31:16 UTC
From: Twistedhed <twistedhed@webtv.net>
Message-ID: <bo1fo4$5ai$1@news.x-echo.com>
Source record: 31306
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

I am interested in expanding my freeband hobby but do not wish to take t
he General class hammie test until the code is dropped. My question is d
oes anyone know when the code will be dropped and how long woould I need
to wait until the written General test is simplified such as the Tech t
est is now?

Plase email me a WAV of morse code so I can hear what it sounded like wh
en the old hammies used it.
twistedhed@webtv.net

=-
Article poste via Voila News - http://www.news.voila.fr
Le : Sun Nov 2 00:31:15 2003 depuis l'IP : ac87591b.ipt.aol.com [VIP 532284301978]

3141. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-01 23:50:21 UTC
From: JJ <radiobuff0@mailcity.moc>
Message-ID: <Q8OdnW-b2dFY2jmiRVn-uw@gbronline.com>
Source record: 31307
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Twistedhed wrote:

> I am interested in expanding my freeband hobby but do not wish to take t
> he General class hammie test until the code is dropped. My question is d
> oes anyone know when the code will be dropped and how long woould I need
> to wait until the written General test is simplified such as the Tech t
> est is now?
>
> Plase email me a WAV of morse code so I can hear what it sounded like wh
> en the old hammies used it.
> twistedhed@webtv.net

There is the twistie wanna-be posting from x-echo.com again.

3142. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 00:09:08 UTC
From: Landshark <S3Buell@jgkdls.com>
Message-ID: <EWXob.947$NJ3.639@newssvr29.news.prodigy.com>
Source record: 31308
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Forge

"Twistedhed" <twistedhed@webtv.net> wrote in message news:bo1fo4$5ai$1@news.x-echo.com...
> I am interested in expanding my freeband hobby but do not wish to take t
> he General class hammie test until the code is dropped. My question is d
> oes anyone know when the code will be dropped and how long woould I need
> to wait until the written General test is simplified such as the Tech t
> est is now?
>
> Plase email me a WAV of morse code so I can hear what it sounded like wh
> en the old hammies used it.
> twistedhed@webtv.net
>
> =-
> Article poste via Voila News - http://www.news.voila.fr
> Le : Sun Nov 2 00:31:15 2003 depuis l'IP : ac87591b.ipt.aol.com [VIP 532284301978]

3143. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 01:14:23 UTC
From: Alan Douglas <adouglasatgis.net>
Message-ID: <r2m8qvoou7plvo4o4iql8mv292c60e4v3a@4ax.com>
Source record: 31309
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Hi,
BFoelsch wrote:

>To the best of my knowledge, the last "high-volume" use of DCC wire was
>making cables for pipe organs. The pipe organ guys used it because you could
>treat it as pushback wire, and that saved time due to the many thousands of
>connections and conductors a typical pipe organ contains.

Tell me about it. Hundreds of wires cabled together, all the same
color. There oughtta be a law.

And:

>I also remember silk covered wire, somewhere around here I have a small roll
>of #40 silk covered. I always loved those cute little wooden rolls that old
>magnet wire came on, kind of like a giant roll of thread. I am trying to
>remember some of the manufacturers, maybe I'll look around and see if I
>still have an old spool laying around with a label on it.

Belden (ha ha), Birnbach, Cornish Wire Co. on mine.

I definitely don't want to go into the supply business, but if
anyone absolutely *has* to have silk wire, I have spools of 31, 33,
34, 35 and 40 DSC, 38 double nylon, and 10x38 and 10x41 silk litz.

Cheers, Alan

3144. FS: HB cabinets de W7ZFB

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 02:23:52 UTC
From: msix@oldplato.nmia.com
Message-ID: <1067740802.770287@newshost03.voicenet.com>
Source record: 31311

2 each NIB Bud SB-2143 steel shadow cabinet, panel recessed 1 inch,
15.5Wx9Dx6H, medium blue/gray hammertone, back and bottom
removeable, alum front panel primed gray for painting a
contrasting color. Takes Bud AC-409 13x7x2 chassis. $25 each

New unused alum LMB CO-1 cabinet with matching LMB chassis.
Contoured perforated case, recessed front panel, hinged top.
Gray with ivory trim, dark gray front panel.
case 14.5Wx13Dx6.5H, chassis 13x11x2. $75

New unused alum LMB CO-2. Style as above, 12Wx10Dx6.5H.
Takes LMB CO-2 11x8x2 chassis. $50

New unused alum LMB CO-3. Style as above, no hinged top.
5.5Wx7Dx3H. $19

Nice used alum LMB CO-3. Style as above, no hinged top.
Front has pot, switch and pilot light mounted.
Rear has 3 BNC jacks and fuse mounted. $10

Plus postage as usual...
73 John W7ZFB - Good in QRZ
n

3145. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 02:24:16 UTC
From: BFoelsch <BFoelsch@snet.ditch.this.net>
Message-ID: <VZqdnQ9TFPVF9zmiU-KYIg@giganews.com>
Source record: 31310
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

For disbelievers, I have posted a photo over on alt.binaries.pictures.radio showing a miniscule section of a 1972 vintage pipe organ relay with hundreds of
conductors of white DCC conductors.

"Alan Douglas" <adouglasatgis.net> wrote in message news:r2m8qvoou7plvo4o4iql8mv292c60e4v3a@4ax.com...
> Hi,
> BFoelsch wrote:
>
> >To the best of my knowledge, the last "high-volume" use of DCC wire was
> >making cables for pipe organs. The pipe organ guys used it because you could
> >treat it as pushback wire, and that saved time due to the many thousands of
> >connections and conductors a typical pipe organ contains.
>
> Tell me about it. Hundreds of wires cabled together, all the same
> color. There oughtta be a law.

3146. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 02:45:35 UTC
From: mcalhoun@ksu.edu
Message-ID: <bo1r4f$4h1@unix1.cc.ksu.edu>
Source record: 31314
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

>Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
>like to obtain some for winding RF coils for homebrew radio receivers.
>Anybody know of a supplier or maybe have some on hand?

I have a 1959 metal spool of #20 AWG wire which is at least single cotton covered, but I don't think the innermost covering is cotton. Unwinding the outer green/white threads shows something else underneath, but it doesn't unwind; it has to be scraped off, but it is NOT enamel. The spool is 4 inches wide and the wire is about 1.75 inches thick; I have no idea of the total length, but the total weight is 6+ pounds.

If you think it might serve your purposes, make me an offer. Don't forget to include shipping (plus something to reimburse me for storing it for 44 years!-)

--Myron, W0PBV.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3147. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 02:46:41 UTC
From: Jeffrey D Angus <jangus@socal.rr.com>
Message-ID: <le_ob.35396$Ub4.18711@twister.socal.rr.com>
Source record: 31313
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Alan Douglas wrote:
>
> Tell me about it. Hundreds of wires cabled together, all the same
> color. There oughtta be a law.

You've never worked on ground support test equipment in the
aerospace industry then. 3" diameter bundles of cables that
are all color coded white. 24 AWG teflon covered.
And that was on the "simple" ones.

Jeff

--
"They that can give up essential liberty to obtain a little temporary
safety deserve neither liberty nor safety." Benjamin Franklin
"A life lived in fear is a life half lived."
Tara Morice as Fran, from the movie "Strictly Ballroom"

3148. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 03:40:40 UTC
From: --exray-- <a@b.c>
Message-ID: <vq8v4olrgi912c@corp.supernews.com>
Source record: 31315
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Jeffrey D Angus wrote:
>
>
> Alan Douglas wrote:
>
>>
>> Tell me about it. Hundreds of wires cabled together, all the same
>> color. There oughtta be a law.
>
>
> You've never worked on ground support test equipment in the
> aerospace industry then. 3" diameter bundles of cables that
> are all color coded white. 24 AWG teflon covered.
> And that was on the "simple" ones.
>
> Jeff
>
Or old lead-sheathed telephone cable where they were wrapped
individually in paper...all the same color of course.

-ex

3149. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 05:36:52 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FA497E7.4A8D2A3F@bellatlantic.net>
Source record: 31316
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Jason Dugas wrote:
>
> I'm interested in measuring the velocity factor of some coax I have (more of
> an exercise than necessity). In order to do this, the MFJ-259 Operations
> manual states that the "stub" to be measured should be attached with a
> 50-ohm noninductive resistor in series to that center conductor of the
> Antenna connector on the analyzer.

You may think it says this:
MFJ-resistor-coax_center_conductor--
|
---------coax_shield------------

But maybe it means this:

MFJ----------------coax_center_conductor-resistor-
|
----------------coax_shield--------------------

I don't know what the MFJ documentation says - but if
they want a 50 ohm resistor in series from the center
conductor and the shield, put it at the far end of the
length of coax you are testing. Connect it as shown in
the bottom diagram by soldering the resistor directly
across the center conductor and shield at the far end.

The way I do it is to cut a physical 1/2 wavelength
coax for the frequency, install a pl259 on one end and
connect it to the MFJ. I install a 51 ohm resistor at
the far end of the coax. When that resistor is 1/2
wave away *electrically*, it's impedance will appear
across the PL259 plugged into the MFJ. You need to
shorten the coax by snipping off some of the length
at the far end, then reinstalling the resistor.
When you have the thing at an electrical 1/2 wave
you'll get Z=50 at the MFJ. Your VF is the length
of that piece of coax divides by the original length.

Maybe the MFJ documents a better way - I dunno - but
I've used my way successfully.

>
> What would be a good way of making this connection? I've thought about it
> quite a bit; the best idea I've come up with so far is to have a small metal
> enclosure w/ two SO-239's mounted. The resistor would go from center

> conductor to center conductor of each SO-239. But this requires too many
> extra connections & lengths. Is there a better way to do this? Would love
> to see anyone else's experimental setup, particularly if there are pictures
> or details on the web.
>
> Thanks & 73,
>
> Jason
> KB5URQ

3150. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 05:49:41 UTC
From: Steveo <moparholic@hotmail-nospam-.com>
Message-ID: <20031102004941.440$Re@newsreader.com>
Source record: 31317
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

JJ <radiobuff0@mailcity.moc> wrote:
> Twistedhed wrote:
>
> > I am interested in expanding my freeband hobby but do not wish to take
> > t he General class hammie test until the code is dropped. My question
> > is d oes anyone know when the code will be dropped and how long woould
> > I need
> > to wait until the written General test is simplified such as the Tech
> > t est is now?
> >
> > Plase email me a WAV of morse code so I can hear what it sounded like
> > wh en the old hammies used it.
> > twistedhed@webtv.net
>
> There is the twistie wanna-be posting from x-echo.com again.
>
His bait smells like the north end of a south bound mule.

3151. Re: Need info about 2SC3286 VHF power device

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 13:36:36 UTC
From: la8ak.xnd@online.no
Message-ID: <3fa50297.146900231@news.online.no>
Source record: 31318

On Mon, 27 Oct 2003 00:23:34 GMT, "G.Beat"
<now9spamgb@spam.comcast.net> wrote:

>
>"J M Noeding" <la8ak.xnd@online.no> wrote in message
>news:3f9c6424.129674421@news.online.no...
>> Hi
>>
>> tried Google to search data for 2SC3286, but ended up with some
>> Japanese lettered sites which Netscape couldn't read. Does somebody
>> have a pdf file or know where I could find it?
>
>Some follow-up data:
>
>NPN bi-polar
>
>55 V max; 24 Amps (Ic) max; 280 W max; 60 hFE
>http://harmsy.freeuk.com/nic.percival/2sc/2sc320.html
>
>w9gb
>
>
TNX, seems to be the only info available. Could check at the import
agent.
If they stand 55V it means that they will run safe with unstabilized
28V swinging up to 32V under no-load, and the 19" standard-48V to +24V
stabilized powersupplies don't need to fill up my shack, the problem
is only to find transformers suitable for so many 200W Power
amplifiers as I have room for, hi

The equipment is shown on http://home.online.no/~la8ak/d24.htm but
text is in Norwegian because it is limited interest and it is an offer
for the amateur radio groups to collect the hundreds of paging
transmitters if they can take an initiative, many can't, hi

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

3152. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 13:38:27 UTC
From: Royce Dean <swl3@ibm.net>
Message-ID: <nN7pb.84546$Fm2.63043@attbi_s04>
Source record: 31319
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

The future of the code is still in limbo, and could be resolved in several months, or years. As far as the written, it is about as easy now, as it ever has been.

"Twistedhed" <twistedhed@webtv.net> wrote in message news:bo1fo4$5ai$1@news.x-echo.com...
> I am interested in expanding my freeband hobby but do not wish to take t
> he General class hammie test until the code is dropped. My question is d
> oes anyone know when the code will be dropped and how long woould I need
> to wait until the written General test is simplified such as the Tech t
> est is now?
>
> Plase email me a WAV of morse code so I can hear what it sounded like wh
> en the old hammies used it.
> twistedhed@webtv.net
>
> =-
> Article poste via Voila News - http://www.news.voila.fr
> Le : Sun Nov 2 00:31:15 2003 depuis l'IP : ac87591b.ipt.aol.com [VIP 532284301978]

3153. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 14:29:19 UTC
From: Topaz305RK <2smoore@nemontel.net>
Message-ID: <OOGdnaYJNdxXiTiiRVn-tw@vnet-inc.com>
Source record: 31320
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

1 2 3 4 5 6 7 8 9 10

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TROLL-O-METER

3154. Re: Need info about 2SC3286 VHF power device

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 15:43:57 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <1D9pb.86026$Tr4.213328@attbi_s03>
Source record: 31321

> >"J M Noeding" <la8ak.xnd@online.no> wrote in message
> >news:3f9c6424.129674421@news.online.no...
[snip]
> >
> TNX, seems to be the only info available. Could check at the import
> agent.
> If they stand 55V it means that they will run safe with unstabilized
> 28V swinging up to 32V under no-load, and the 19" standard-48V to +24V
> stabilized powersupplies don't need to fill up my shack, the problem
> is only to find transformers suitable for so many 200W Power
> amplifiers as I have room for, hi
>
> The equipment is shown on http://home.online.no/~la8ak/d24.htm but
> text is in Norwegian because it is limited interest and it is an offer
> for the amateur radio groups to collect the hundreds of paging
> transmitters if they can take an initiative, many can't, hi
>

Jan -

The photos you supplied show very nice units. This approach is used in many
of the
solid-state designs for commercial FM (88 - 108 MHz) and VHF television
broadcast transmitters.

You may wish to correspond with JA0TJU. He had several designs based upon
this
bi-polar transistor. Another possibility is to look at W9NUP work with
combining in his 1 kW VHF / 2-meter amplifiers

I always prefer a regulated supply - wide voltage swings introduce other
problems.

Almost all RF transistors follow the following voltage "tiers" (with primary
usage/market)

12 / 13.8 VDC - automobile, portable usage

24 / 28 VDC - aircraft, military usage

48 / 50 VDC - telephone / telecommunications usage

Some prefer the 48 / 50 VDC devices - since it lowers overall current
(amperage) and allow usage of
240 to 120 volt step down transformers -- for stepping down 120 volt to 60
volt in the power
supply circuit.

73 de Greg
w9gb

3155. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 18:08:54 UTC
From: Eddie Haskel <wiseguy@clever.com>
Message-ID: <WKbpb.12454$Zx1.1017@newssvr14.news.prodigy.com>
Source record: 31322
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Stay on Freeband.....we don't want YOU.....a happy "hammie"
"Twistedhed" <twistedhed@webtv.net> wrote in message
news:bo1fo4$5ai$1@news.x-echo.com...
> I am interested in expanding my freeband hobby but do not wish to take t
> he General class hammie test until the code is dropped. My question is d
> oes anyone know when the code will be dropped and how long woould I need
> to wait until the written General test is simplified such as the Tech t
> est is now?
>
> Plase email me a WAV of morse code so I can hear what it sounded like wh
> en the old hammies used it.
> twistedhed@webtv.net
>
> =-
> Article poste via Voila News - http://www.news.voila.fr
> Le : Sun Nov 2 00:31:15 2003 depuis l'IP : ac87591b.ipt.aol.com [VIP
532284301978]

3156. Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 19:42:20 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vqan3crrl44ffa@corp.supernews.com>
Source record: 31323
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

In the interest of my recent tinkerings with radios (both antique and homebrew), I have put up an 80 foot straight wire antenna above the house. It sits about 35 feet up from, and horizontal to, the ground. I am using a lead in from one end made of insulated stranded copper wire (basically old speaker cable, about 18 guage I think). Right now, the lead-in wire comes down from the end of the antenna closest to the sun porch, and in through the storm window via a well-insulated bushing. Due to the location of this lead-in, this is the spot wherre I have been doing most of the tinkering with the radios. I also have a copper pipe ground rod in a nearby location so as to have as short a path to ground as possible.) It seems to work OK for now but I would ideally like to run the lead-in into my basement where my workshop is. I read somewhere (I think it might have been in reference to crystal sets) that you can use coax for an AM lead-in. Would this be better for a longer/more convoluted lead-in? Would I use the braded shield as the ground connection or would I run a separate ground back to my copper rod outside? What type of coax would be best for this sort of thing? I am interested in receiving both broadcast and shortwave. Any info on this matter would be most appreciated.

thanks in advance,

Dave

3157. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 20:31:37 UTC
From: Marco S Hyman <marc@snafu.org>
Message-ID: <x7znfepl5i.fsf@hana.snafu.org>
Source record: 31324
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

ehsjr@bellatlantic.net writes:

> Jason Dugas wrote:
> >
> > manual states that the "stub" to be measured should be attached with a
> > 50-ohm noninductive resistor in series to that center conductor of the
> > Antenna connector on the analyzer.
>
>
> You may think it says this:
> MFJ-resistor-coax_center_conductor--
> |
> ---------coax_shield------------
>
> But maybe it means this:
>
> MFJ----------------coax_center_conductor-resistor-
> |
> ----------------coax_shield--------------------

How does the 259 differ from the 259B? Does the 259 have a distance
to fault mode?

I ask because the instructions for the 'B say that coax lines must be
open or *shorted*. Anything in between is verbotten.

With the 'B you use the "distance to fault" mode to figure
out the electrical length of the line then devide by the
physical length to caluclate the velocity factor.

// marc (KC7JL)

3158. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 21:59:46 UTC
From: --exray-- <a@b.c>
Message-ID: <vqavhf8uvk816e@corp.supernews.com>
Source record: 31325
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
I read somewhere (I think it might have been in reference
> to crystal sets) that you can use coax for an AM lead-in. Would this be
> better for a longer/more convoluted lead-in?

Not necessarily. If you need shielding for noise purposes that might be worthwhile but apart from that there's no advantage over just a single wire. The radios you're typically working on have high impedance inputs.

In a random-wire installation, the total length of the wire IS the antenna. There is no lead-in per se. By using a shielded cable you are effectively shielding that portion of your antenna. I think you might find it won't work as well on BCB with the shield grounded and you would have to lift that at the radio end negating having it there in the first place.

On shortwave freqs the loss of the cable in a mismatched state such as feeding a random wire (or an old hi-z radio) may also work against you.

I'd go with the plain wire unless there is a noise problem that is being picked up by the vertical portion of the antenna.

My 2c.

-Bill

3159. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 22:49:30 UTC
From: John Bartley <jcb@igs.net>
Message-ID: <3fa58aab_6@corp.newsgroups.com>
Source record: 31326
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

--exray-- wrote:
>
> I'd go with the plain wire unless there is a noise problem that is being
> picked up by the vertical portion of the antenna.
>

Being a smarter than average bear (my own opinion of course :~>) I
figured I'd use coax to bring my long wire antenna into the house, and
I'd ground the shield.

Didn't work very well.

Now I'm just using plain wires for each of the antenna and ground and it
works very well. I'd say that my antenna outside the house is about
10-15' off the ground and runs for about 100' in a 50' x 50' "L" shape.

--
regards from ::
John Bartley
43 Norway Spruce Street
Stittsville, Ontario
Canada, K2S1P5
(If you slow down it takes longer - does that apply to life also?)

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3160. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 22:51:09 UTC
From: **THE-RFI-EMI-GUY** <NoSpamBogus@NoSpamBogus.com>
Message-ID: <3FA58A5D.3050702@NoSpamBogus.com>
Source record: 31327
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Whichever way you go, be sure to put a lightning arrestor on the lead in.
David Forsyth wrote:

>In the interest of my recent tinkerings with radios (both antique and
>homebrew), I have put up an 80 foot straight wire antenna above the house.
>It sits about 35 feet up from, and horizontal to, the ground. I am using a
>lead in from one end made of insulated stranded copper wire (basically old
>speaker cable, about 18 guage I think). Right now, the lead-in wire comes
>down from the end of the antenna closest to the sun porch, and in through
>the storm window via a well-insulated bushing. Due to the location of this
>lead-in, this is the spot wherre I have been doing most of the tinkering
>with the radios. I also have a copper pipe ground rod in a nearby location
>so as to have as short a path to ground as possible.) It seems to work OK
>for now but I would ideally like to run the lead-in into my basement where
>my workshop is. I read somewhere (I think it might have been in reference
>to crystal sets) that you can use coax for an AM lead-in. Would this be
>better for a longer/more convoluted lead-in? Would I use the braded shield
>as the ground connection or would I run a separate ground back to my copper
>rod outside? What type of coax would be best for this sort of thing? I am
>interested in receiving both broadcast and shortwave. Any info on this
>matter would be most appreciated.
>
>thanks in advance,
>
>Dave
>
>
>
>

--
Joe Leikhim K4SAT

"Jazz is not dead. It just smells funny." -F.Z.

3161. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 23:06:05 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vqb3fhk19fl7e6@corp.supernews.com>
Source record: 31328
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

If the antenna is the typical end-fed wire then the impedance will be very high. Most AM radios have a high impedance input designed to match a random wire like that. If you use coax, the capacitance of the coax (center conductor to shield) will essentially short most of the signal to ground and little will get to the receiver. If you've ever opened up the coax used on car radios you'll find that it is a special high impedance coax. A small wire fits loosly thru an insulated tube with the shield around the outside. This keeps a relatively large spacing between the center conductor and the shield in order to minimize capacitance.

3162. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 23:26:45 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vqb487cdej6pb5@corp.supernews.com>
Source record: 31329
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Thanks for all who responded thus far (and sorry to be such a wellspring of newbie questons).

Yes, I must confess that there is no lightning arrestor installed as of yet! I was aware that one should install such a device at the time I put up the antenna, but I didn't have one handy, nor did I feel the need to invest in one. I was thinking that in the late fall/winter we really don't get any lightning here (north-east PA) and therefore I wouldn't really need a lightning arrestor until the Spring. I'm sure I'm probably wrong on this, though, as it was mainly a product of my Scots heritage getting the best of me.

I guess it would be helpful to include some more specifics about what radios Im trying to feed with this antenna. Thus far, I have accumulated an Atwater Kent "big box" Model 20, an Atwater Kent 55-C (chassis only), an RCA Radiola 18, and a homebrew regen. This is my latest project.

It uses a '36 screen grid tube as detector and a 6F8G as dual-stage audio driving a loudspeaker through an overly large Hammond OPT. So far I've only wound a coil for BC band and this thing works amazingly well. I plan on making some smaller coils for short wave (hopefully the solar storm stuff wont be long in staying).

I also have future plans for a Grigsby-Grunow that was given to me to fix up, but it's on the distant horizon as of yet.

So far nobody has complained about the large pile of radio-related crap in the sun porch, but Im sure it's a matter of time. I will probably have to route the antenna lead-in through a wall or two and around some bends and twists to get it into the workshop in the basement. I guess I was assuming I should use coax for this, but apparently not, from what everyone here is saying. I'm not as concerned about noise as I am about possible signal loss. Is this something to even be concerned about with a plain old insulated stranded wire lead-in routed through walls and such?

I'm still new at this RF stuff (being a relatively recent convert from the realm of "AF"), so please bear with me, and thanks for all the helpful tips and suggestions!

Dave

3163. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 23:29:53 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vqb4e2h8gpaqd9@corp.supernews.com>
Source record: 31330
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Bob, is this something I could possibly be able to use in this application? Where does one find such high-impedance coax? As an alternative, would it be possible to put an active device up near the antenna that would act as a buffer to feed a low-impedance line?

Dave

"Bob Lewis (AA4PB)" <rlewis@staffnet.com> wrote in message news:vqb3fhk19fl7e6@corp.supernews.com...
> If the antenna is the typical end-fed wire then the impedance will be
> very high. Most AM radios have a high impedance input designed to
> match a random wire like that. If you use coax, the capacitance of the
> coax (center conductor to shield) will essentially short most of the
> signal to ground and little will get to the receiver. If you've ever
> opened up the coax used on car radios you'll find that it is a special
> high impedance coax. A small wire fits loosly thru an insulated tube
> with the shield around the outside. This keeps a relatively large
> spacing between the center conductor and the shield in order to
> minimize capacitance.
>
>

3164. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 23:39:18 UTC
From: Alun Palmer <alun@1stcounsel.com>
Message-ID: <Xns9427BDC21B7E7elektrosmdonet@130.133.1.4>
Source record: 31333
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Twistedhed <twistedhed@webtv.net> wrote in
news:bo1fo4$5ai$1@news.x-echo.com:

> I am interested in expanding my freeband hobby but do not wish to take
> t he General class hammie test until the code is dropped. My question
> is d oes anyone know when the code will be dropped and how long woould
> I need
> to wait until the written General test is simplified such as the Tech
> t
> est is now?
>
> Plase email me a WAV of morse code so I can hear what it sounded like
> wh en the old hammies used it.
> twistedhed@webtv.net
>
> =-
> Article poste via Voila News - http://www.news.voila.fr
> Le : Sun Nov 2 00:31:15 2003 depuis l'IP : ac87591b.ipt.aol.com [VIP
> 532284301978]

I will probably be dropped soon, but the FCC has to go through standard
procedures with all the pending petitions. The international requirement
was dropped on July 5th, so by next July it should probably be gone in the
US.

3165. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-02 23:51:33 UTC
From: Alan Douglas <adouglasatgis.net>
Message-ID: <985bqv8h6oeiuamjbp10mbfqridqav2ob8@4ax.com>
Source record: 31331
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Hi,
David wrote:

>Yes, I must confess that there is no lightning arrestor installed as of yet!
>
> it was mainly a product of my Scots heritage getting the best of me.

Sounds familiar. Actually a lighting arrestor isn't worth much,
and I'd suggest a large knife switch directly between the lead-in and
ground.

Your present antenna is ideal for broadcast reception since, as has
been mentioned, most antique radios were designed with this sort of
antenna in mind. Extending the lead-in to the basement will simply
make it work better. The vertical part of the lead-in catches most of
the signal. Keep it as far from power lines and noise sources as
possible. If your ground is now farther away, you may lose some
efficiency; my ground is a driven well in the basement.

On short wave, things are different. I've used my inverted-L for
short wave too, but never compared it directly against another
antenna.

Cheers, Alan

3166. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 00:46:12 UTC
From: --exray-- <a@b.c>
Message-ID: <vqb99gr709j828@corp.supernews.com>
Source record: 31332
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
> Bob, is this something I could possibly be able to use in this application?
> Where does one find such high-impedance coax? As an alternative, would it
> be possible to put an active device up near the antenna that would act as a
> buffer to feed a low-impedance line?
>
> Dave

The trick in this recommendation is that the car radio feedline is a
specific length (a few feet)and its capacitance is taken into account.

-Bill

>
>
> "Bob Lewis (AA4PB)" <rlewis@staffnet.com> wrote in message
> news:vqb3fhk19fl7e6@corp.supernews.com...
>
>>If the antenna is the typical end-fed wire then the impedance will be
>>very high. Most AM radios have a high impedance input designed to
>>match a random wire like that. If you use coax, the capacitance of the
>>coax (center conductor to shield) will essentially short most of the
>>signal to ground and little will get to the receiver. If you've ever
>>opened up the coax used on car radios you'll find that it is a special
>>high impedance coax. A small wire fits loosly thru an insulated tube
>>with the shield around the outside. This keeps a relatively large
>>spacing between the center conductor and the shield in order to
>>minimize capacitance.
>>
>>
>
>
>

3167. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 01:18:38 UTC
From: Jason Dugas <kb5urq@hotmail.com>
Message-ID: <vqbb7vdf09g9b6@corp.supernews.com>
Source record: 31334
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Marco S Hyman" <marc@snafu.org> wrote in message
news:x7znfepl5i.fsf@hana.snafu.org...
> ehsjr@bellatlantic.net writes:
>
> > Jason Dugas wrote:
> > >
> > > manual states that the "stub" to be measured should be attached with a
> > > 50-ohm noninductive resistor in series to that center conductor of the
> > > Antenna connector on the analyzer.
> > >
> > >
> > You may think it says this:
> > MFJ-resistor-coax_center_conductor--
> > |
> > ---------coax_shield------------
> >
> > But maybe it means this:
> >
> > MFJ----------------coax_center_conductor-resistor-
> > |
> > ----------------coax_shield--------------------
>
> How does the 259 differ from the 259B? Does the 259 have a distance
> to fault mode?
>
> I ask because the instructions for the 'B say that coax lines must be
> *open* or *shorted*. Anything in between is verbotten.
>
> With the 'B you use the "distance to fault" mode to figure
> out the electrical length of the line then devide by the
> physical length to caluclate the velocity factor.
>
>
> // marc (KC7JL)

The MFJ-259 does not have a "distance to fault" mode. It has an "SWR" meter
and a "Resistance" meter.

jason

3168. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 01:21:09 UTC
From: la8ak.xnd@online.no
Message-ID: <3fa589e0.3594981@news.online.no>
Source record: 31335
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

On 31 Oct 2003 13:43:32 -0800, k7itm@aol.com (Tom Bruhns) wrote:

>"Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
news:<bnts9b$o8k$1@hercules.btinternet.com>...
>> The velocity factor of ALL solid polyethylene coax cable, regardless of
>> impedance, is 0.665
>
>And this comes from someone who I could swear posted not long ago a
>table that had velocity factors for solid polyethylene cable that were
>significantly different from this magic number?
>
>But even if we just limit ourselves to HF and above, there's a
>problem: most "solid poly" cable I've encountered has small gas
>bubbles in the dielectric, and the v.f. does not measure exactly
>0.665. Most of the time, the difference doesn't matter, but sometimes
>it does, and then it's not safe to assume it's 0.665. And of course a
>lot of cable these days uses foam dielectric, which can be noticably
>different from batch to batch.

It's quite accurate figure, but the cables are not so accurate.
Remember trying to make two RG213/U halfwave stubs for 100MHz, and was
surprised to learn that the 'halfwave' length varied about an inch

Suppose it wasn't only for the bubbles...

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

3169. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 02:41:48 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <jrbaqv86bf7ro0oegn9rs67qpuchgf5cp1@4ax.com>
Source record: 31337
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

On Sat, 01 Nov 2003 13:15:53 GMT Bill <wjeffrey@alum.mit.edu> wrote:

>David Forsyth wrote:
>
>> As far as I can see, these web sites are offering cloth-covered stranded
>> wire, such as would be used for hook-ups under chassis and such. I'm
>> looking for "D.C.C." wire such as was used for winding coils. I guess it
>> would be considered "magnet wire" ?

>"Magnet wire" is not fabric-insulated. Instead, it has a coating of
>varnish, formvar, etc. It will work well for winding coils, but it
>won't look like DCC.

I believe DCC is actually what was used in the early days for what we today call "magnet wire." I'm not old enough to be sure of this, but my impression is that varnished magnet wire replaced SCC, DCC, SSC & DSC at some point. No doubt this conversion took place over some period of time.

I would draw a distinction between DCC, etc. and "fabric covered" wire. I believe the DCC, etc. was just a simple wrap of fibers meant to take up a minimum amount of space while still allowing close-wound coil turns to be insulated from each other, while fabric covered wire was covered with fibers which were actually woven together making it much more durable. Fabric covered wire was more likely to be used as hook-up wire, rather than coils.

Others on this list can probably pin this down better.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

3170. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 02:42:53 UTC
From: Bill <wdecker1@rochester.rr.com>
Message-ID: <Ngjpb.37860$ZC4.22608@twister.nyroc.rr.com>
Source record: 31336
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

begone, foul beast, back under your bridge...

3171. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 04:41:29 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <Z%kpb.2342$Bf7.1312644@news1.news.adelphia.net>
Source record: 31338
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Alun Palmer wrote:

> I will probably be dropped soon, but the FCC has to go through standard
> procedures with all the pending petitions. The international requirement
> was dropped on July 5th, so by next July it should probably be gone in the
> US.

Hehhe. Alun, you should be on the welcoming committee for this dude!

- Mike KB3EIA -

3172. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 04:47:44 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FA5DDEF.845444A0@bellatlantic.net>
Source record: 31339
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
>
> Thanks for all who responded thus far (and sorry to be such a wellspring of
> newbie questons).
>
> Yes, I must confess that there is no lightning arrestor installed as of yet!
> I was aware that one should install such a device at the time I put up the
> antenna, but I didn't have one handy, nor did I feel the need to invest in
> one. I was thinking that in the late fall/winter we really don't get any
> lightning here (north-east PA) and therefore I wouldn't really need a
> lightning arrestor until the Spring. I'm sure I'm probably wrong on this,
> though, as it was mainly a product of my Scots heritage getting the best of
> me.
>

Do yourself a favor: at the end of your antenna (inside
the house) install a neon bulb and a 100K resistor in
series, connected between the antenna and ground.
Then, on a windy day, go watch the bulb.

You can make your own static discharge unit:

```
-----------\ /--------------
Copper \ / Copper
Strip / \ Strip
-----+-----/ \-----+--------
| |
+---/\/\/\/-----+
100K
```

The points on the copper strips need to be sharp, not
blunt, at the gap.

Wire one strip to ground with #10 or larger copper wire,
and the other strip to the antenna. Set the gap between
the copper strips as narrow as you can. Solder a 100K
resistor across the copper strips.

3173. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 09:52:23 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000e0.0043f00a@btinternet.com>
Source record: 31340
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Hi,

There is no simple answer to your problem as the impedances
and frequency range involved are too great. However, as you are
not intending to use the antenna to transmit with, take a look at
this site and do a search on "LONG WIRE BALUN".

http://www.maplin.co.uk/

If you are in the U.S. I am sure that there will be an
equivalent item around somewhere. It is even possible that there
is a design for one of these out on the net.

The device is mis-named really and should be called something
like an UNUN. Of course it is a kludge but what the hell as it
should be better than a single wire or coax feed from your
basement.

Cheers - Joe, G3LLV

3174. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 10:25:13 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vqcaqn9ncddv1b@corp.supernews.com>
Source record: 31341
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

After doing a lot of reading on the web about long wires, short wires, inverted L's, impedance matching, baluns, ununs, onions, fundip, and who knows what else...

I was thinking (run for cover please)

Couldn't one simply use a small active device to buffer the straight wire antenna at the end where it tethers to Ye Olde Oak tree or whatever it's tied to? I was thinking you could even make it powered with a small gel cell or something and a solar cell to power it. Some sort of wide-band amplifier that would have a suitably high input impedance to accomodate the higher and varying impedance of the wire over the desired frequency range, and yet having a fixed 75 or 50 ohm output impedance to drive the coax that runs back to the house. Then you could use a transformer in the house at the receiver if it's the type that wants to be fed from a high-impedance. I would think this would get around the problem of an impedance matching transformer mismatching the antenna on frequncies where the antenna impedance drops significantly. Also it could provide perhaps some minimal gain to boot. Some of those commercial impedance matching transformers sell for over $50 US. So I would think a small buffer amp might not be too cost-ineffective.

Dave

3175. Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 12:49:15 UTC
From: alazos@in.gr
Message-ID: <347b6e9c.0311030449.5c1dd138@posting.google.com>
Source record: 31342

In the book "Introduction to Radio Frequency Design" of W7ZOI and in the section 7.9 "Voltage Controlled Oscillators" I read about how to switch in and out a capacitor or an inductor in a VCO, using a diode switch in order to alter the frequency of the oscillator.

Unfortunately this information is theoritical to me and I couldn't make my oscillator change its frequency.

Does any one have a practical example of a Switched reactance VCO ?

Thanks
Thanasis Lazos

3176. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 14:23:24 UTC
From: Bill Jeffrey <wjeffrey@NOSPAMalum.mit.edu>
Message-ID: <wxtpb.7004$ji3.5644@twister.nyroc.rr.com>
Source record: 31343
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Jim Adney wrote:

> On Sat, 01 Nov 2003 13:15:53 GMT Bill <wjeffrey@alum.mit.edu> wrote:
>>>As far as I can see, these web sites are offering cloth-covered stranded
>>>wire, such as would be used for hook-ups under chassis and such. I'm
>>>looking for "D.C.C." wire such as was used for winding coils. I guess it
>>>would be considered "magnet wire" ?
>
>>"Magnet wire" is not fabric-insulated. Instead, it has a coating of
>>varnish, formvar, etc. It will work well for winding coils, but it
>>won't look like DCC.
>
> I believe DCC is actually what was used in the early days for what we
> today call "magnet wire." I'm not old enough to be sure of this, but
> my impression is that varnished magnet wire replaced SCC, DCC, SSC &
> DSC at some point. No doubt this conversion took place over some
> period of time.

You're right, Jim, my phrasing was poor. What I was trying to convey is that if you go to a store or catalog today and ask for "magnet wire", what you get will be enamaled/varnished/formvared wire - which is easily available. So if you are looking for cotton-coverd wire, don't ask for magnet wire.

And a note OT, I set up a new computer a few days ago. In the process, I managed to send out just TWO newsgroup messages with my real address in the header before I remembered to munge it. One of them was the message above. Damn, those spambots are good! My spam intake immediately jumped about 10X. My SWEN-related quota jumped from 2 a day to about 50 a day. No choice now but to simply wait for it die out.

But to those who say that the spambots are smart enough to detect and correct a simple NOPSAM in the address, I say "not so".

Bill Jeffrey

3177. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 14:35:05 UTC
From: shoppa@trailing-edge.com
Message-ID: <bec993c8.0311030635.41bd9890@posting.google.com>
Source record: 31344
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Jason Dugas" <kb5urq@hotmail.com> wrote in message
news:<vq15emev53rvc8@corp.supernews.com>...
> I'm interested in measuring the velocity factor of some coax I have (more of
> an exercise than necessity). In order to do this, the MFJ-259 Operations
>...
> What would be a good way of making this connection?

Do you have a scope and a pulse generator? If so, just make a simple
TDR (Time Domain Reflectometry) setup to measure the reflection from a
un-terminated or shorted far end of the cable. You will get much more
accurate results with substantially less effort.

Don't get me wrong, the MFJ-259 is a good instrument. It's just that TDR
is so quick and easy and unambiguous for propogation delay measurements.

Tim.

3178. Heath IB-2A vs. IB-28 ???

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 14:35:32 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vqcpuncr93cf0@corp.supernews.com>
Source record: 31345

Can anyone tell me the difference between these 2 impedance bridges?
tnx
hank wd5jfr

3179. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 15:12:41 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA67055.9EE52904@earthlink.net>
Source record: 31346
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
>
> After doing a lot of reading on the web about long wires, short wires,
> inverted L's, impedance matching, baluns, ununs, onions, fundip, and who
> knows what else...
>
> I was thinking (run for cover please)
>
> Couldn't one simply use a small active device to buffer the straight wire
> antenna at the end where it tethers to Ye Olde Oak tree or whatever it's
> tied to? I was thinking you could even make it powered with a small gel
> cell or something and a solar cell to power it. Some sort of wide-band
> amplifier that would have a suitably high input impedance to accomodate the
> higher and varying impedance of the wire over the desired frequency range,
> and yet having a fixed 75 or 50 ohm output impedance to drive the coax that
> runs back to the house. Then you could use a transformer in the house at
> the receiver if it's the type that wants to be fed from a high-impedance. I
> would think this would get around the problem of an impedance matching
> transformer mismatching the antenna on frequncies where the antenna
> impedance drops significantly. Also it could provide perhaps some minimal
> gain to boot. Some of those commercial impedance matching transformers sell
> for over $50 US. So I would think a small buffer amp might not be too
> cost-ineffective.
>
> Dave

If you want to put a preamp near the antenna, you can run a DC
voltage up the coax by using RF chokes in the DC lines at both ends to
isolate the RF, and series coupling capacitors to block the DC. That is
how LNA/B/Cs are powered on most Sat TV receivers, and I have used it at
60 KHz, as well. You could use a Minicircuits chip that cost about
$1.00 by adding a couple caps, a coil and a resistor. Their ERA or MAR
series would do a good job, and the part is cheap enough that you can
afford to replace it when lightning takes out your preamp. I have some
rejected blank surface mount PC boards that will work for the part (They
were laid out wrong, and engineering had to eat the cost). You can also
do dead bug, or even use the old Vector Perfboard pins or standoffs and
build it point to point. They do need a ground plane, but are quite
stable.

These parts have a 50 ohm output, so they will match either 50 or 75
ohm coax with little problems. You might need a low pass filter to
remove out of band noise and signals to prevent overload, or if you want

to have real fun built a remote tuner at the preamp.
--

Michael A. Terrell
Central Florida

3180. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 15:23:53 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA672F5.D5739530@earthlink.net>
Source record: 31347

Thanasis wrote:
>
> In the book "Introduction to Radio Frequency Design" of W7ZOI and in
> the section 7.9 "Voltage Controlled Oscillators" I read about how to
> switch in and out a capacitor or an inductor in a VCO, using a diode
> switch in order to alter the frequency of the oscillator.
>
> Unfortunately this information is theoritical to me and I couldn't
> make my oscillator change its frequency.
>
> Does any one have a practical example of a Switched reactance VCO ?
>
> Thanks
> Thanasis Lazos

I worked on the Microdyne synthesizers using this method. It used strip line inductors, with a heavy ground buss along the edge of the board. The diodes were either forward or reverse biased to turn them on or off. you can't just let them float. Use a capacitor at least 100 times the highest value of the varicap to ground on the switching end of the diode, and as short as possible connections for the both ends of the diode. Connect a resistor to the diode and capacitor, and feed it a positive or negative voltage for forward or reverse bias. They have to be turned on hard, or they will rectify the RF and cause problems, but you can't exceed the current ratings, or you will damage the diode. we used + or - 12 volts for switching, and the diodes were used to switch the range at about 10% of the operating frequency. Its simple when you see it in front of you, but it is difficult to explain with text. This design was used in their 1200, 1400, 700, and 2800 series receivers, so you might find someone with a manual on one of these to see how they are built.
--

Michael A. Terrell
Central Florida

3181. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 16:09:20 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311030809.10fa6cea@posting.google.com>
Source record: 31348
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

"Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
news:<bnuvb2rih1@titan.btinternet.com>...
> "Tom Bruhns" wrote > "Reg Edwards"
> > > The velocity factor of ALL solid polyethylene coax cable, regardless of
> > > impedance, is 0.665
>
> ================================
>
> > And this comes from someone who I could swear posted not long ago a
> > table that had velocity factors for solid polyethylene cable that were
> > significantly different from this magic number?
...
> ================================
>
> Your para. 1. You can swear till you're appoplectic black and blue in the
> face - it wasn't me. I'm not THAT stupid. So who was it then?
...

> ----
> Reg.

Hi Reg...

Well, the Google archive says it was from you. Perhaps you DO have
someone else posting under your name.

See below. Or is the "VF" column not actually velocity factor? OTOH,
I do agree with the posting below, that at low frequencies, beta
becomes dependent more on R than on L, and thus the VF changes.

Cheers,
Tom

From: Reg Edwards (g4fgq.regp@btinternet.com)
Subject: Coax Cable vs Freqency

View this article only
Newsgroups: rec.radio.amateur.antenna
Date: 2003-08-12 17:41:24 PST

For anyone who may be interested.

Typical of RG-58 and RG-11 type cables.
Zo = Ro - jXo
Xo is always negative.
Angle of Zo in degrees. Always negative.

VF = relative velocity.

Freq	Ro	jXo	Angle	VF
50 Hz	967	-965	-44.95	0.034
1 kHz	220	-213	-44	0.151
10 kHz	80	-58	-36	0.41
100 kHz	56	-9.3	-9.5	0.59
1 MHz	52.4	-2.4	-2.7	0.63
10 MHz	50.7	-0.76	-0.86	0.65
100 MHz	50.2	-0.23	-0.27	0.66

Smith Chart calculations begin to be inaccurate around 2 MHz and
below. So
do SWR meters.

3182. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 16:41:03 UTC
From: msix@oldplato.nmia.com
Message-ID: <1067878646.806220@newshost03.voicenet.com>
Source record: 31349

Thanasis wrote:
>Does any one have a practical example of a Switched reactance VCO ?
>
The GLB 2M synthesizer of the 70's used this method.
A trimmer cap was switched in by diode to lower 24MHz VCO
to 22+ MHz on receive. 1N4148 and 5 volts. simple.
73 W7ZFB

3183. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 18:49:56 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311031049.48eb94bc@posting.google.com>
Source record: 31350
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

k7itm@aol.com (Tom Bruhns) wrote in message
news:<3200347.0310311343.6c48ea01@posting.google.com>...
> "Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
news:<bnts9b$o8k$1@hercules.btinternet.com>...
> > The velocity factor of ALL solid polyethylene coax cable, regardless of
> > impedance, is 0.665
>
Even if you just ignore the fact that at low frequencies, R dominates over omega*L and affects the velocity factor, even if you just say VF=c/sqrt(LC), I believe there are changes with frequency. That's because with a good dielectric like polyethylene, C doesn't change much with frequency (AFAIK), but L decreases as the skin depth decreases. On large line, it's unlikely to be noticable, but on a line with an inner conductor radius only a few skin depths at the low end of HF, the change can be perceptable. Of course, the R term does dominate over omega*L at low frequencies. If the velocity factor were independent of frequency, I'd expect no dispersion.

BTW, I'd be a little surprised to find an inexpensive line which did not have polyethylene dielectric...polyethylene isn't expensive, and it's a good dielectric except for its low softening/melting temperature. You should be able to get a pretty good idea what it is from carefully measured VF, if it's a solid dielectric. There are very few inexpensive and low-loss plastics with as low a relative dielectric constant as polyethylene.

Cheers,
Tom

3184. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 19:23:07 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bo69ur$4gi$1@sparta.btinternet.com>
Source record: 31351
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

```
Tom,

It should be obvious when somebody asks how to find VF by using an HF
antenna analiser he is interested, like every other radio amateur, in the HF
value of VF.

If you agree with the table in the other posting, which gives VF vesus
frequency, and you are aware VF decreases with frequency, then how come you
didn't realise you had taken the value of 0.665 out of its HF context.

All my figures are correct.
----
Reg
''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''
''''''''''''''
"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0311030809.10fa6cea@posting.google.com...
> "Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
news:<bnuvb2$rih$1@titan.btinternet.com>...
> > "Tom Bruhns" wrote > "Reg Edwards"
> > > > The velocity factor of ALL solid polyethylene coax cable, regardless
of
> > > > impedance, is 0.665
> >
> > ================================
> >
> > > And this comes from someone who I could swear posted not long ago a
> > > table that had velocity factors for solid polyethylene cable that were
> > > significantly different from this magic number?
> ...
> Freq Ro jXo Angle VF
> ------ ------ ------ ------ ------
> 50 Hz 967 -965 -44.95 0.034
> 1 kHz 220 -213 -44 0.151
> 10 kHz 80 -58 -36 0.41
> 100 kHz 56 -9.3 -9.5 0.59
> 1 MHz 52.4 -2.4 -2.7 0.63
> 10 MHz 50.7 -0.76 -0.86 0.65
> 100 MHz 50.2 -0.23 -0.27 0.66
>
> Smith Chart calculations begin to be inaccurate around 2 MHz and
> below. So
> do SWR meters.
```

3185. Re: Direct conversion receivers for AM

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 20:19:24 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bo6d7s$u90$1@news.oregonstate.edu>
Source record: 31352

Fred McKenzie <fmmck@aol.com> wrote:
> Addressing the original question about direct conversion, what if you
> used a temperature compensated oscillator with a phase-locked-loop? If
> the assumption could be made that the broadcast station will not drift,
> then you could tune each station dead on with an RIT-like adjustment of
> the oscillator.

I'm thinking the better, potentially workable solution is to just use a feedback loop (I'd say a Costas loop, but I'm not convinced this is the best option for AM -- just looking at the DC component of the Q output of the mixer gets you sin(phi), where phi is the phase difference between your LO and the incoming RF, which seems better as an error term than the Costas loop's error term, which is something like I*Q (before low-pass filtering) and gets you something like m(t)^2*sin(2*phi) and therefore has the potential to add different DC offsets due to the m(t)^2 term).

What I'm really planning to do is to build a quadrature receiver first and then see if I can build the feedback loop in software. If not, at least I'll be able to receive SSB and regular AM -- just not AM IQ binarual stereo, AM C-QUAM stereo, etc.

---Joel Kolstad

3186. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 22:25:50 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311031425.68cb74aa@posting.google.com>
Source record: 31353
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

So, Reg, I note that (1) YOUR table shows more variation in VF over
the HF ham bands (especially so if you allow it to be extended down to
the 1.8MHz ham band, which I assume the MFJ analyzer would cover) than
the three significant digits of 0.665 would allow (the table showing
only 0.65 at 10MHz, and I suppose you'd go for about 0.64 at 2MHz,
maybe even 3.5MHz), (2) your posting in this thread of 0.665 did NOT
qualify the VF as being HF only, and (3) my posting DID say something
that SHOULD have indicated to you and anyone else who read it that I
was thinking beyond the bounds of HF with respect to large VF
variation. I'd STILL say there are instances where one should not
assume 0.665 for solid polyethylene at HF. There are instances where
0.64 and 0.665 are different enough to want to get the right value.
You're welcome to get all bent out of shape over that if you wish.

Cheers,
Tom

"Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
news:<bo69ur$4gi$1@sparta.btinternet.com>...
> Tom,
>
> It should be obvious when somebody asks how to find VF by using an HF
> antenna analiser he is interested, like every other radio amateur, in the HF
> value of VF.
>
> If you agree with the table in the other posting, which gives VF vesus
> frequency, and you are aware VF decreases with frequency, then how come you
> didn't realise you had taken the value of 0.665 out of its HF context.
>
> All my figures are correct.
(As we noted at the time of the original posting, the numbers in the
table are rough approximations...certainly they're correct as
approximations...)
> ----
> Reg
>
> ''
> '''''''''''''''
> "Tom Bruhns" <k7itm@aol.com> wrote in message
> news:3200347.0311030809.10fa6cea@posting.google.com...
> > "Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
> news:<bnuvb2rih1@titan.btinternet.com>...
> > > "Tom Bruhns" wrote > "Reg Edwards"
> > > > > The velocity factor of ALL solid polyethylene coax cable, regardless

> of
> > > > > impedance, is 0.665
> > >
> > > ================================
> > >
> > > > And this comes from someone who I could swear posted not long ago a
> > > > table that had velocity factors for solid polyethylene cable that were
> > > > significantly different from this magic number?
> > ...
> > Freq Ro jXo Angle VF
> > ------ ------ ------ ------ ------
> > 50 Hz 967 -965 -44.95 0.034
> > 1 kHz 220 -213 -44 0.151
> > 10 kHz 80 -58 -36 0.41
> > 100 kHz 56 -9.3 -9.5 0.59
> > 1 MHz 52.4 -2.4 -2.7 0.63
> > 10 MHz 50.7 -0.76 -0.86 0.65
> > 100 MHz 50.2 -0.23 -0.27 0.66
> >
> > Smith Chart calculations begin to be inaccurate around 2 MHz and
> > below. So
> > do SWR meters.

3187. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-03 22:43:28 UTC
From: Allen Windhorn <Allen.Windhorn@LSUSA.com>
Message-ID: <u8ymxnkdi.fsf@LSUSA.com>
Source record: 31354

averyfineman@aol.com (Avery Fineman) writes:

> In article <3FA2A53C.F57F22FF@earthlink.net>, "Michael A. Terrell"
> <mike.terrell@earthlink.net> writes:
>
> >David Forsyth wrote:
> >>
> >> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
> >> like to obtain some for winding RF coils for homebrew radio receivers.
> >> Anybody know of a supplier or maybe have some on hand?

(I missed the original post.) I think you could get it from either
New England Wire or Kerrigan-Lewis, if you were willing to order a
minimum quantity. The "cotton" will be Dacron or something though.

Otherwise I would look on antique radio websites or find some defunct
equipment to disassemble.

Allen

3188. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 00:03:01 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vqdr6bjfks0q28@corp.supernews.com>
Source record: 31355
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Even the car radio type coax would probably have too much capacitance for the length of run you'll need. Yes, you could put a preamp (actually an active impedance converter) near the antenna in order to drive standard 50-ohm coax cable. I classify it as an "impedance converter" because you probably don't need or want much gain, just the ability to match the coax impedance. On the broadcast band any gain will likely increase the noise level as much as the signals.

If you don't have too much noise pick up from the house electrical wiring, etc you can probably just run a single wire feed line down into the basement. Keep it as far away as possible from any conductive material like rain gutters, etc.

3189. Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 00:26:55 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FA6F24F.46947A68@noDirectEmail.com>
Source record: 31356

This is not ham radio related but I know you guys have the answer.

I need to store a car unattended for a winter in the midwest. And I want to put a tricke charge on the battery.

I'd rather not buy a fancy trickle charger because it would probably get stolen. On the other hand I have a vast array of wall wart transformers.

If I connected one of these transformers how many milliamps should it put out at 12V? Or rather what's the least current that would do the job?

It seems that lead acid batteries can dissipate too much current as heat. In other words I could probably feed it one amp continuously. But would 100 mA at 12V do the job? I'd hate to lose a 1-Amp wall wart.

Thanks for your help.

3190. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 01:33:38 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <SIDpb.204596$0v4.16084869@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31357

You really don't want to trickle-charge the battery with high current..
that will cause the electrolyte to boil out and will kill the battery for
good. You want to use one of your wall warts to power a voltage regulator
such as a LM117 or LM217, so that you can adjust it to exactly the float
level of a lead-acid battery, that is, 13.6 - 13.8 volts.
Look up the data sheet for one of those regulators and build it to output
the float voltage. The battery will only demand the current that it needs
to stay fully charged. The LM117/217 can pass up to 1 amp, but more likely
will be limited by the capability of your wall-wart. Again, this is OK,
since the battery, once fully charged, will need only a few milliamps.
I recommend the LM117 or LM217 because of the low temperature extremes that
it may encounter in the midwest winter. The LM317 is rated for operation
down to 0degC, or 32F. I'll bet your winter will get down significantly
below that, so be safe and use a component that's rated to handle the
temperature extreme.
If you still need help after getting the data sheet for the regulator, come
back here with your questions.
Cheers!!!!
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Never take a laxative and a sleeping pill at the same time!!
"Bruce W...1" <bruce@noDirectEmail.com> wrote in message
news:3FA6F24F.46947A68@noDirectEmail.com...
> This is not ham radio related but I know you guys have the answer.
>
> I need to store a car unattended for a winter in the midwest. And I
> want to put a tricke charge on the battery.
>
> I'd rather not buy a fancy trickle charger because it would probably get
> stolen. On the other hand I have a vast array of wall wart
> transformers.
>
> If I connected one of these transformers how many milliamps should it
> put out at 12V? Or rather what's the least current that would do the
> job?
>
> It seems that lead acid batteries can dissipate too much current as
> heat. In other words I could probably feed it one amp continuously.
> But would 100 mA at 12V do the job? I'd hate to lose a 1-Amp wall wart.
>
> Thanks for your help.

3191. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 01:55:07 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vqe1a8toleas77@corp.supernews.com>
Source record: 31358
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

In looking at some of the options I was pointed to on this matter, it seems perhaps the first thing I should do is run a simple wire down into the basement as best I can and see how that fares. At least now Im armed with some alternative ideas should that method prove too lossy/noisy.

thanks again to all who responded!

Dave

"Bob Lewis (AA4PB)" <rlewis@staffnet.com> wrote in message news:vqdr6bjfks0q28@corp.supernews.com...
> Even the car radio type coax would probably have too much capacitance
> for the length of run you'll need. Yes, you could put a preamp
> (actually an active impedance converter) near the antenna in order to
> drive standard 50-ohm coax cable. I classify it as an "impedance
> converter" because you probably don't need or want much gain, just the
> ability to match the coax impedance. On the broadcast band any gain
> will likely increase the noise level as much as the signals.
>
> If you don't have too much noise pick up from the house electrical
> wiring, etc you can probably just run a single wire feed line down
> into the basement. Keep it as far away as possible from any conductive
> material like rain gutters, etc.
>
>

3192. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 02:03:41 UTC
From: dplatt@radagast.org
Message-ID: <vqe27trb59r0cf@corp.supernews.com>
Source record: 31359

In article <3FA6F24F.46947A68@noDirectEmail.com>,
Bruce W...1 <bruce@noDirectEmail.com> wrote:

>This is not ham radio related but I know you guys have the answer.
>
>I need to store a car unattended for a winter in the midwest. And I
>want to put a tricke charge on the battery.
>
>I'd rather not buy a fancy trickle charger because it would probably get
>stolen. On the other hand I have a vast array of wall wart
>transformers.
>
>If I connected one of these transformers how many milliamps should it
>put out at 12V? Or rather what's the least current that would do the
>job?

I would guess that 100 milliamperes would be more than sufficient to
overcome any self-discharge of the battery, as long as the vehicle
doesn't have any electronics onboard which are drawing current.

>It seems that lead acid batteries can dissipate too much current as
>heat. In other words I could probably feed it one amp continuously.

You really don't want to do that.

The reason is this: in order for a car battery to be drawing 1 amp of
charge current on a continuous basis, you're going to have to boost
the voltage up fairly high. You'd probably exceed the electrolysis
voltage, and much of the current would end up breaking down the water
in the electrolyte into oxygen and hydrogen. If your battery's design
and chemistry don't allow the gasses to be recombined into water fast
enough, you'd be at risk of "boiling" the battery dry.

>But would 100 mA at 12V do the job? I'd hate to lose a 1-Amp wall wart.

Lead-acid batteries are happiest if you feed them a well-regulated
charge/float voltage, with suitable current limiting. Using an
unregulated or weakly-regulated 12-volt wall-wart is probably not a
good idea - these wall warts tend to deliver a rather high voltage
(often 16-18 volts) under conditions of little or no load. Depending
on the specific wall-wart you choose, and the condition and type of
your battery, you might end up electrolyzing away the water faster
than the battery can recombine the hydrogen and oxygen. Losing a
wall-wart would be annoying; losing the battery would be worse ;-)

The best thing to do is get (or build) yourself some sort of
well-regulated trickle charger. 100-200 mA is probably more than

plenty for this application, as long as it's provided at a well-regulated voltage. Most battery companies seem to recommend between 13.6 and 13.8 volts for a "float charging" application - at this voltage, the battery will self-regulate the amount of current it takes and will not overcharge or electrolyze itself. One knowledgeable amateur I know, recommends sticking to a lower 13.5 volts to ensure safe float-charging under a wide range of charge conditions and temperatures.

About a year ago I put together a simple float charger to keep the 65-amp-hour glassmat battery in our city's RACES ham-shack properly charged. It's a simple design, based on the jellybean LM317 three-terminal regulator IC and on the schematics in National Semiconductor's data sheet for this IC. My version includes reverse polarity and short-circuit protection, a charge float voltage which is adjustable over a span of a volt or so, and built-in current limiting to protect the wall wart (a 200 mA 16-volt unit, if I recall correctly). It's not a bad one-afternoon project and the components are the sort of thing most homebrewers are likely to have in their junk-box.

Schematic is at http://www.radagast.org/~dplatt/hamradio/charger.pdf

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

3193. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 02:06:10 UTC
From: dplatt@radagast.org
Message-ID: <vqe2cifg0ta1b8@corp.supernews.com>
Source record: 31360

In article <SlDpb.204596$0v4.16084869@bgtnsc04-news.ops.worldnet.att.net>,
Tweetldee <dgmason99@att99.net> wrote:

> The LM117/217 can pass up to 1 amp, but more likely
>will be limited by the capability of your wall-wart. Again, this is OK,
>since the battery, once fully charged, will need only a few milliamps.
>I recommend the LM117 or LM217 because of the low temperature extremes that
>it may encounter in the midwest winter. The LM317 is rated for operation
>down to 0degC, or 32F. I'll bet your winter will get down significantly
>below that, so be safe and use a component that's rated to handle the
>temperature extreme.

In this application, it's likely that the LM317 will be dissipating
enough heat to keep itself well within its recommended thermal range,
I think. In fact, it's a good idea to heatsink it - it can end up
dissipating several watts of heat under certain conditions which could
easily be encountered in this application, and could become rather warm.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3194. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 02:18:29 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bo729l$mp2$1@sparta.btinternet.com>
Source record: 31361
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

My figures are correct to a better accuracy than can be determind by a cheap and nasty antenna analyser.

Now go away, leave the newsgroup in peace, and stop your childish nitpicking.

3195. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 05:06:02 UTC
From: Alun Palmer <alun@1stcounsel.com>
Message-ID: <Xns9429FED5506elektrosmdonet@130.133.1.4>
Source record: 31362
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Mike Coslo <mcoslo@adelphia.net> wrote in
news:Z%kpb.2342$Bf7.1312644@news1.news.adelphia.net:

> Alun Palmer wrote:
>
>
>> I will probably be dropped soon, but the FCC has to go through
>> standard procedures with all the pending petitions. The international
>> requirement was dropped on July 5th, so by next July it should
>> probably be gone in the US.
>
> Hehhe. Alun, you should be on the welcoming committee for this
> dude!
>
> - Mike KB3EIA -
>
>

It's a difficult question. Do we applaud him for wanting to go legal? Or
do we slam him for ever having operated illegally? I have known former
pirate radio ooperators whose behaviour on the ham bands after they got a
licence was exemplary.

3196. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 06:38:14 UTC
From: n2cqr@clix.pt
Message-ID: <97f305da.0311032238.ec7f9e@posting.google.com>
Source record: 31363

This gets to the question of whether DC receivers can be used to copy
DSB and SSB:
By Goodman, W1DX, explained the problem in the 1965 edition of
"Single Sideband for the Radio
Amateur" (page 11): "Unfortunately, if both sidebands are received at
the detector where the carrier is
introduced, the carrier has to have exactly the correct phase
relationship with the sidebands if distortion is
to be avoided. Since exact phase relationship precludes even the
slightest frequency error, such a system
is workable only with very complicated receiving techniques. However,
if only one sideband is present at
the detector, there is no need for an exact phase relationship and
there can be some frequency error
without destroying intelligibility. " Modern SSB transcievers send
only one of the sidebands to the
detector, so this distortion problem only occurs when receiving a DSB
signal on a receiver that sends both
sidebands to the detector.

73 Bill M0HBR

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:<bnn34gsgn1@news.oregonstate.edu>...
> I'm curious... with the current popularity of simple (e.g., QRP usage)
> direct conversion receivers, whatever happened to the problem of having to
> synchronize the cariier phases? I'm looking at Experimental Methods in RF
> Design, and they just use an LC oscillator for the input to the mixer. If
> input carrier is cos(f*t) and the LC oscillator is generating cos(f*t+phi),
> where phi is the phase offset between them, you end up with a cos(phi) term
> coming out of the mixer. If the frequencies are ever-so-slightly off, phi
> essentially varies slowly and cos(phi) should slowly cause the signal to
> fade in and out.
>
> Why isn't this a problem in practice?
>
> Thanks,
> ---Joel Kolstad

3197. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 07:46:35 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <bo7j2h$1mi$1@news1.kornet.net>
Source record: 31364
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

"W7TI" <noway@nohow.com> wrote in message
news:taeeqvkkgomaqk8dean0t8elji9r0brhug@4ax.com...
> On 4 Nov 2003 05:06:02 GMT, Alun Palmer <alun@1stcounsel.com> wrote:
>
> >I have known former
> >pirate radio ooperators whose behaviour on the ham bands after they got a
> >licence was exemplary.
>
> ____
>
> Not sure what an "ooperator" is, but there are other criminals whose
> subsequent behavior is also exemplary. Should their past behavior be
> ignored? The difference is only in degree, not in kind.
>

If they have already been punished in some way by the courts, then the
answer to your query is (or should be) yes. If they have not been punished
in some way by the courts, then, de facto, they have not been found guilty
of any crime, and are to be presumed innocent.

3198. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 08:26:33 UTC
From: Rick Frazier <rick@rickfrazier.com>
Message-ID: <3FA762B9.41A51E73@rickfrazier.com>
Source record: 31365

Bruce:

As others have indicated, you really want to use a regulated charging voltage to keep the battery up... The voltage is important, however, more important to getting the design right is knowing how much of a drain the automobile puts on the battery when "nothing" is going on... Many cars will drain a good battery in about a month, just from the residual drain that is the result of such things as clocks and memories in radios and such. Add anything else and you've got a good chance of needing significantly more charging current than you might at first think.

You mention that you are worried about using a fancy trickle charger because it may get stolen, which implies that the car is outside in the elements, and not in a protected or secured environment. I'd be willing to bet that if you have to worry about someone stealing a trickle charger, you should probably be concerned about just about everything else too, once someone notices the car isn't moving and has a power cord going to it....

In addition, being concerned about a 1-amp wall wart, which are nearly a dime a dozen, may be false economy, considering the value of the car and items built or installed in it. Why wouldn't the tires and wheels disappear, or the battery itself? Same for radio and/or other accessories... or even perhaps the car itself.

If you do go and build something to keep the battery up, bear in mind that you are probably going to need something with a voltage around 16 volts or so, given that most regulators require a couple of volts of headroom over the regulated voltage. This may take you into a range of supplies or wall warts that is higher than you may have on hand anyway.

--Rick

"Bruce W...1" wrote:

> This is not ham radio related but I know you guys have the answer.
>
> I need to store a car unattended for a winter in the midwest. And I
> want to put a tricke charge on the battery.
>
> I'd rather not buy a fancy trickle charger because it would probably get
> stolen. On the other hand I have a vast array of wall wart
> transformers.
>
> If I connected one of these transformers how many milliamps should it
> put out at 12V? Or rather what's the least current that would do the
> job?

>
> It seems that lead acid batteries can dissipate too much current as
> heat. In other words I could probably feed it one amp continuously.
> But would 100 mA at 12V do the job? I'd hate to lose a 1-Amp wall wart.
>
> Thanks for your help.

3199. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 10:30:33 UTC
From: alazos@in.gr
Message-ID: <347b6e9c.0311040230.6fb45f93@posting.google.com>
Source record: 31366

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message news:<3FA672F5.D5739530@earthlink.net>...

> They have to be turned on hard, or they will rectify the RF
> and cause problems ...

I was feeding the diode with 1mA. I couldn't imagine that should feed it with ~20mA in order to be stable my oscillator.

Thanks for your help
Thanasis Lazos

3200. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 12:05:34 UTC
From: rwalter@engineer.com
Message-ID: <73aa3471.0311040405.5b69fa19@posting.google.com>
Source record: 31367

Get the least expensive battery charger you find and put a one of
those cheap little mechanical timers on it. And set the time to
charge the battery for one hour each day. It will be like driving
your car one hour per day.

dplatt@radagast.org (Dave Platt) wrote in message
news:<vqe27trb59r0cf@corp.supernews.com>...
> In article <3FA6F24F.46947A68@noDirectEmail.com>,
> Bruce W...1 <bruce@noDirectEmail.com> wrote:
>
> >This is not ham radio related but I know you guys have the answer.
> >
> >I need to store a car unattended for a winter in the midwest. And I
> >want to put a tricke charge on the battery.
> >
> >I'd rather not buy a fancy trickle charger because it would probably get
> >stolen. On the other hand I have a vast array of wall wart
> >transformers.
> >
> >If I connected one of these transformers how many milliamps should it
> >put out at 12V? Or rather what's the least current that would do the
> >job?
>
> I would guess that 100 milliamperes would be more than sufficient to
> overcome any self-discharge of the battery, as long as the vehicle
> doesn't have any electronics onboard which are drawing current.
>
> >It seems that lead acid batteries can dissipate too much current as
> >heat. In other words I could probably feed it one amp continuously.
>
> You really don't want to do that.
>
> The reason is this: in order for a car battery to be drawing 1 amp of
> charge current on a continuous basis, you're going to have to boost
> the voltage up fairly high. You'd probably exceed the electrolysis
> voltage, and much of the current would end up breaking down the water
> in the electrolyte into oxygen and hydrogen. If your battery's design
> and chemistry don't allow the gasses to be recombined into water fast
> enough, you'd be at risk of "boiling" the battery dry.
>
> >But would 100 mA at 12V do the job? I'd hate to lose a 1-Amp wall wart.
>
> Lead-acid batteries are happiest if you feed them a well-regulated
> charge/float voltage, with suitable current limiting. Using an

> unregulated or weakly-regulated 12-volt wall-wart is probably not a
> good idea - these wall warts tend to deliver a rather high voltage
> (often 16-18 volts) under conditions of little or no load. Depending
> on the specific wall-wart you choose, and the condition and type of
> your battery, you might end up electrolyzing away the water faster
> than the battery can recombine the hydrogen and oxygen. Losing a
> wall-wart would be annoying; losing the battery would be worse ;-)
>
> The best thing to do is get (or build) yourself some sort of
> well-regulated trickle charger. 100-200 mA is probably more than
> plenty for this application, as long as it's provided at a
> well-regulated voltage. Most battery companies seem to recommend
> between 13.6 and 13.8 volts for a "float charging" application - at
> this voltage, the battery will self-regulate the amount of current it
> takes and will not overcharge or electrolyze itself. One
> knowledgeable amateur I know, recommends sticking to a lower 13.5
> volts to ensure safe float-charging under a wide range of charge
> conditions and temperatures.
>
> About a year ago I put together a simple float charger to keep the
> 65-amp-hour glassmat battery in our city's RACES ham-shack properly
> charged. It's a simple design, based on the jellybean LM317
> three-terminal regulator IC and on the schematics in National
> Semiconductor's data sheet for this IC. My version includes reverse
> polarity and short-circuit protection, a charge float voltage which is
> adjustable over a span of a volt or so, and built-in current limiting
> to protect the wall wart (a 200 mA 16-volt unit, if I recall
> correctly). It's not a bad one-afternoon project and the components
> are the sort of thing most homebrewers are likely to have in their
> junk-box.
>
> Schematic is at http://www.radagast.org/~dplatt/hamradio/charger.pdf

3201. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 13:39:08 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3FA7ABFF.3050506@invalid.invalid>
Source record: 31368

Dave Platt wrote:
> It's not a bad one-afternoon project and the components
> are the sort of thing most homebrewers are likely to have in their
> junk-box.
>
> Schematic is at http://www.radagast.org/~dplatt/hamradio/charger.pdf

Interesting circuit.

I have to beg a fair amount of ignorance about battery behavior. I've got a couple of the smaller sealed lead-acid batteries - the one on the desk right now is 4Ah.

Judging from what (little) I know about these batteries, I presume it would be safe to use your circuit as-is - that the maximum 200mA charging current, while intended to protect the unregulated source, would also be low enough to not overheat the battery.
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

3202. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 15:59:55 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bo8icv$kv7$1@news.oregonstate.edu>
Source record: 31369

Bill Meara <n2cqr@clix.pt> wrote:
> This gets to the question of whether DC receivers can be used to copy
> DSB and SSB:
> By Goodman, W1DX, explained the problem in the 1965 edition of
> "Single Sideband for the Radio
> Amateur" (page 11): "Unfortunately, if both sidebands are received at
> the detector where the carrier is
> introduced, the carrier has to have exactly the correct phase
> relationship with the sidebands if distortion is
> to be avoided. Since exact phase relationship precludes even the
> slightest frequency error, such a system
> is workable only with very complicated receiving techniques.

In 1965 I can imagine that a Costas loop, two mixers, etc. was considered 'very complicated.' It doesn't seem all that horribly fancy by today's standards, however. But of course it's not like I've actually _built_ such a thing yet! :-)

> However,
> if only one sideband is present at
> the detector, there is no need for an exact phase relationship and
> there can be some frequency error
> without destroying intelligibility. " Modern SSB transcievers send
> only one of the sidebands to the
> detector, so this distortion problem only occurs when receiving a DSB
> signal on a receiver that sends both
> sidebands to the detector.

It's ironic that DSB, which came about due to the ease of detection with diode (envelope detectors) turns out to be somewhat challenging to recover with a more sophisticated synchronous detection scheme.

Experimental Methods in RF Design points out that direct conversion receivers have become highly popular in the past couple of decades... this seems somewhat surprising; I would have guessed people back in the, e.g., '60s, would have gone to great lengths to avoid image reject filters and long IF chains.

---Joel Kolstad

3203. Re: Double Cotton-Covered Wire - where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 17:24:43 UTC
From: averyfineman@aol.com
Message-ID: <20031104122443.05539.00002040@mb-m16.aol.com>
Source record: 31370

In article <u8ymxnkdi.fsf@LSUSA.com>, Allen Windhorn <Allen.Windhorn@LSUSA.com>
writes:

>averyfineman@aol.com (Avery Fineman) writes:
>
>> In article <3FA2A53C.F57F22FF@earthlink.net>, "Michael A. Terrell"
>> <mike.terrell@earthlink.net> writes:
>>
>> >David Forsyth wrote:
>> >>
>> >> Double Cotton-Covered ("D.C.C.") Do they still make this stuff? I would
>> >> like to obtain some for winding RF coils for homebrew radio receivers.
>> >> Anybody know of a supplier or maybe have some on hand?
>
>(I missed the original post.) I think you could get it from either
>New England Wire or Kerrigan-Lewis, if you were willing to order a
>minimum quantity. The "cotton" will be Dacron or something though.
>
>Otherwise I would look on antique radio websites or find some defunct
>equipment to disassemble.

Well, heck, if somebody wants DCC that bad, an old RFC (R F Choke)
is one "source." That old favorite of many moons ago, a 2.5 mHy RFC
was once an all-purpose thing, usually with 4 "pies" of windings and
lots of turns of small diameter wire that had either CC or DCC
insulation.*

I just don't know WHY anyone has to restore some old thingy to the
exact appearance it was supposed to have. Electrons won't care.
If the appearance is very important, just get a bunch of the wire in a
loose wrapping between two fat dowels and spray-paint the wire with
white primer. Primer has the dull surface, doesn't look shiny and
"false." <shrug>

* A 2.5 mHy inductance and 1000 pFd capacitor resonate very close
to 100 KHz and some way back in prehistory of the late 1940s used
that resonant circuit to make a "calibrator" spritzing harmonics way
up to 29.7 MHz. I did that as a beginner in 1947...then learned more
and got a Bliley 100 KHz crystal for "accuracy." Crude, yes, but a
lot more accurate than those wide-band tuning dials with separate,
uncalibrated "bandspreading" second tuning. Pfui.

Len Anderson
retired (from regular hours) electronic engineer person

3204. Silver button mica ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 18:01:11 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vqfscjs7k5mi82@corp.supernews.com>
Source record: 31374

I've got a TMC Directional Coupler Unit Model CU 2/50 and my "cheatsheet" for silver button micas is not to be found. I wonder if someone has one and can tell me the capacitance of one that has the following six colors: black, brown, red, green, gold, grey. If anyone has a schematic, please let me know.
tnx
hank wd5jfr

3205. NEW VINTAGE RADIO PARTS (PRIOR TO 1960)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 18:04:18 UTC
From: dialcover@webtv.net
Message-ID: <22222-3FA7EA22-300@storefull-2318.public.lawson.webtv.net>
Source record: 31372

PLEASE EXCUSE CAPS, SHORT REPLIES, STROKE

Bill Turner, WA0ABI, 1117 Pike St., Saint Charles,MO 63301. Phone
636-949-2210

Plastic Dial covers, any size, any shape. $14.00
Glass Dial covers, 2" to 8 7/8" x 1/16" incr, $14.00

ELECTROLYTIC CAPACITORS, new, 7/8"DIA. X 3" OR 3 1/4" long, shiney red
or blue cover, brown end seal, printed inscription down the length,
metal mounting strap with a hole for mounting.
33uF-47uF 160 volts, $2.50
33 uF-33uF-33uF 160 volts $3.00
47 uF-47uF-47uF 160 volts $3.50
33uF -47uF 160 volts 47uF/100 $4.00 with bias cap.
33uF-47uF 94 uF/100 volts $4.00 (AC/DCbattery sets) 22uF-22uF 450 volts
$4.00 (for AC sets) 22uF-22uF-22uF 450 volts $4.50 (for AC sets,)
S-38 HALLICRAFTERS (cardboard) $10.00, ZENITH T/O (can type) $18.00 .
ALL POSTAGE PAID,cash, money order, check

For a business SASE a copy of the Pocket Resouce Guide and my personal
four page catalog of pieces, parts, and manuals.

3206. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 18:11:20 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA7EBB6.4AE47A24@earthlink.net>
Source record: 31371

Thanasis wrote:
>
> "Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:<3FA672F5.D5739530@earthlink.net>...
>
> > They have to be turned on hard, or they will rectify the RF
> > and cause problems ...
>
> I was feeding the diode with 1mA. I couldn't imagine that should feed it
> with ~20mA in order to be stable my oscillator.
>
> Thanks for your help
> Thanasis Lazos

We had problems with phase noise at lower currents.
--

Michael A. Terrell
Central Florida

3207. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 18:18:21 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FA7ED6D.A6164EC2@noDirectEmail.com>
Source record: 31373

Rick Frazier wrote:
>
> Bruce:
>
> As others have indicated, you really want to use a regulated charging
> voltage to keep the battery up... The voltage is important, however, more
> important to getting the design right is knowing how much of a drain the
> automobile puts on the battery when "nothing" is going on... Many cars will
> drain a good battery in about a month, just from the residual drain that is
> the result of such things as clocks and memories in radios and such. Add
> anything else and you've got a good chance of needing significantly more
> charging current than you might at first think.
>
> You mention that you are worried about using a fancy trickle charger because
> it may get stolen, which implies that the car is outside in the elements,
> and not in a protected or secured environment. I'd be willing to bet that
> if you have to worry about someone stealing a trickle charger, you should
> probably be concerned about just about everything else too, once someone
> notices the car isn't moving and has a power cord going to it....
>
> In addition, being concerned about a 1-amp wall wart, which are nearly a
> dime a dozen, may be false economy, considering the value of the car and
> items built or installed in it. Why wouldn't the tires and wheels
> disappear, or the battery itself? Same for radio and/or other
> accessories... or even perhaps the car itself.
>
> If you do go and build something to keep the battery up, bear in mind that
> you are probably going to need something with a voltage around 16 volts or
> so, given that most regulators require a couple of volts of headroom over
> the regulated voltage. This may take you into a range of supplies or wall
> warts that is higher than you may have on hand anyway.
>
> --Rick
>
==========

You guys are getting unnecessarily complex me thinks.

Yes a voltage regulator would be nice but not really essential. And
this might get stolen too. Besides, if I was going to go to that effort
I'd just buy a float charger (about $25).

The car is in a garage in a good neighborhood but the owner of the
garage is on and extended vacation. The theives I'm worried about are
neighborhood children. Actually it's the homeowner's car, I'm just

doing them a favor, and saving myself from having to go there to start the car once a week. So I'd rather not spend money when I have a plethora of wall warts.

The car does have an alarm but I don't know how much current it pulls.

Case, I've got one wall wart which has a 17V open voltage. When I pull it down to 12.0 volts the current is 120 mA. Might this work?

I could increase the size of the transformer if needed. It's just that I haven't yet figured out what's needed.

Lead-acid batteries have a rated current at which they can be float charged without causing any damage. This is the number I need, but have not been able to find it.

Here's a related article:
http://www.4unique.com/battery/battery_tutorial.htm

3208. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 18:54:56 UTC
From: mcalhoun@ksu.edu
Message-ID: <bo8sm0$1ii@unix1.cc.ksu.edu>
Source record: 31375

>I need to store a car unattended for a winter in the midwest. And I
>want to put a tricke charge on the battery.
>....[snip]....

Although their normal price is about $15, float battery chargers (wall wart, coiled cord, little black box with LED, two cords with large alligator clips on the ends) are often advertised in Harbor Freight catalogs for $7.99. I must have half a dozen of them now, keeping batteries here and there up to snuff. I've never measured them, but they seem to do a real good job, and they're hard to beat at that price!

I have no connection to Harbor Freight except as a satisfied customer,

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3209. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 19:14:53 UTC
From: dplatt@radagast.org
Message-ID: <vqfuldf4e2fm71@corp.supernews.com>
Source record: 31376

In article <3FA7ABFF.3050506@invalid.invalid>,
Doug Smith W9WI <w9wi@invalid.invalid> wrote:
>Dave Platt wrote:
>> It's not a bad one-afternoon project and the components
>> are the sort of thing most homebrewers are likely to have in their
>> junk-box.
>>
>> Schematic is at http://www.radagast.org/~dplatt/hamradio/charger.pdf
>
>Interesting circuit.
>
>I have to beg a fair amount of ignorance about battery behavior. I've
>got a couple of the smaller sealed lead-acid batteries - the one on the
>desk right now is 4Ah.
>
>Judging from what (little) I know about these batteries, I presume it
>would be safe to use your circuit as-is - that the maximum 200mA
>charging current, while intended to protect the unregulated source,
>would also be low enough to not overheat the battery.

Should be fine. According to the Power-Sonic Technical Handbook
(http://216.87.171.32/manuals/techman.pdf) charge currents should not
be allowed to exceed 0.20 * C amperes - which would be 800 mA for a
4Ah battery. I prefer to stick to 0.10 * C amperes if I can afford to
wait overnight for the battery to charge.

I mis-stated the actual current limit provided by the schematic I
posted... this schematic is a modified version of what I actually
built, and has a higher current limit which would allow it to
be used with a larger wall-wart. The current limit is set by the
value of R4 - the charger goes into current-limiting when the voltage
drop across this resistor reaches 0.7 volts and turns on Q1. The
1-ohm value in the schematic sets the limiting point at 700 mA (not a
bad value to use when charging a standard 7Ah gel cell). 3 ohms would
give you a bit more than 200 mA.

In actual use, when charging gel cells, you're likely to find that the
charging circuit only goes into current-limit if the battery is quite
deeply discharged. Once the battery charges up to a significant
fraction of its total capacity, its terminal voltage will rise up to
13.5 (or whatever float voltage you've tweaked the charger for) and
the current flow will decrease, bringing the charger out of limiting.
It will then charge at a slower (and steadily decreasing) rate until
fully replenished, and will then draw perhaps 0.01 * C amperes of
float/trickle charge current indefinitely.

In order to charge the battery more rapidly, you'd need to set the charge voltage up to 14.4 volts or so (the "fast charge" voltage region) and then set it back down again once the current flow had dropped below 0.01 * C. Commercial battery chargers often use this sort of dual-voltage charging scheme to allow for faster recharge.

Note that you should _not_ use this sort of "higher voltage for fast charging" technique when charging starved-electrolyte (glass mat) lead-acid batteries - they are rather intolerant of higher charge voltages and should not be charged at above 13.8 volts. However, using a higher charge voltage really isn't necessary with these batteries... they'll soak up charge amazingly fast at 13.6 - 13.8 volts.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

3210. electronic components

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 19:54:47 UTC
From: ssaroff@yahoo.com
Message-ID: <c49eba51.0311041154.18c09361@posting.google.com>
Source record: 31377

I continue to add to my electronic components listing site.

There are lots of very good links to supliers, data sheets,
schematics, surplus and other electronic information at

http://www.saroff.com/electronics

Please let me know if I have missed anything great that should be on
this list.

s.

3211. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 20:19:22 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <bo8v5t$6om$1@news1.kornet.net>
Source record: 31378
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

"W7TI" <noway@nohow.com> wrote in message
news:2vkfqvg9lmnqg3vrr1t350n0sjpbtsm885@4ax.com...
> On Tue, 4 Nov 2003 16:46:35 +0900, "Brenda Ann" <brendad@shinbiro.com>
> wrote:
>
> >If they have already been punished in some way by the courts, then the
> >answer to your query is (or should be) yes. If they have not been
punished
> >in some way by the courts, then, de facto, they have not been found
guilty
> >of any crime, and are to be presumed innocent.
>
> ----------
>
> What a great concept! If they've been punished, then hands off. If
> they've NOT been punished, then hands off also.
>
> I'd say you're a natural-born criminal lawyer (in both senses of the
> word).
>

It's our system of law. They taught it to us in junior high school social
studies. I know I'm getting old, but I don't think things have changed all
that much...

3212. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 20:28:01 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <3FA80BD1.1030200@psu.edu>
Source record: 31379
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Alun Palmer wrote:
> Mike Coslo <mcoslo@adelphia.net> wrote in
> news:Z%kpb.2342$Bf7.1312644@news1.news.adelphia.net:
>
>
>>Alun Palmer wrote:
>>
>>
>>
>>>I will probably be dropped soon, but the FCC has to go through
>>>standard procedures with all the pending petitions. The international
>>>requirement was dropped on July 5th, so by next July it should
>>>probably be gone in the US.
>>
>> Hehhe. Alun, you should be on the welcoming committee for this
>> dude!
>>
>> - Mike KB3EIA -
>>
>>
>
>
> It's a difficult question. Do we applaud him for wanting to go legal? Or
> do we slam him for ever having operated illegally? I have known former
> pirate radio ooperators whose behaviour on the ham bands after they got a
> licence was exemplary.

Then let us hope that he is a shining beacon of behavior for the cause
of those who do away for the code test!

- Mike KB3EIA -

3213. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 21:50:45 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FA81F35.7D04769F@clifto.com>
Source record: 31380

Bruce W...1 wrote:
> The car is in a garage in a good neighborhood but the owner of the
> garage is on and extended vacation. The theives I'm worried about are
> neighborhood children. Actually it's the homeowner's car, I'm just
> doing them a favor, and saving myself from having to go there to start
> the car once a week.

Keeping the battery charged is not the only reason to start the car once
a week.

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis
to comply with their own agreements and with international law. Given that,
what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

3214. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 23:41:00 UTC
From: Jason Dugas <kb5urq@hotmail.com>
Message-ID: <vqge8vcfck5c5c@corp.supernews.com>
Source record: 31381
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Clearly, if I had an o-scope and a waveform generator, I wouldn't be farting with this analyzer!! :)

"Tim Shoppa" <shoppa@trailing-edge.com> wrote in message news:bec993c8.0311030635.41bd9890@posting.google.com...
> "Jason Dugas" <kb5urq@hotmail.com> wrote in message news:<vq15emev53rvc8@corp.supernews.com>...
> > I'm interested in measuring the velocity factor of some coax I have (more of
> > an exercise than necessity). In order to do this, the MFJ-259 Operations
> >...
> > What would be a good way of making this connection?
>
> Do you have a scope and a pulse generator? If so, just make a simple
> TDR (Time Domain Reflectometry) setup to measure the reflection from a
> un-terminated or shorted far end of the cable. You will get much more
> accurate results with substantially less effort.
>
> Don't get me wrong, the MFJ-259 is a good instrument. It's just that TDR
> is so quick and easy and unambiguous for propogation delay measurements.
>
> Tim.

3215. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 23:46:19 UTC
From: jgboyles@aol.com
Message-ID: <20031104184619.09359.00000175@mb-m12.aol.com>
Source record: 31382

>Clearly, if I had an o-scope and a waveform generator, I wouldn't be farting
>with this analyzer!! :)

Hi Jason, did you get the email response I sent you?
73 Gary N4AST

3216. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 23:57:16 UTC
From: jgboyles@aol.com
Message-ID: <20031104185716.09359.00000176@mb-m12.aol.com>
Source record: 31383

>Keeping the battery charged is not the only reason to start the car once
>a week.

Wow, that is a revelation. I hope most people reading this group would know
that.
73 Gary N4AST

3217. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-04 23:58:48 UTC
From: Steveo <moparholic@hotmail-nospam-.com>
Message-ID: <20031104185847.223$t1@newsreader.com>
Source record: 31384
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Mike Coslo <mjc5@psu.edu> wrote:
> Alun Palmer wrote:
> > Mike Coslo <mcoslo@adelphia.net> wrote in
> > news:Z%kpb.2342$Bf7.1312644@news1.news.adelphia.net:
> >
> >
> > >>Alun Palmer wrote:
> > >>
> > >>
> > >> >>>I will probably be dropped soon, but the FCC has to go through
> > >> >>>standard procedures with all the pending petitions. The international
> > >> >>>requirement was dropped on July 5th, so by next July it should
> > >> >>>probably be gone in the US.
> > >>
> > >> >> Hehhe. Alun, you should be on the welcoming committee for this
> > >> >> dude!
> > >>
> > >> >> - Mike KB3EIA -
> > >>
> > >>
> > >
> > >
> > > It's a difficult question. Do we applaud him for wanting to go legal?
> > > Or do we slam him for ever having operated illegally? I have known
> > > former pirate radio ooperators whose behaviour on the ham bands after
> > > they got a licence was exemplary.
> >
> > Then let us hope that he is a shining beacon of behavior for the
> > cause of those who do away for the code test!
> >
> > - Mike KB3EIA -
> >
It will be like the Cingular commercial.."can you hear me now?" <g>

3218. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 00:16:51 UTC
From: la8ak.xnd@online.no
Message-ID: <3fa82e48.100075169@news.online.no>
Source record: 31385

On Tue, 04 Nov 2003 15:50:45 -0600, "Clifton T. Sharp Jr."
<clifto@clifto.com> wrote:

>Bruce W...1 wrote:
>> The car is in a garage in a good neighborhood but the owner of the
>> garage is on and extended vacation. The theives I'm worried about are
>> neighborhood children. Actually it's the homeowner's car, I'm just
>> doing them a favor, and saving myself from having to go there to start
>> the car once a week.
>
>Keeping the battery charged is not the only reason to start the car once
>a week.
>
Suppose it means that a car battery won't last long if you keep it
steady at top charge level, instead of decharge it down towards 50%,
sense the voltage level and charge it up to 14.4V (for this cold
area), and switch off the charger until it is down to 50% again....

I was told that a car battery wouldn't last long anyway for this
application, so even when my car battery is 6-7 years old, it
wouldnt't last more than a year when trickle charged, while it is far
better economy to buy a leisure type battery

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

3219. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 00:26:59 UTC
From: radiotubes@fast.net
Message-ID: <20d99877.0311041626.4db6d60a@posting.google.com>
Source record: 31386
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"David Forsyth" <foda01@ncx.com> wrote in message
news:<vqan3crrl44ffa@corp.supernews.com>...
> In the interest of my recent tinkerings with radios (both antique and
> homebrew), I have put up an 80 foot straight wire antenna above the house.
> It sits about 35 feet up from, and horizontal to, the ground. I am using a
> lead in from one end made of insulated stranded copper wire (basically old
> speaker cable, about 18 guage I think). Right now, the lead-in wire comes
> down from the end of the antenna closest to the sun porch, and in through
> the storm window via a well-insulated bushing. Due to the location of this
> lead-in, this is the spot wherre I have been doing most of the tinkering
> with the radios. I also have a copper pipe ground rod in a nearby location
> so as to have as short a path to ground as possible.) It seems to work OK
> for now but I would ideally like to run the lead-in into my basement where
> my workshop is. I read somewhere (I think it might have been in reference
> to crystal sets) that you can use coax for an AM lead-in. Would this be
> better for a longer/more convoluted lead-in? Would I use the braded shield
> as the ground connection or would I run a separate ground back to my copper
> rod outside? What type of coax would be best for this sort of thing? I am
> interested in receiving both broadcast and shortwave. Any info on this
> matter would be most appreciated.
>
> thanks in advance,
>
> Dave

Al Klase figured that our several years ago:
http://www.webex.net/~skywaves/ANTENNA/antsys.htm

Jiri Placek
Boyertown, PA

3220. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 00:36:50 UTC
From: dplatt@radagast.org
Message-ID: <vqghh22aoa40d2@corp.supernews.com>
Source record: 31387

In article <3fa82e48.100075169@news.online.no>,
J M Noeding <LA8AK,xnd@Online.NO> wrote:

>>Keeping the battery charged is not the only reason to start the car once
>>a week.
>>
>Suppose it means that a car battery won't last long if you keep it
>steady at top charge level, instead of decharge it down towards 50%,
>sense the voltage level and charge it up to 14.4V (for this cold
>area), and switch off the charger until it is down to 50% again....

As I understand it, that's exactly the opposite sort of regime that a
car battery prefers.

Car batteries are designed to provide large amounts of current for
engine cranking, even when cold. One of the tradeoffs in this design,
unfortunately, is that they do not tolerate deep (or even heavy)
discharge at all well. Discharging a car battery down to 50% and then
recharging it, repeatedly, is likely to greatly shorten its life. The
plates will quite literally fall apart.

Batteries having a different internal construction can handle deep
discharge quite a bit better. The older sort of "marine
deep-cycle" battery (designed for electric trolling motors) were
quite good - but I'm told that modern "marine deep-cycle" batteries
are more like car batteries in their design and no longer have a big
advantage in terms of deep-discharge life.

The best ones for deep discharge, today, seem to be the
starved-electrolyte (glass mat), and spiral-cell types. These are
often used for telecom backup applications, large UPS systems,
wheelchair motor, and electric-tractor/golfcart applications.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3221. Good news

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 01:28:18 UTC
From: Steveo <moparholic@hotmail-nospam-.com>
Message-ID: <20031104202818.589$LX_-_@newsreader.com>
Source record: 31388
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Steveo <moparholic@hotmail-nospam-.com> wrote:
> Mike Coslo <mjc5@psu.edu> wrote:
> > Then let us hope that he is a shining beacon of behavior for
> > the cause of those who do away for the code test!
> >
> > - Mike KB3EIA -
> >
> It will be like the Cingular commercial.."can you hear me now?" <g>
>
I just saved a ton of money on my auto insurance.

3222. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 01:41:32 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311041741.7dee2e34@posting.google.com>
Source record: 31389
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Leading eventually to the suggestion that perhaps your MFJ analyzer
isn't worth the powder to blow it up...

But I submit that you can make VF measurements on your cable with it,
which may be limited by the accuracy with which you can measure the
length of line you are looking at and not by the fact that you're
using a relatively inexpensive instrument. Here's one way. If you
look at a shorted stub 90 electrical degrees long in parallel with a
50 ohm resistor, you'll have to move the frequency by some value to
resolve a difference. The amount you have to move the frequency
probably determines the resolution you can get in VF. But if you make
the line 270 degrees long, you'll have three times the sensitivity.
So a hundred foot length of line, measured near 10 meters frequency,
would be long enough to get very good resolution--it'd be on the order
of 1530 electrical degrees. I'd be surprised if you had trouble
seeing the difference between, say, 0.664 and 0.665 VF. But beware
that the VF _does_ change with frequency, even over HF. There are
times when _I_ care about that, even if some others don't.

Cheers,
Tom

"Jason Dugas" <kb5urq@hotmail.com> wrote in message
news:<vq60t3lpnait5f@corp.supernews.com>...
> Asswipe,
>
> The question I posed wasn't "What's the velocity factor of ALL solid
> polyethylene coax cable". Next time read the question and answer it. If
> you don't know the answer then DON'T POST A REPLY!
>
> Too many ignorant people in these groups anymore!
>
> "Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
> news:bnts9b$o8k$1@hercules.btinternet.com...
> > The velocity factor of ALL solid polyethylene coax cable, regardless of
> > impedance, is 0.665
> >
> >

3223. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 03:26:01 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vqgre91pl9oqa1@corp.supernews.com>
Source record: 31390

In normal operation a car battery doesn't get discharged to 50% and then recharged. The starter draws a large amount of current for a very short time and then the alternator keeps the battery charged and supplys the current for the vehicle. It seems to me like this would be very close to keeping the battery on a trickle charge.

3224. Re: Good news

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 04:05:41 UTC
From: Landshark <S3Buell@jgkdls.com>
Message-ID: <pG_pb.13876$Qu.858@newssvr14.news.prodigy.com>
Source record: 31391
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

"Steveo" <moparholic@hotmail-nospam-.com> wrote in message
news:20031104202818.589$LX_-_@newsreader.com...
> Steveo <moparholic@hotmail-nospam-.com> wrote:
> > Mike Coslo <mjc5@psu.edu> wrote:
> > > Then let us hope that he is a shining beacon of behavior for
> > > the cause of those who do away for the code test!
> > >
> > > - Mike KB3EIA -
> > >
> > It will be like the Cingular commercial.."can you hear me now?" <g>
> >
> I just saved a ton of money on my auto insurance.

Watching a little more TV lately?

Landshark

--
We are men at work, we've got a job to do.
Neil Young

3225. Re: Good news

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 04:22:05 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <NV_pb.22578$p.320465@news1.news.adelphia.net>
Source record: 31392
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Steveo wrote:
> Steveo <moparholic@hotmail-nospam-.com> wrote:
>
>>Mike Coslo <mjc5@psu.edu> wrote:
>>
>>> Then let us hope that he is a shining beacon of behavior for
>>>the cause of those who do away for the code test!
>>>
>>> - Mike KB3EIA -
>>>
>>
>>It will be like the Cingular commercial.."can you hear me now?" <g>
>>
> I just saved a ton of money on my auto insurance.

AFLAC!

- Mike KB3EIA -

3226. Re: Good news

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 04:27:22 UTC
From: Steveo <moparholic@hotmail-nospam-.com>
Message-ID: <20031104232722.096$CY@newsreader.com>
Source record: 31393
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

Mike Coslo <mcoslo@adelphia.net> wrote:
> Steveo wrote:
> > Steveo <moparholic@hotmail-nospam-.com> wrote:
> >
> >>Mike Coslo <mjc5@psu.edu> wrote:
> >>
> >>> Then let us hope that he is a shining beacon of behavior for
> >>>the cause of those who do away for the code test!
> >>>
> >>> - Mike KB3EIA -
> >>>
> >>
> >>It will be like the Cingular commercial.."can you hear me now?" <g>
> >>
> > I just saved a ton of money on my auto insurance.
>
> AFLAC!
>
> - Mike KB3EIA -
>
Gilbert at his best.

3227. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 04:40:52 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FA87F49.7E499E9C@bellatlantic.net>
Source record: 31394
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

David Forsyth wrote:
>
> In the interest of my recent tinkerings with radios (both antique and
> homebrew), I have put up an 80 foot straight wire antenna above the house.
> It sits about 35 feet up from, and horizontal to, the ground. I am using a
> lead in from one end made of insulated stranded copper wire (basically old
> speaker cable, about 18 guage I think). Right now, the lead-in wire comes
> down from the end of the antenna closest to the sun porch, and in through
> the storm window via a well-insulated bushing. Due to the location of this
> lead-in, this is the spot wherre I have been doing most of the tinkering
> with the radios. I also have a copper pipe ground rod in a nearby location
> so as to have as short a path to ground as possible.) It seems to work OK
> for now but I would ideally like to run the lead-in into my basement where
> my workshop is. I read somewhere (I think it might have been in reference
> to crystal sets) that you can use coax for an AM lead-in. Would this be
> better for a longer/more convoluted lead-in? Would I use the braded shield
> as the ground connection or would I run a separate ground back to my copper
> rod outside? What type of coax would be best for this sort of thing? I am
> interested in receiving both broadcast and shortwave. Any info on this
> matter would be most appreciated.
>
> thanks in advance,
>
> Dave

Forget using coax or a preamp with that antenna. With an 80'
wire antenna for AM and shortwave reception, there is nothing
to be gained by their use, and you can degrade what you already
have. Just add a static discharge unit, connect the wire to the
receiver, and enjoy your antenna.

If you want to make improvements, you can modify the antenna,
and/or make an antenna tuner for it or use a different antenna.
But as it stands today, it should give you plenty of signal
for the use you have in mind. Running the wire into the
basement is not a problem - just make sure you don't damage
it, and route it away from metal objects.

3228. Re: Good news

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 04:48:07 UTC
From: Steveo <moparholic@hotmail-nospam-.com>
Message-ID: <20031104234807.087$aT@newsreader.com>
Source record: 31395
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

"Landshark" <S3Buell@jgkdls.com> wrote:
> "Steveo" <moparholic@hotmail-nospam-.com> wrote in message
> news:20031104202818.589$LX_-_@newsreader.com...
> > Steveo <moparholic@hotmail-nospam-.com> wrote:
> > > Mike Coslo <mjc5@psu.edu> wrote:
> > > > Then let us hope that he is a shining beacon of behavior
> > > > for the cause of those who do away for the code test!
> > > >
> > > > - Mike KB3EIA -
> > > >
> > > It will be like the Cingular commercial.."can you hear me now?" <g>
> > >
> > I just saved a ton of money on my auto insurance.
>
> Watching a little more TV lately?
>
> Landshark
>
You too! ;)

3229. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 04:52:13 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FA881F3.C4AC79B9@bellatlantic.net>
Source record: 31396

"Michael A. Terrell" wrote:
>
> Thanasis wrote:
> >
> > In the book "Introduction to Radio Frequency Design" of W7ZOI and in
> > the section 7.9 "Voltage Controlled Oscillators" I read about how to
> > switch in and out a capacitor or an inductor in a VCO, using a diode
> > switch in order to alter the frequency of the oscillator.
> >
> > Unfortunately this information is theoritical to me and I couldn't
> > make my oscillator change its frequency.
> >
> > Does any one have a practical example of a Switched reactance VCO ?
> >
> > Thanks
> > Thanasis Lazos
>
> I worked on the Microdyne synthesizers using this method. It used strip
> line inductors, with a heavy ground buss along the edge of the board.
> The diodes were either forward or reverse biased to turn them on or off.
> you can't just let them float. Use a capacitor at least 100 times the
> highest value of the varicap to ground on the switching end of the
> diode, and as short as possible connections for the both ends of the
> diode. Connect a resistor to the diode and capacitor, and feed it a
> positive or negative voltage for forward or reverse bias. They have to
> be turned on hard, or they will rectify the RF and cause problems, but
> you can't exceed the current ratings, or you will damage the diode. we
> used + or - 12 volts for switching, and the diodes were used to switch
> the range at about 10% of the operating frequency. Its simple when you
> see it in front of you, but it is difficult to explain with text. This
> design was used in their 1200, 1400, 700, and 2800 series receivers, so
> you might find someone with a manual on one of these to see how they are
> built.
> --
>
> Michael A. Terrell
> Central Florida

On the Microdynes - did you use inductors on the DC lines
to the diodes to keep the RF off the DC ?

3230. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 05:34:54 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <boa24o$f6m$1@bob.news.rcn.net>
Source record: 31197
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

> David Forsyth wrote:
> >
> > In the interest of my recent tinkerings with radios (both antique and
> > homebrew), I have put up an 80 foot straight wire antenna above the
house.
> > It sits about 35 feet up from, and horizontal to, the ground. I am
using a
> > lead in from one end made of insulated stranded copper wire (basically
old
> > speaker cable, about 18 guage I think). Right now, the lead-in wire
comes
> > down from the end of the antenna closest to the sun porch, and in
through
> > the storm window via a well-insulated bushing.
SNIP

Back considerably before the beginning of time, around 1940/1941, my uncle bought a fancy Sears Silvertone console with multiple bandspread shortwave bands and the lot. It came with instructions for using a substantial center-fed dipole antenna with twisted-pair two-wire feedline. Back in those days twisted-pair feedlines weren't much different from rubber insulated two-wire AC cords - ZIP cord hadn't appeared yet. The impedance probably wasn't far off from 75 ohms.

The important point was that the balanced feed system and antenna reduced pickup of noise by the feedline. The close-spaced two-wire feed also made it less affected by routing.

Your 80 feet is a small fraction of a wavelength anywhere in the AM broadcast band, so the antenna will be a high impedance no matter where you feed it. 300-ohm twinlead might be a start in today's world. Is shielded twinlead still available? The other choice for feeding a band dipole might be plastic ZIP cord. The insulation is not great, but a 1500 kHz, who cares? The spacing is close, giving less effect of close objects, but the impedance would thus be low.

Just some thoughts, perhaps useless if you can't center-feed the antenna.

3231. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 06:13:49 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FA89514.80875067@bellatlantic.net>
Source record: 31198

"Bruce W...1" wrote:

>
> You guys are getting unnecessarily complex me thinks.

Then you think wrong. Your own reference tells you to use
a regulated voltage for float charging.

>
> Yes a voltage regulator would be nice but not really essential.

No, a voltage regulator is essential for float charging.

> And
> this might get stolen too. Besides, if I was going to go to that effort
> I'd just buy a float charger (about $25).

And if you build a voltage regulator using the recommended
LM317 and one of the wall warts you already own, you'll spend
less than 5 dollars. If you don't have a suitable wall wart,
adding the cost of that will still leave you WAY under 25 bucks.

>
> The car is in a garage in a good neighborhood but the owner of the
> garage is on and extended vacation. The theives I'm worried about are
> neighborhood children. Actually it's the homeowner's car, I'm just
> doing them a favor, and saving myself from having to go there to start
> the car once a week. So I'd rather not spend money when I have a
> plethora of wall warts.
>
> The car does have an alarm but I don't know how much current it pulls.

And "keep alive" current for the radio and microprocessors
and clock and ?? totals how much?

>
> Case, I've got one wall wart which has a 17V open voltage. When I pull
> it down to 12.0 volts the current is 120 mA. Might this work?

Yes - if the battery starts out fully charged, and if the
current drain on the battery is only a few mA, and if you
add an LM317, a resistor and a pot and a diode to make a
protected (by the diode) voltage regulator. See the datasheet
at http://www.national.com/ds/LM/LM117.pdf for a diagram
(minus the diode). Add a diode between the input and
output of the LM317, banded end toward the input.

>
> I could increase the size of the transformer if needed. It's just that
> I haven't yet figured out what's needed.
>
> Lead-acid batteries have a rated current at which they can be float
> charged without causing any damage.

No - not a current. You want a regulated voltage for float
charging.

> This is the number I need, but have
> not been able to find it.

Read the article you mentioned (below). It says:
"Next comes the Float Step. This is a regulated voltage
of not more than 13.4 volts and usually less than 1 amp
of current."

>
> Here's a related article:
> http://www.4unique.com/battery/battery_tutorial.htm

3232. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 06:21:29 UTC
From: averyfineman@aol.com
Message-ID: <20031105012129.00545.00002129@mb-m02.aol.com>
Source record: 31199

In article <347b6e9c.0311040230.6fb45f93@posting.google.com>, alazos@in.gr (Thanasis) writes:

>"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message >news:<3FA672F5.D5739530@earthlink.net>...
>
>> They have to be turned on hard, or they will rectify the RF
>> and cause problems ...
>
>I was feeding the diode with 1mA. I couldn't imagine that should feed it >with ~20mA in order to be stable my oscillator.

Mike Terrell had a very good suggestion on switching diodes' current. Lots of folks have found out that higher current levels are absolutely needed. [me for one...:-)]

I might suggest an alternative: The CMOS switch ICs such as Dan Tayloe uses in his excellent Mixer for DC receivers. That CMOS structure is designed for higher signal levels with relative isolation of internal driving circuit to the switch portion.

I haven't tried that yet but am planning on that for next year.

Len Anderson
retired (from regular hours) electronic engineer person

3233. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 06:21:32 UTC
From: averyfineman@aol.com
Message-ID: <20031105012132.00545.00002130@mb-m02.aol.com>
Source record: 31200

In article <bo8icv$kv7$1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>Bill Meara <n2cqr@clix.pt> wrote:
>> This gets to the question of whether DC receivers can be used to copy
>> DSB and SSB:
>> By Goodman, W1DX, explained the problem in the 1965 edition of
>> "Single Sideband for the Radio
>> Amateur" (page 11): "Unfortunately, if both sidebands are received at
>> the detector where the carrier is
>> introduced, the carrier has to have exactly the correct phase
>> relationship with the sidebands if distortion is
>> to be avoided. Since exact phase relationship precludes even the
>> slightest frequency error, such a system
>> is workable only with very complicated receiving techniques.
>
>In 1965 I can imagine that a Costas loop, two mixers, etc. was considered
>'very complicated.' It doesn't seem all that horribly fancy by today's
>standards, however. But of course it's not like I've actually _built_ such
>a thing yet! :-)

Most of you guys are knocking yourself out on what is little more than
an "intellectual experiment." Get a receiver and do a practical
experiment. An old receiver with a "BFO" isn't "sophisticated" and
will receive DSB and SSB just dandy, very "workable" if the LO is
warmed up and stable and the fine-tuning ("bandspread") can zero-
beat where the carrier is (or was). Do the same thing with a newer
receiver that has a "product detector" (nothing more than a mixer,
the same as what a DC receiver front end has but at IF, not HF).
Very "workable" and done all over in everyday HF comm, both ham
and maritime radio. Been done for decades.

The only "distortion" comes from not being able to set the tuning
precisely without some AFC. With AM and a "product detector"
(or BFO on), there's the carrier beat, strong, and won't go away
unless there's a terrific lowpass audio filter in there. If using a more
modern, basically-SSB receiver, it probably has a "RIT" or Receiver
Incremental Tuning that allows making the carrier beat almost to
DC. That's a frequency distortion still and manual tweaking can't
get the low-frequency, absolutely non-phase (or rapidly changing
phase) all the way out.

Can one get separated sidebands on AM DSB with a DC receiver?
Absolutely! No problem with a manual tuning DC receiver that has
TWO audio networks out of the mixer. A stereo-like effect (amazing

to hear for the first time) with lower SB = left ear, upper SB = right ear is possible, even if the tuning doesn't hit right on carrier zero beat. The "phase distortion" manifests itself solely in the amount of rejection of the unwanted side of tuning...too great a phase from ideal results in poor unwanted side rejection...very close phase and the the rejection of unwanted side is best.

>> However,
>> if only one sideband is present at
>> the detector, there is no need for an exact phase relationship and
>> there can be some frequency error
>> without destroying intelligibility. " Modern SSB transcievers send
>> only one of the sidebands to the
>> detector, so this distortion problem only occurs when receiving a DSB
>> signal on a receiver that sends both
>> sidebands to the detector.

Pfui. The old receivers with BFOs could "work" SSB. Problem is, those old receivers were so finicky and unstable, had such wide final bandwidths that those faults predominated. I have a nice 1948 National NC-57 gathering dust as proof of that. :-)

>It's ironic that DSB, which came about due to the ease of detection with
>diode (envelope detectors) turns out to be somewhat challenging to recover
>with a more sophisticated synchronous detection scheme.

Nooo...AM "came about" with absurdly SIMPLE components first, not even using any vacuum tubes! Case in point: Reginald Fessenden's famous Christmas Eve, 1906, voice transmission from Brant Rock, MA. Used a rotary alternator LF generator with a special (probably carbon) microphone in series with the antenna lead. The few who heard it along the east coast used galena crystal (the first point-contact diode?) or "coherer" or "liquid barreter" detectors. Technologically primitive by today's standards.

The existance of two sidebands in AM wasn't known for sure until the first Johnny Carson (John R. Carson, AT&T) published his modulation equations to show the presence of identical-information sidebands. Few labs had the equivalent of spectrum analyzers and vacuum tubes were still rare in the 1915-1922 era. "Detectors" of that early time were still the simple "rectifying" types...a regenerative detector still does "rectifying" (averaging of amplified signal input) to recover the modulation audio.

Long-distance telephony was the birthplace of SSB. Frequency multiplexing was the only practical way to cram four telephone circuits on a single pair of wires running many miles way back when. Frequency multiplexing uses SSB techniques. When RF amplifiers using tubes got going, the first SSB was four-voice-channel long-lines "carrier" frequency multiplexed modulation with radio replacing the wire pairs. Those applications needed AFC for unattended operation.

If you want synchronous detection of AM DSB, then you concentrate on getting a carrier reinsertion oscillator locked to the received carrier. Primary object is to get that lock. Worry about "phase differences due to distortion" in intellectual experiments. Lock guarantees that the synchronous detection will hold. There won't be any noticeable recovered audio distortion EXCEPT from unusual selective fading propagation on very long-distance radio circuits; you can hear that over old receivers with "rectifying" detectors.

Can you get a synchronous detection of AM SSB? Difficult unless the transmitter at the other end has sloppy carrier suppression. The commercial HF SSB stuff uses "pilot carriers" and the like to provide an AFC lock...deliberate steady tones at unused sideband frequencies.

>Experimental Methods in RF Design points out that direct conversion
>receivers have become highly popular in the past couple of decades... this
>seems somewhat surprising; I would have guessed people back in the, e.g.,
>'60s, would have gone to great lengths to avoid image reject filters and
>long IF chains.

DC receivers (also called "Zero-IF") came into popularity in Europe THREE decades ago. RSGB's Radio Communication magazines of 1973 were showing stuff in Pat Hawker's monthly column. I got interested in the Mike Gingell polyphase R-C network by seeing it first in there. The UK ham who was experimenting with it was Peter Martinez, G3PLX. Hams of today will know him as the innovator of PSK31.

To get good sensitivity with DC receivers you need ultra-low-noise mixers and following audio stages. Since the input side selectivity is poor (compared to IF xtal filters), those mixers need a terrifically high intermodulation specification which precludes low-noise operation. The Tayloe Mixer handles both superbly, the "mixer" being a CMOS switch IC with very low conversion loss as a mixer (all other passive mixers have at least 6 db loss). The CMOS switch IC has very low internal noise. Absolutely the best of both worlds.

In order to achieve selectivity and unwanted frequency side rejection the Tayloe Mixer system needs a basic LO at four times the carrier frequency to get wideband phase quadrature using digital devices. The In-phase and quadrature mixer output is in the audio range.

It seems to me that a modification of the Tayloe circuit would suit a synchronous detector application. How to go about it is another matter. Planning for THAT can start with an "intellectual experiment" but trying to implement it requires bench experimentation. There won't be any "distortion due to phase" once carrier lock has been achieved. Carrier lock methods have to concentrate on the narrow frequency region (tolerance of tuning offset) of the carrier. In practical reception the carrier of AM DSB is relatively constant (within a 20 db spread of amplitude if some AGC exists elsewhere).

Once the carrier is locked, the remainder of the detection process (recovering modulation audio) is straightforward. Any "phase distortion" is due to phasing network errors...which can be checked and trimmed independently prior to applying them.

Go for it! :-)

Len Anderson
retired (from regular hours) electronic engineer person

3234. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 06:28:16 UTC
From: n2cqr@clix.pt
Message-ID: <97f305da.0311042228.7b7d27dd@posting.google.com>
Source record: 31201

Joel: Image reject filters? Long IF chains? My DC recievers have
neither. And they work just fine. I use one on 17 meters (phone).
JFET front end, diode ring mixer, VXO at the operating freq. Three
BJT transistors in the audio amp. That's it. 73 Bill M0HBR
http://planeta.clix.pt/n2cqr
"Filters? We don't need no stinkin' filters!" :-0

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:<bo8icv$kv7$1@news.oregonstate.edu>...
> Bill Meara <n2cqr@clix.pt> wrote:
> > This gets to the question of whether DC receivers can be used to copy
> > DSB and SSB:
> > By Goodman, W1DX, explained the problem in the 1965 edition of
> > "Single Sideband for the Radio
> > Amateur" (page 11): "Unfortunately, if both sidebands are received at
> > the detector where the carrier is
> > introduced, the carrier has to have exactly the correct phase
> > relationship with the sidebands if distortion is
> > to be avoided. Since exact phase relationship precludes even the
> > slightest frequency error, such a system
> > is workable only with very complicated receiving techniques.
>
> In 1965 I can imagine that a Costas loop, two mixers, etc. was considered
> 'very complicated.' It doesn't seem all that horribly fancy by today's
> standards, however. But of course it's not like I've actually _built_ such
> a thing yet! :-)
>
> > However,
> > if only one sideband is present at
> > the detector, there is no need for an exact phase relationship and
> > there can be some frequency error
> > without destroying intelligibility. " Modern SSB transcievers send
> > only one of the sidebands to the
> > detector, so this distortion problem only occurs when receiving a DSB
> > signal on a receiver that sends both
> > sidebands to the detector.
>
> It's ironic that DSB, which came about due to the ease of detection with
> diode (envelope detectors) turns out to be somewhat challenging to recover
> with a more sophisticated synchronous detection scheme.
>
> Experimental Methods in RF Design points out that direct conversion
> receivers have become highly popular in the past couple of decades... this
> seems somewhat surprising; I would have guessed people back in the, e.g.,

> '60s, would have gone to great lengths to avoid image reject filters and
> long IF chains.
>
> ---Joel Kolstad

3235. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 06:59:24 UTC
From: "Ryan, KC8PMX" <REMOVETHISkc8pmx@diamondcs.net>
Message-ID: <boavui$1btrmi$4@ID-189073.news.uni-berlin.de>
Source record: 31208

Stupid question but is there any possible way to get to the vehicle at least once a month or can someone you know and trust gain access to the car at least once or twice a month??? Unless you have a problem with your battery and/or charging system, having someone start the vehicle and let it run for roughly 10-15 minutes seems like an easier solution.

--
Ryan KC8PMX

Why is it one careless match can start a forest fire, but
it takes a whole box to start a barbecue?

"Bruce W...1" <bruce@noDirectEmail.com> wrote in message
news:3FA6F24F.46947A68@noDirectEmail.com...
> This is not ham radio related but I know you guys have the answer.
>
> I need to store a car unattended for a winter in the midwest. And I
> want to put a tricke charge on the battery.
>
> I'd rather not buy a fancy trickle charger because it would probably get
> stolen. On the other hand I have a vast array of wall wart
> transformers.
>
> If I connected one of these transformers how many milliamps should it
> put out at 12V? Or rather what's the least current that would do the
> job?
>
> It seems that lead acid batteries can dissipate too much current as
> heat. In other words I could probably feed it one amp continuously.
> But would 100 mA at 12V do the job? I'd hate to lose a 1-Amp wall wart.
>
> Thanks for your help.

3236. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 09:32:55 UTC
From: wot.email.addr@which.email.addr.com
Message-ID: <vfghqv8j62004qi27dbulhj6prn2ekiesp@4ax.com>
Source record: 31202

>Experimental Methods in RF Design points out that direct conversion
>receivers have become highly popular in the past couple of decades... this
>seems somewhat surprising; I would have guessed people back in the, e.g.,
>'60s, would have gone to great lengths to avoid image reject filters and
>long IF chains.

The nice thing about DC IQ receivers (apart from their zero image problem) is
that, any kind of demodulation can be solved in software, and is fully updatable
... whereas if it's done in hardware, you'd need new hardware for each mode
required etc.

The lack of image problems, simplicity of hardware and fully updatable
modulation schemes is what makes DC IQ so nice -. so it's not surprising to me
at all why it's becoming so popular.

Clive

3237. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 11:47:36 UTC
From: Jeffrey D Angus <jangus@socal.rr.com>
Message-ID: <sr5qb.94337$ZH4.92464@twister.socal.rr.com>
Source record: 31203
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

R J Carpenter wrote:
> Back considerably before the beginning of time, around 1940/1941, my uncle
> bought a fancy Sears Silvertone console with multiple bandspread shortwave
> bands and the lot. It came with instructions for using a substantial
> center-fed dipole antenna with twisted-pair two-wire feedline. Back in
> those days twisted-pair feedlines weren't much different from rubber
> insulated two-wire AC cords - ZIP cord hadn't appeared yet. The impedance
> probably wasn't far off from 75 ohms.

It's closer to 100 ohms, but the KEY phrase here is twisted.
Zip cord and or twin lead isn't twisted (unless you twist it)
and it's the twist that imparts the self sheilding.

Jeff

--
"They that can give up essential liberty to obtain a little temporary
safety deserve neither liberty nor safety." Benjamin Franklin
"A life lived in fear is a life half lived."
Tara Morice as Fran, from the movie "Strictly Ballroom"

3238. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 11:52:12 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA8E45B.1E3C0161@earthlink.net>
Source record: 31204
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

```
Jeffrey D Angus wrote:
>
> R J Carpenter wrote:
> > Back considerably before the beginning of time, around 1940/1941, my uncle
> > bought a fancy Sears Silvertone console with multiple bandspread shortwave
> > bands and the lot. It came with instructions for using a substantial
> > center-fed dipole antenna with twisted-pair two-wire feedline. Back in
> > those days twisted-pair feedlines weren't much different from rubber
> > insulated two-wire AC cords - ZIP cord hadn't appeared yet. The impedance
> > probably wasn't far off from 75 ohms.
>
> It's closer to 100 ohms, but the KEY phrase here is twisted.
> Zip cord and or twin lead isn't twisted (unless you twist it)
> and it's the twist that imparts the self sheilding.
>
> Jeff

And if anyone here knows twisted... ;-)

--

Michael A. Terrell
Central Florida
```

3239. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 12:00:34 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vqhpj6dl4shr43@corp.supernews.com>
Source record: 31205
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

The twist improves the ability to reject noise and signals picked up by the balanced feed line but even untwisted, parallel lines do quite well. It is the fact that any signals are picked up by both lines equally and then cancel at the receiver input because they are in phase.

3240. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 12:50:09 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FA8F1EE.7DAD55C1@earthlink.net>
Source record: 31206

ehsjr@bellatlantic.net wrote:
>
> "Michael A. Terrell" wrote:
> >
> > Thanasis wrote:
> > >
> > > In the book "Introduction to Radio Frequency Design" of W7ZOI and in
> > > the section 7.9 "Voltage Controlled Oscillators" I read about how to
> > > switch in and out a capacitor or an inductor in a VCO, using a diode
> > > switch in order to alter the frequency of the oscillator.
> > >
> > > Unfortunately this information is theoritical to me and I couldn't
> > > make my oscillator change its frequency.
> > >
> > > Does any one have a practical example of a Switched reactance VCO ?
> > >
> > > Thanks
> > > Thanasis Lazos
> >
> > I worked on the Microdyne synthesizers using this method. It used strip
> > line inductors, with a heavy ground buss along the edge of the board.
> > The diodes were either forward or reverse biased to turn them on or off.
> > you can't just let them float. Use a capacitor at least 100 times the
> > highest value of the varicap to ground on the switching end of the
> > diode, and as short as possible connections for the both ends of the
> > diode. Connect a resistor to the diode and capacitor, and feed it a
> > positive or negative voltage for forward or reverse bias. They have to
> > be turned on hard, or they will rectify the RF and cause problems, but
> > you can't exceed the current ratings, or you will damage the diode. we
> > used + or - 12 volts for switching, and the diodes were used to switch
> > the range at about 10% of the operating frequency. Its simple when you
> > see it in front of you, but it is difficult to explain with text. This
> > design was used in their 1200, 1400, 700, and 2800 series receivers, so
> > you might find someone with a manual on one of these to see how they are
> > built.
> > --
> >
> > Michael A. Terrell
> > Central Florida
>
> On the Microdynes - did you use inductors on the DC lines
> to the diodes to keep the RF off the DC ?

I looked through my collection of Microdyne manuals, and I don't have any with the circuit in them, so I have to work from memory. The best I can remember, they were switched by a ï¿½ 12 supply, and the series resistor was connected directly to the switching diode, where they soldered together on top of the capacitor. The other end of the resistor was connected to a simple transistor switch that converted TTL to + or minus 12 volt levels to switch the diode. I don't remember any coils, but the resistor and the switching circuit isolated the RF from the DC.

Another source of phase noise turned out to be the vias between the heavy ground buss on the top of the board, to the full ground plane on the bottom. Filling them with solder, and flowing the fop and bottom around the holes with 2% silver solder took the noise down quite a bit. The board was a combination of surface mount and through hole.

I had just fixed a number of design problems due to some parts becoming obsolete when they started to phase in a surface mount design. I was moved to a new product line, (RCB-2000 DSP based dual receiver and combiner system) before I could see how well the new boards worked. The only thing I do remember was the older board layout had a poor solder mask, and there were problems with solder bridges, and required you to disconnect all the wires and remove the board fairly often, but the surface mount had all solder joints on the top of the board so you only removed it to be cleaned, after the unit had passed all tests.
--

Michael A. Terrell
Central Florida

3241. Re: Getting A Signal in the Basement? (antenna lead-in for AM BC and/or shortwave)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 13:29:26 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <boatud$g71$1@bob.news.rcn.net>
Source record: 31207
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

"Bob Lewis (AA4PB)" <rlewis@staffnet.com> wrote in message
news:vqhpj6dl4shr43@corp.supernews.com...
> The twist improves the ability to reject noise and signals picked up
> by the balanced feed line but even untwisted, parallel lines do quite
> well. It is the fact that any signals are picked up by both lines
> equally and then cancel at the receiver input because they are in
> phase.

And low impedance lines are very close spaced so that the twisting is less
of an advantage.

3242. Tayloe Mixer Resistance Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 14:08:54 UTC
From: skavanagh73@yahoo.ca
Message-ID: <347cf68.0311050608.7301651a@posting.google.com>
Source record: 31209

There seems to be some difference of opinion on how to properly terminate Tayoe detectors (and other similar circuits) at audio frequencies. See the following published examples:

(1)G0BBL et al (QRP2001): load resistors are 220 ohms
(2)Hans Summers: load resistors are 1k
(3)9A2HL (on Hans Summers' website): Approx. 0 ohms, detector goes directly to op-amp pins
(4)AC5OG (recent QEX series, Part 1): Approx. 0 ohms, detector goes directly to op-amp pins
(5)AC5OG (recent QEX series, Part 4): 60 megohms (doubly balanced circuit).

In addition references 1-3 use a series 47 ohm resistor at the input of the detector, which seems unnecssary to me - the 50 ohm antenna should perform the function of the filter resistor, shouldn't it ?

I did some Spice modelling and found that my detector was well matched to the 50 ohm RF source for audio load resistances of a few hundred ohms (470 ohms worked well), and the conversion loss was a bit more than 3 dB when matched. With somewhat lower resistances the match was not as good but the conversion loss was reduced - 220 ohms may be close to optimum for both reasonable input match to 50 ohms and conversion loss. With higher (and much lower) resistances both conversion loss and input match degraded. The integrator capacitors were 0.1uF in this model.

Note that I am defining conversion loss as the relationship between the total power delivered to the 4 load resistances and the forward power at the input. With high load resistances the voltage at each load is indeed closer to the input voltage than for lower load resistances, but most of the power incident at the mixer is reflected back to the antenna. Therefore the conversion loss (defined in terms of power, which is what matters for noise figure) goes up.

I would be interested in the comments of those of you with some experience with these detectors. Also, can I assume (for the purpose of computing noise figure of the audio preamps) that the source impedance seen by the audio amps is simply equal to the load resistance that gives the best match at the mixer input ?

Steve, VE3SMA

3243. Debt, Vacations, Fun? MAKE MONEY NOW!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 15:04:40 UTC
From: Nice Person <iamnicehelpme@yahoo.co.uk>
Message-ID: <bob3i8meg1@hercules.btinternet.com>
Source record: 31210
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio

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donation then remove #1 PayPal account from the list. Move the
other two accounts up & add your Paypal account to #3 position. After
you have retyped the names in the new order,

IMMEDIATELY send the revised message to as many people as possible.
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more you will receive in donations!! That's all there is to it.
You are reading this message in usenet, and usenet is the best way
to spread the word about the program. Post this message to AT LEAST
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dollars to the person at #1. This will guarentee you a profit from
this program. The more groups you post it to, the more money you will
make!!!

When your name reaches Position 1 (usually in less than a week) it
will be your turn to receive the cash. $5.00 will be sent
to your PayPal account by people just like you who are willing to send
$5.00 dontation and receive up to $20,000 in less than
two weeks. Because there are only (3) names on the list you can
anticipate 80% of your cash within two weeks.

Anytime you find yourself short on cash just take out your $5.00
donation program and send it to 50 prospects. Imagine if you
sent it to 100 or even more. Most people spend more than $5 on the
lottery every week with no real hope of ever winning.

IMPORTANT!!! IN ORDER FOR THIS PROGRAM TO WORK, YOU MUST BE HONEST. DO
NOT ADD YOUR EMAIL IMMEDIATELY TO THE #1 POSITION, AND MAKE SURE TO
SEND YOUR 5 DOLLARS TO THE PERSON AT #1. IF EVERYONE WHO TRIED THIS
DIDN"T SEND THE MONEY, THEN NOBODY WOULD MAKE A DIME. 5 DOLLARS IS A
VERY SMALL INVESTMENT, ESPECIALLY WHEN YOUR ABOUT TO MAKE MANY MANY
MANY
TIMES THAT AMOUNT. IF WE ARE ALL HONEST, THEN WE ALL MAKE LOTS OF
MONEY!!

REMEMBER, you add your email to the #3 spot, and then move everyone
else
up 1(deleting the person who was formally in the #1 spot, and who you
should have sent your money to). DO NOT add your email to #1 when you
start this program. If everyone did this, then NO ONE would make a
cent.

THIS PROGRAM WORKS - JUST TRY IT

POSITION # 1 PAYPAL Account: lamsmo@aol.com

POSITION # 2 PAYPAL ACCOUNT: pepsiholic44@aol.com

POSITION # 3 PAYPAL ACCOUNT: bunnylovemedo@yahoo.com

Integrity and honesty make this plan work.
Participants who actively promote this program will average between
$8000
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This is not a chain letter. You are simply making a donation of $5.00
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Remember -TIME is of the essence. YOU can choose to live Paycheck-to-Paycheck or live FREE from FINANCIAL BONDAGE. Become a part of the donation program and help people help people.

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Success is a journey - Not a destination!

Start Your Journey TODAY!!!!

3244. Re: Debt, Vacations, Fun? MAKE MONEY NOW!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 15:39:29 UTC
From: --exray-- <a@b.c>
Message-ID: <vqi6c3nm3i8a78@corp.supernews.com>
Source record: 31211
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio

Join me in reporting this scammer to:
news-complaints@lists.btinternet.com
Forward the message with complete headers.

-Bill M

Nice Person wrote:
> Follow the directions below and in two weeks you'll have up to

3245. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 16:11:44 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FA92140.72B5630A@clifto.com>
Source record: 31212

JGBOYLES wrote:
> clifto wrote:
> >Keeping the battery charged is not the only reason to start the car once
> >a week.
>
> Wow, that is a revelation. I hope most people reading this group would know
> that.

I'm guessing our OP didn't know that, because he wants this charger so he doesn't have to go to the car once a week to start it.

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis to comply with their own agreements and with international law. Given that, what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

3246. HP power sensor question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 20:46:53 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <bobnfdrem1@news.hccnet.nl>
Source record: 31213

Hi all,
I have two HP power sensors: a HP 8481A and a HP8485A. After extensive calibration etc I learned that they differ about 0.4 dB at 12 GHz. No real difference (0.03 dB) on 500 MHz. Is that due to vswr alone or is one of the sensors maybe damaged? I use a HP 435B and a HP 438A. Please advise.
Regards,
Harke PA0HRK

3247. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 20:55:10 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <bDdqb.1075$es3.1115689@newsfep1-win.server.ntli.net>
Source record: 31214

> I was told that a car battery wouldn't last long anyway for this
> application, so even when my car battery is 6-7 years old, it
> wouldnt't last more than a year when trickle charged, while it is far
> better economy to buy a leisure type battery
====
A leisure type (deep cycle) battery is fine for a moderate load for a
relatively long time ,since the plates are relatively thick.
However they are not suitable for engine starting purposes ,since brief
demands for a high starting current cannot be met reliably over time.
That's why car batteries have relatively thin plates with a large area
capable of supplying the high starting current.

If a car is kept outdoors it is worthwhile employing a small solar panel
positioned near the south face of the car with its lead plugged into the
cigarette lighter socket. This will keep the battery in a healthy condition.
I have seen these solar panels advertised by the car accessories trade.

Frank GM0CSZ / KN6WH

3248. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 21:14:26 UTC
From: averyfineman@aol.com
Message-ID: <20031105161426.25517.00001870@mb-m15.aol.com>
Source record: 31215

In article <vfghqv8j62004qi27dbulhj6prn2ekiesp@4ax.com>,
wot.email.addr@which.email.addr.com writes:

>>Experimental Methods in RF Design points out that direct conversion
>>receivers have become highly popular in the past couple of decades... this
>>seems somewhat surprising; I would have guessed people back in the, e.g.,
>>'60s, would have gone to great lengths to avoid image reject filters and
>>long IF chains.
>
>The nice thing about DC IQ receivers (apart from their zero image problem) is
>that, any kind of demodulation can be solved in software, and is fully
>updatable ... whereas if it's done in hardware, you'd need new hardware for
each mode
>required etc.

The "first" complete receivers for HF were done over 30 years ago.
Totally in hardware.
Equally capable of CW or SSB reception without switching anything.

>The lack of image problems, simplicity of hardware and fully updatable
>modulation schemes is what makes DC IQ so nice -. so it's not surprising to
>me at all why it's becoming so popular.

Demodulation for In-phase and Quadrature had a much wider
application than you would normally consider, and by the millions
without software of any kind: NTSC chrominance demodulation in
TV receivers. Did it at the HF level, too, 3.58 MHz. :-)

I'm not positive about it, but I believe the first "image-less" mixer
systems were for radar applications in the 1950s, specifically for
monopulse radar tracking. I first encountered monopulse around
1959.

I agree that most everything can be done in software...provided one
gets the proper A-to-D arrangement capable of operating at extremely
low noise levels. Such is NOT easy.

DC receivers in general have many good features. But, one has to
do a realistic comparison versus the superheterodyne structure.

1. To get good sensitivity one has to work with truly low-level
signals that cannot take advantage of narrow bandpass filtering
ahead of the demodulator. A DC mixer input is relatively
broadband and that increases the total noise power in the
circuit.

2. Relative broadbandedness of the input absolutely requires a high IP3 since adjacent, normally-unheard signals can be at a high relative level. Few DC receivers have any AGC to the input stages.

3. The "image-less" condition (receiving only high-side or low-side of LO frequency) is resolved in demodulated audio and that absolutely requires a broadband phase-shifting network. Even with high IP3 specs on the input mixer, strong input signals adjacent in frequency can get through and fail to be cancelled in the audio network...if the adjacent signals are outside of the phasing network's range.

4. If the phasing network is simulated in software, then the microprocessor or microcontroller must be adequately shielded to avoid transitent RFI from getting into the input. Physical proximity would be very close and the input has no narrowband filtering to help that. Software demodulation will depend heavily on the type of processor and a lot of specs that have no direct relationship to software.

The end result is really a compromise of fewer parts traded for a whole new set of potential problems. One kind is not "superior" to another kind, just different.

Len Anderson
retired (from regular hours) electronic engineer person

3249. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 23:07:10 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FA9829E.A1A673CD@noDirectEmail.com>
Source record: 31216

Frank Dinger wrote:
>
> > I was told that a car battery wouldn't last long anyway for this
> > application, so even when my car battery is 6-7 years old, it
> > wouldnt't last more than a year when trickle charged, while it is far
> > better economy to buy a leisure type battery
> ====
> A leisure type (deep cycle) battery is fine for a moderate load for a
> relatively long time ,since the plates are relatively thick.
> However they are not suitable for engine starting purposes ,since brief
> demands for a high starting current cannot be met reliably over time.
> That's why car batteries have relatively thin plates with a large area
> capable of supplying the high starting current.
>
> If a car is kept outdoors it is worthwhile employing a small solar panel
> positioned near the south face of the car with its lead plugged into the
> cigarette lighter socket. This will keep the battery in a healthy condition.
> I have seen these solar panels advertised by the car accessories trade.
>
> Frank GM0CSZ / KN6WH

==========

In the past I've maintained car batteries for many months using a small
(2" x 8") solar panel made for this purpose.

How much current could this put out? I don't know but I'm sure it's not
much. Nowhere near one ampere. It contained a diode and no voltage
regulator. This is the same effect I want to achieve with a small wall
wart.

If it's safe to float charge the battery at .01 C indefinitely, say 700
mA for a 70 AH car battery, then anything under 700 mA is also safe. My
200 mA wall wart is safe.

The question then is what is the self discharge rate, less things like
an alarm and clock?

3250. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 23:09:46 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FA9833A.284444D2@noDirectEmail.com>
Source record: 31217

mcalhoun wrote:
>
> >I need to store a car unattended for a winter in the midwest. And I
> >want to put a tricke charge on the battery.
> >....[snip]....
>
> Although their normal price is about $15, float battery chargers (wall
> wart, coiled cord, little black box with LED, two cords with large
> alligator clips on the ends) are often advertised in Harbor Freight
> catalogs for $7.99. I must have half a dozen of them now, keeping
> batteries here and there up to snuff. I've never measured them, but
> they seem to do a real good job, and they're hard to beat at that price!
>
> I have no connection to Harbor Freight except as a satisfied customer,
>
> --Myron.
> --
> Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
> PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
> NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

==========

You don't say! Have you ever measured their voltage? Or is it written
on the case?

3251. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 23:37:57 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <boc1ko$qp7$1@news.oregonstate.edu>
Source record: 31218

Avery Fineman <averyfineman@aol.com> wrote:
> Can one get separated sidebands on AM DSB with a DC receiver?
> Absolutely!

That's good to know. At present I'm going to quit performing these "intellectual experiments" and start building something, and while I'm after C-QUAM AM stereo (rather than upper/lower sideband stereo), it's good to know what else _could_ be received.

BTW, if anyone wants to see the block diagram of what I'm planning to do, see here: http://oregonstate.edu/~kolstadj/RadioProj.gif . Keep in mind it's designed primarily for simplicity, not for phoenomenally good noise performance, sensitivity, selectivity, etc.

(I'd be particularly interested in comments on how to implement the low pass filters -- it seems one would want phase preserving filters such as Bessels or a cascade of a Chebyshev followed by an all-pass phase restoration filter.)

> Nooo...AM "came about" with absurdly SIMPLE components first,
> not even using any vacuum tubes!

Wow... I realize now there's a large gap in my knowledge of the history of the progression of radio inbetween "spark gap transmitter" and "diode-based envelope detector!" I have read of coherers before in Lee's book, "Design of CMOS Radio-Frequency Integrated Circuits" where he claims that nobody ever really did figure out _how_ they worked -- interest wanted as better detectors were available before they were around long enough for someone to do so.

You have a phoenomenal memory, Len... I wish I could recall the details as well as you have!

> Long-distance telephony was the birthplace of SSB. Frequency
> multiplexing was the only practical way to cram four telephone
> circuits on a single pair of wires running many miles way back when.

If you tell me people were already using IQ modulation back then as well I'll be quite impressed...

> If you want synchronous detection of AM DSB, then you concentrate
> on getting a carrier reinsertion oscillator locked to the received
> carrier. Primary object is to get that lock.

I'm planning to write a (software) quadrature detector, and once that works, start worrying about obtaining phase lock so that stereo can be decoded.

> Can you get a synchronous detection of AM SSB? Difficult unless
> the transmitter at the other end has sloppy carrier suppression.

Without a carrier of some pilot tone (as a reference) it seems as though it's difficult to even claim there could be such a thing as 'synchronous detection.'

> DC receivers (also called "Zero-IF") came into popularity in Europe
> THREE decades ago. RSGB's Radio Communication magazines of
> 1973 were showing stuff in Pat Hawker's monthly column. I got
> interested in the Mike Gingell polyphase R-C network by seeing it
> first in there.

I took a quick look at the Gingell networks and they seem quite novel -- even made their way into a Real Commerical Product (a Maxim IC). (Interestingly enough, Dr. Gabor Temes -- who spent a long time designing telephone network filters before going into academia, where he is now, all of about 500' away from me here -- says there is still some black magic involved in making them work. :-))

Thanks for all the advice Len... I'd be offering to take you to dinner by now if you were halfway local!

---Joel

3252. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-05 23:39:42 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <boc1o1qpj1@news.oregonstate.edu>
Source record: 31219

Bill Meara <n2cqr@clix.pt> wrote:
> Joel: Image reject filters? Long IF chains? My DC recievers have
> neither.

That's what I meant -- DC receivers don't need them, and therefore it's surprising DC receivers have only really been gaining steam here in the U.S. in the past decade or two.

Then again, there's no arguing with performance: The GE "super radio" is, I believe, a triple conversion receiver!

---Joel Kolstad

3253. hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 00:16:31 UTC
From: Tom Kreyche <tkreyche@well.com>
Message-ID: <zpgqb.86794$9E1.437033@attbi_s52>
Source record: 31220

I can't avoid it anymore! I have an IC in SSOP package that I want to use.
Does anyone have tips on how to do it or maybe this is on a FAQ someplace.

thanks, Tom

3254. Re: Tayloe Mixer Resistance Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 02:14:48 UTC
From: averyfineman@aol.com
Message-ID: <20031105211448.12300.00001476@mb-m20.aol.com>
Source record: 31222

In article <347cf68.0311050608.7301651a@posting.google.com>,
skavanagh73@yahoo.ca (Steve Kavanagh) writes:

>There seems to be some difference of opinion on how to properly
>terminate Tayoe detectors (and other similar circuits) at audio
>frequencies. See the following published examples:
>
>(1)G0BBL et al (QRP2001): load resistors are 220 ohms
>(2)Hans Summers: load resistors are 1k
>(3)9A2HL (on Hans Summers' website): Approx. 0 ohms, detector goes
>directly to op-amp pins
>(4)AC5OG (recent QEX series, Part 1): Approx. 0 ohms, detector goes
>directly to op-amp pins
>(5)AC5OG (recent QEX series, Part 4): 60 megohms (doubly balanced
>circuit).
>
>In addition references 1-3 use a series 47 ohm resistor at the input
>of the detector, which seems unnecssary to me - the 50 ohm antenna
>should perform the function of the filter resistor, shouldn't it ?
>
>I did some Spice modelling and found that my detector was well matched
>to the 50 ohm RF source for audio load resistances of a few hundred
>ohms (470 ohms worked well), and the conversion loss was a bit more
>than 3 dB when matched. With somewhat lower resistances the match was
>not as good but the conversion loss was reduced - 220 ohms may be
>close to optimum for both reasonable input match to 50 ohms and
>conversion loss. With higher (and much lower) resistances both
>conversion loss and input match degraded. The integrator capacitors
>were 0.1uF in this model.
>
>Note that I am defining conversion loss as the relationship between
>the total power delivered to the 4 load resistances and the forward
>power at the input. With high load resistances the voltage at each
>load is indeed closer to the input voltage than for lower load
>resistances, but most of the power incident at the mixer is reflected
>back to the antenna. Therefore the conversion loss (defined in terms
>of power, which is what matters for noise figure) goes up.
>
>I would be interested in the comments of those of you with some
>experience with these detectors. Also, can I assume (for the purpose
>of computing noise figure of the audio preamps) that the source
>impedance seen by the audio amps is simply equal to the load
>resistance that gives the best match at the mixer input ?

I'd suggest you take a look at Dan Tayloe's own article in
RF Design for 1 March 2003. You can get a printable copy at

http://www.rfdesign.com

If you search for "Tayloe." Unfortunately, the figures aren't
available for downloading (I have my own paper copy) but the
details on the bits and pieces are all there. Good article.

Len Anderson
retired (from regular hours) electronic engineer person

3255. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 02:14:51 UTC
From: averyfineman@aol.com
Message-ID: <20031105211451.12300.00001477@mb-m20.aol.com>
Source record: 31221

In article <boc1ko$qp7$1@news.oregonstate.edu>, "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> writes:

>Avery Fineman <averyfineman@aol.com> wrote:
>> Can one get separated sidebands on AM DSB with a DC receiver?
>> Absolutely!
>
>That's good to know. At present I'm going to quit performing these
>"intellectual experiments" and start building something, and while I'm after
>C-QUAM AM stereo (rather than upper/lower sideband stereo), it's good to
>know what else _could_ be received.
>
>BTW, if anyone wants to see the block diagram of what I'm planning to do,
>see here: http://oregonstate.edu/~kolstadj/RadioProj.gif . Keep in mind
>it's designed primarily for simplicity, not for phoenomenally good noise
>performance, sensitivity, selectivity, etc.
>
>(I'd be particularly interested in comments on how to implement the low pass
>filters -- it seems one would want phase preserving filters such as Bessels
>or a cascade of a Chebyshev followed by an all-pass phase restoration
>filter.)

OK, I got the block diagram. If you are using even a rudimentary
R-C lowpass following the two mixers, you need the parts rather
well matched in order to preserve identical relative phases. It is
important to HOLD the relative phase error at audio to a very small
number in order to do the In-phase/Quadrature thing. DSP will
work with BOTH magnitude and phase regardless of the kind of
modulation going into the mixers. You CAN realize a lowpass
function in DSP but the TI chip inputs probably needs some sort
of hardware lowpass filtering...? A simple R-C lowpass can be
checked out independently just from equal parts values to assure
minimum relative phase error.

Here's a good hint on melding hardware with software using DSP:

"Scientist's and Engineer's Guide to Digital Signal Processing,"
by Stephen W. Smith, PhD, California Technical Publishing.

Despite the title, this is a good text on DSP from the beginner's
point of view on to the more advanced. What is special is that
ALL the chapters can be downloaded absolutely FREE! :-)
[or pay about $68 for the hardcover]

http://www.DSPguide.com

Well organized book and a good "teaching style" to the writing.

Once you have the hardware fairly well in shape, it's time to go
nuts with the programming. This book ought to help whatever it
is you are going to code.

>> Nooo...AM "came about" with absurdly SIMPLE components first,
>> not even using any vacuum tubes!
>
>Wow... I realize now there's a large gap in my knowledge of the history of
>the progression of radio inbetween "spark gap transmitter" and "diode-based
>envelope detector!" I have read of coherers before in Lee's book, "Design
>of CMOS Radio-Frequency Integrated Circuits" where he claims that nobody
>ever really did figure out _how_ they worked -- interest wanted as better
>detectors were available before they were around long enough for someone to
>do so.

Actually, that's irrelevant and a historical curiosity.

The galena crystal and "cat's whisker" formed a rudimentary point-
contact diode. I had one of those in 1946, a Philmore Crystal Set my
Dad got for me (el cheapo quality, but it worked after a fashion). A
half year later a new electronics store opened up in town and they
were selling surplus WW2 radar set silicon mixer diodes, type 1N21
and 1N23. Put one of those in the Philmore and really "souped up"
the audio. :-)

>> Long-distance telephony was the birthplace of SSB. Frequency
>> multiplexing was the only practical way to cram four telephone
>> circuits on a single pair of wires running many miles way back when.
>
>If you tell me people were already using IQ modulation back then as well
>I'll be quite impressed...

As far as I've seen, the old telephony "carrier" equipment used ordinary
4-diode ring mixers, usually copper-oxide stacked plate types, the
small ones the size of old multimeter AC rectifiers. That was pre-1930.

I'm not sure when the In-phase/Quadrature demod/mod sub-systems
were first used other than probably just before 1940...or maybe in the
WW2 years. I know the beginning applications were there in the late
1940s.

>> If you want synchronous detection of AM DSB, then you concentrate
>> on getting a carrier reinsertion oscillator locked to the received
>> carrier. Primary object is to get that lock.
>
>I'm planning to write a (software) quadrature detector, and once that works,
>start worrying about obtaining phase lock so that stereo can be decoded.

Good luck on that.

>> Can you get a synchronous detection of AM SSB? Difficult unless
>> the transmitter at the other end has sloppy carrier suppression.

>
>Without a carrier of some pilot tone (as a reference) it seems as though
>it's difficult to even claim there could be such a thing as 'synchronous
>detection.'

I've seen it claimed in text, but no details, that a quasi-lock could
be obtained via voice, working on the harmonics of speech tones.
I'm not going to buy that until I see a demo.

>> DC receivers (also called "Zero-IF") came into popularity in Europe
>> THREE decades ago. RSGB's Radio Communication magazines of
>> 1973 were showing stuff in Pat Hawker's monthly column. I got
>> interested in the Mike Gingell polyphase R-C network by seeing it
>> first in there.
>
>I took a quick look at the Gingell networks and they seem quite novel --
>even made their way into a Real Commerical Product (a Maxim IC).
>(Interestingly enough, Dr. Gabor Temes -- who spent a long time designing
>telephone network filters before going into academia, where he is now, all
>of about 500' away from me here -- says there is still some black magic
>involved in making them work. :-))

The polyphase network was the subject of Michael Gingell's PhD
thesis in the UK. Material on that was seen on the Internet. Mike
is a USA resident now (or was a couple years ago when he had a
website...has a US ham callsign, too). A Japanese ham got busy
on that polyphase network and came up with an optimum set of
component values. That was published in QEX. Hans Summers'
website has links to all those.

Gabor Temes is a familiar name to textbook thumbers. :-) There
isn't a lot of black magic associated with the Gingell network, but it is
a thorough #$%^!!!! to try and analyze with its busy interconnections.
I stole a few minutes of CPU time on the RCA corporate computer,
using their LECAP (a frequency-domain version of IBM's ECAP...the
SPICE thing hadn't been developed yet) back in the 1970s. It worked
as advertised with only 0 and 180 degree audio input, producing nice
relative quadrature phases on all four outputs. Was surprised!

Some scrounged parts, not well measured as to values, and a quick
open-air toss-together showed excellent broadband relative quadrature
with less than 1 degree error in the 'voice' bandspace. Checked that
with a time-interval function on a homebuilt frequency counter.

>Thanks for all the advice Len... I'd be offering to take you to dinner by
>now if you were halfway local!

Thank you but I'll just wave as my wife and I roll through Oregon
along I-5 about once a year from southern California to Puget Sound
area of Washington. :-) Want to bypass the usual clogging just
before crossing the river into WA and vice-versa.

Len Anderson
retired (from regular hours) electronic engineer person

3256. Re: Memory Keyer plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 02:29:26 UTC
From: Dale Botkin N0XAS <dale@botkin.org>
Message-ID: <loiqb.6452$G7.5671@okepread04>
Source record: 31223

Padraigh wrote:
> Is there, out there (preferably on the Net) any place I can acquire
> plans/ schematic for a memory CW keyer to operate with a Radio Shack
> HTX-100 xcvr as a 10-meter beacon?

Hiya and sorry to be a bit late to respond. I offer a keyer that will work great for your application; in fact, there is at least one 10M beacon that I know of using it (WJ5O). Two messages, message chaining, beacon mode with delay from 0 to 99 seconds, nonvolatile memory, all the good stuff. http://www.hamgadgets.com.

73,
Dale - N0XAS

3257. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 02:46:39 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <boccmauom1@news.oregonstate.edu>
Source record: 31224

Avery Fineman <averyfineman@aol.com> wrote:
> You CAN realize a lowpass
> function in DSP but the TI chip inputs probably needs some sort
> of hardware lowpass filtering...?

An anti-alias filter at the very least! The TI chip in question is actually a microcontroller rather than a DSP; I chose that based on desiring a low power design and only requiring one chip rather than two (although I'd grant you that there are some, e.g., SO-8 package serial interface ADCs out there that almost don't count as another chip...) and, uh, because I already have experience with it from other projects. It can sample up to ~200ksps, but I was shooting for a much lower rather (perhaps some 20-50 ksps) since there isn't much number crunching 'oomph' available. (I.e., no multipy-accumulate instruction. In fact, no hardware multiplier at all! :-) I'll build the mind-numbingly fast DSP monster receiver that can pull a signal 10dB beneath the noise floor and turn it into CD quality audio once I get the simple ones working.)

> Here's a good hint on melding hardware with software using DSP:
>
> "Scientist's and Engineer's Guide to Digital Signal Processing,"
> by Stephen W. Smith, PhD, California Technical Publishing.

How very interesting -- I actually have a copy of that with from Analog Devices (under a slightly different name); I always figured it was some third party and not the application engineers at Analog Devices that wrote it. Now I just have to crack the thing open...

> Good luck on that.

It should be up and running within a month here.

> I've seen it claimed in text, but no details, that a quasi-lock could
> be obtained via voice, working on the harmonics of speech tones.
> I'm not going to buy that until I see a demo.

I figured that's what they might have had in mind. Seems like a lot of effort to avoid sending a pilot tone (but then again, what else to use the aforementioned DSP for... oh, wait... fancy digital modulation schemes... ok...)

---Joel

3258. Re: Phase differences in direct conversion receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 02:49:30 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <boccrl$up1$1@news.oregonstate.edu>
Source record: 31226

Also regarding microcontrollers vs. DSPs: TI has an application note where they use so-called wave filters (which I know next to nothing about other than the name and that they can be designed to only require additions/subtractions and not multiplications in their implementations and hence execute quickly) for detecting DTMF. I thought it was pretty clever...

---Joel

3259. injection locking for vhf

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 02:53:22 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311051853.471a1cf8@posting.google.com>
Source record: 31225

has anybody done any practical work on injection locking free-running vhf oscillators? it might be a better alternative to the cumbersome multiplier chains required to get to 144mhz.

3260. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 03:19:46 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <m5jqb.139663$EO3.61578@clgrps13>
Source record: 31227

Behold, Tom Kreyche signalled from keyed 4-1000A filament:

> I can't avoid it anymore! I have an IC in SSOP package that I want to
> use. Does anyone have tips on how to do it or maybe this is on a FAQ
> someplace.
>
> thanks, Tom

Solder paste, a heat gun and a quick hand ;-)

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

3261. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 03:52:17 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vqjhbkeebhro37@corp.supernews.com>
Source record: 31228

Pretty simple if the board you are putting it on is well solder masked.

Run down to Staples and get a package of Tac 'n Stik. Pity, that package is 2 oz and you'll need about a milligram. The two buck package will last you about ten lifetimes.

OK, now take a really tiny little ball of the stuff - less than a millimeter in diameter - and stick it on the circuit board right where the part goes. Squish the part down onto the blue stuff. The blue stuff won't hold it all that well, so you need to be a little careful, but you do gotta squish it good.

With your magnifier and an x-acto knife or dentist's pick, gently nudge the part around until all the pins are lined up on their pads. This is the hardest part -- be patient.

Timidly solder one corner pin. Take your magnifying glass and recheck all the pins. Move the part back so it's lined up again.

Solder the opposite corner - this is the moment of truth. Take your magnifier, and again check all the pins. Check them very carefully now, there is no turning back.

Take your soldering iron and run a big blob of solder across each row of pins. Be sure to give plenty of time for the first row to cool before you do the second. If you have a part with a bazillion pins, you may want to do a section at a time to avoid overheating the part. For something like an AD9850 with only a couple dozen pins, this isn't necessary.

Now take your solder wick and suck all the solder out. You need good quality solder wick for this operation. The cheap stuff seems to need a ton of heat. Take your magnifier yet again and carefully inspect each pin. (Needs to be a GOOD magnifier). You should have no little hairs of solder between the pins, and a thin film of solder under each pin.

Solder paste is probably better, but it's breathtakingly expensive and has a very short shelf life. Plus, you gotta use a heat gun which will heat a large section of the board, potentially removing other stuff you already mounted.

This takes a lot longer to describe than to actually do.

..

"Tom Kreyche" <tkreyche@well.com> wrote in message
news:zpgqb.86794$9E1.437033@attbi_s52...
> I can't avoid it anymore! I have an IC in SSOP package that I want to use.
> Does anyone have tips on how to do it or maybe this is on a FAQ someplace.

>
> thanks, Tom
>
>

3262. Re: Memory Keyer plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 03:54:26 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vqjhfl9mpih8d6@corp.supernews.com>
Source record: 31229

Isn't the HTX-100 a SSB rig? (Or am I thinking HTX10?).

N5IB had plans for a circuit to get CW out of one of these. I build one according to his plans and it worked. Later I built one using a PIC which I liked better, but I never really documented it well.

..

"Dale Botkin N0XAS" <dale@botkin.org> wrote in message news:loiqb.6452$G7.5671@okepread04...
> Padraigh wrote:
> > Is there, out there (preferably on the Net) any place I can acquire
> > plans/ schematic for a memory CW keyer to operate with a Radio Shack
> > HTX-100 xcvr as a 10-meter beacon?
>
> Hiya and sorry to be a bit late to respond. I offer a keyer that will
> work great for your application; in fact, there is at least one 10M
> beacon that I know of using it (WJ5O). Two messages, message chaining,
> beacon mode with delay from 0 to 99 seconds, nonvolatile memory, all the
> good stuff. http://www.hamgadgets.com.
>
> 73,
> Dale - N0XAS
>

3263. Re: Memory Keyer plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 04:07:34 UTC
From: Dale Botkin N0XAS <dale@botkin.org>
Message-ID: <yQjqb.6560$G7.3172@okepread04>
Source record: 31230

xpyttl wrote:

> Isn't the HTX-100 a SSB rig? (Or am I thinking HTX10?).

You are. The HTX-100 is SSB/AM/CW. I have a new HTX-10 in the box in
the garage, if you want one. 8-) Just don't have any need for it, not
sure why I bought the thing -- but who could pass it up for under
seventy bucks?

> N5IB had plans for a circuit to get CW out of one of these. I build one
> according to his plans and it worked. Later I built one using a PIC which I
> liked better, but I never really documented it well.

It's on my looooong list of projects to do one of these days... sigh...

73,
Dale - N0XAS

3264. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 05:36:13 UTC
From: Tom Kreyche <tkreyche@well.com>
Message-ID: <h5lqb.88642$9E1.450556@attbi_s52>
Source record: 31231

Great, thanks for the advice...I will have no fear and not drink coffee for
two day...Tom

"xpyttl" <xpyttl_nospam@earthling.net> wrote in message
news:vqjhbkeebhro37@corp.supernews.com...
> Pretty simple if the board you are putting it on is well solder masked.
>
> Run down to Staples and get a package of Tac 'n Stik. Pity, that package
is
> 2 oz and you'll need about a milligram. The two buck package will last
you
> about ten lifetimes.
>

3265. Really good receiver for 14MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 09:23:46 UTC
From: jvereker@wp.pl
Message-ID: <25102a3d.0311060123.17c590b6@posting.google.com>
Source record: 31232

Hello,

I'd like to build a simple receiver for 20m band. Saying "simple" I don't mean a "starter project" - I've built my first direct conversion receiver for 3.5 MHz already. I'm looking for something more complicated than basic DC receiver with 2 transistors + LM386.

My goal is significantly better CW reception - I don't care about SSB. Is an op-amp filter before amplifier the only method to get good selectivity in DC receivers? Or maybe I should try a simple superhet?

The most important thing is to choose a good project. I know there are famous kits like ones from Ten-tec etc., but in my case the costs of delivery could reach 3/4 of the kit's retail price, so I'd rather go for a well-established circuit from Internet and build it from the scratch. Could you recommend me a project that was copied with success by many hams, designed with the idea of an easy alignment by beginners i.e. based on "tolerant" circuits without tendency to oscillations and other surprises ?

thanks in advance,

jvereker@wp.pl

3266. FA: B&W Matchmaster 650 +

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 13:01:08 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <oCrqb.207282$0v4.16378297@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31233

Very nice condition B&W Matchmaster: dummy Load, SWR, Watt meter all in one,
See it at :

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=4671&item=3057317101

and/or see complete listing of all items on ebay now at

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

heytubeguy

3267. Re: Tayloe Mixer Resistance Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 13:42:39 UTC
From: skavanagh73@yahoo.ca
Message-ID: <347cf68.0311060542.3ed82340@posting.google.com>
Source record: 31234

averyfineman@aol.com (Avery Fineman) wrote in message
news:<20031105211448.12300.00001476@mb-m20.aol.com>...
>
> I'd suggest you take a look at Dan Tayloe's own article in
> RF Design for 1 March 2003. You can get a printable copy at
>
> http://www.rfdesign.com
>
> If you search for "Tayloe." Unfortunately, the figures aren't
> available for downloading (I have my own paper copy) but the
> details on the bits and pieces are all there.

Unfortunately, not only are the figures missing but so are most of the
equations, so I am unable to follow the analysis.

> Good article.

It does look interesting...I'll have to try to track down a paper
copy. One of the problems with being laid off...I'm not getting my
subscription to RF Design !

Steve VE3SMA

3268. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 14:37:04 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vqkn4kccdl6mad@corp.supernews.com>
Source record: 31235

One other thing worth mentioning -- well, two.

If you have some silver solder, this is the place to use it. Silver solder flows better than regular tin/lead, so it works nicer with surface mount stuff. It's virtually impossible to get out of plated thru holes, tho, so it's not so nice for leaded parts, unless you never make mistakes. The difference is not so great that it's a must have. It's a LITTLE better on SM stuff. It's a lot shinier, though, so it looks good, but I wouldn't go out buying some for mounting one part.

In spite of the little bitty parts, you want to be sure you have enough temperature on your iron. For soldering the corners, you can often heat a trace a few mm from the pin and touch the solder to the trace. If all is hot enough, it will nicely flow under the pin. If you have a steadier hand than I, and a microscopic tip on your iron, you can heat the pin directly, but I have neither luxury so I gotta get by. I get a little lighter on the temp for the big blobs on the side, as I am always afraid of toasting the part. However, they always amaze me with their tolerance for heat. Still, I give the part time to cool between operations - maybe just paranoia. Obviously, the quality of the board comes into play here - you don't want to lift the traces with the heat. It does seem like both the boards and the parts are more tolerant of a short time with a lot of heat than a longer time with less heat.

Oh yes, if you discover you need to remove a part, the heat gun is the only way to do that, short of buying some super expensive desoldering station.

..

"Tom Kreyche" <tkreyche@well.com> wrote in message
news:h5lqb.88642$9E1.450556@attbi_s52...
> Great, thanks for the advice...I will have no fear and not drink coffee
for
> two day...Tom
>
> "xpyttl" <xpyttl_nospam@earthling.net> wrote in message
> news:vqjhbkeebhro37@corp.supernews.com...
> > Pretty simple if the board you are putting it on is well solder masked.
> >
> > Run down to Staples and get a package of Tac 'n Stik. Pity, that
package
> is
> > 2 oz and you'll need about a milligram. The two buck package will last
> you
> > about ten lifetimes.
> >

>
>

3269. Re: Memory Keyer plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 14:38:39 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vqkn7i6dv1p226@corp.supernews.com>
Source record: 31236

"Dale Botkin N0XAS" <dale@botkin.org> wrote in message
news:yQjqb.6560$G7.3172@okepread04...
>
> It's on my looooong list of projects to do one of these days... sigh...

Yeah -- getting the PIC version on my website is on my looooong list of
projects to do one of these days...

..

3270. Filament Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 15:30:55 UTC
From: Biz WD=?ISO-8859-1?B?2A==?=HCO <wd0hco@ev1.net>
Message-ID: <BBCFC54E.8C99%wd0hco@ev1.net>
Source record: 31237

TO BA and Homebrew NG's:

Thanks everyone for all the help and suggestions.
My homebrew dream receiver is complete and working FB.
Thought you all might like to take a look at it.

So here it is:

http://www.megacycles.biz

No laughing please! :^(

It took about 3 weeks working a few hours a day.

3271. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 18:30:09 UTC
From: Leon Heller <aqzf13@dsl.pipex.com>
Message-ID: <3faa9330$0$3342$cc9e4d1f@news.dial.pipex.com>
Source record: 31238

xpyttl wrote:

[deleted]

>
> Oh yes, if you discover you need to remove a part, the heat gun is the only
> way to do that, short of buying some super expensive desoldering station.

I've just tried some sample ChipQuik alloy made for removing SM parts.
It's a low MP alloy (based on Wood's metal) that you melt and blob over
the leads with a soldering iron. It works quite well, so I've bought one
of the kits - about 15 GBP.

3272. soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 19:06:33 UTC
From: uk-hamman <uk-hamman@ntlworld.com>
Message-ID: <MZwqb.507$fO5.478926@newsfep1-win.server.ntli.net>
Source record: 31239

HI THERE
Just a thought , I have often made my own alum boxes , for projects
that I have built myself , and have always wanted to solder
the edges shut , for a more pleasing look ,
or sometimes solder two pieces together.

,Never mind the old resin trick etc ..
I wanted to proper solder them , with an iron ..yer

I have used different irons , and temperatures
various fluxes , and methods
and nothing has ever been successful

I know all about oxidiodsation , so I thought
could I solder it in a vacuum ??? or oxygen free
environment ??

say I get myself a large plastic box , air-tight joints
and Perspex top , with an air-tight fitting door
and a pair of fitted gloves , and a one way air valve
connected to the hoover , to withdraw some of the air
out of the box ???? , maybe even light a candle in the box
to burn up the last bit of the oxygen ??

the box would be large-enough for me to have all the tools
I need , small scrapers , iron , solder , flux , and the box iam soldering ,
etc

any thoughts ????

I would be prepared to go to this much trouble
if the idea would work . iam sure I can get air tight joints
by using rubber gaskets and expandable foam and glue
between the joints etc ...

>>>> I don't really want to hear about the construction method
down-falls in your replies , more about the theory of
soldering aluminium in a vacuum situation or lack of oxygen environment
<<<<

sorry to be blunt , but as so often happens in news articles
the main question or topic is often lost by the 3 or 4th reply
then it goes of a tangent to the main question .

anyway hope some one may be able to help ,
or has had experience of actually doing what iam trying to do

cheers for now
de Paul

3273. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 19:13:14 UTC
From: mcalhoun@ksu.edu
Message-ID: <boe6ga$aju@unix1.cc.ksu.edu>
Source record: 31240

>>Keeping the battery charged is not the only reason to start the car once
>>a week.

>Suppose it means that a car battery won't last long if you keep it
>steady at top charge level, instead of decharge it down towards 50%,
>....[snip]....
>I was told that a car battery wouldn't last long anyway for this
>application, so even when my car battery is 6-7 years old, it
>wouldnt't last more than a year when trickle charged, while it is far
>....[snip]....

I understand that battery electrolyte becomes stratified if the batteries
don't receive the shaking they would normally get through vehicle motion
OR by charging hard enough that the electrolyte "boils" enough to mix
itself up.

I do know that the batteries I've used to power all of my 'shack radios
for the last 25 years do NOT last any longer (as I thought they would)
in a quiet/protective environment than the same batteries I put in my
vehicles!

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3274. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 19:23:08 UTC
From: mcalhoun@ksu.edu
Message-ID: <boe72s$b07@unix1.cc.ksu.edu>
Source record: 31241

Re: Harbor Freight $7.99 float chargers:

>You don't say! Have you ever measured their voltage? Or is it written
>on the case?

I never had, so I went out (to the garage; brrrr!) and measured one:
13.58 volts. FWIW, the wallwart says "15VAC at 600 ma", but there's a
little plastic box on the wires between the wart and the battery clips.

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3275. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 20:01:49 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vqla5j1tf188a2@corp.supernews.com>
Source record: 31242

Try this...
Get some good motor oil and put a drop on the aluminum...
Then scrape the aluminum oxide off under the oil...
Next get a good iron with enough wattage to tin the area under the oil with solder..
Then tin another piece and you can solder the 2 together...
A beter way perhaps would be if someone has a name that I can't recall but there's a compnay that makes a good Al solder that doesn't need a special flux..
I've seen guys demonstrating it at hamfests and fairs..
They generally show soldering aluminum beverage cans, Al pistons, lawn chair parts, etc.
I bought some and their special stainless brush and used it successfully..
But that was a few years ago and I have no idea where I put the stuff..
I'll bet someone here has the url.

FYI..
If you were in cosmic space and cleaned the oxide off 2 pieces of aluminum they would stick without heat, solder or flux!

73
hank wd5jfr
"uk-hamman" <uk-hamman@ntlworld.com> wrote in message news:MZwqb.507$fO5.478926@newsfep1-win.server.ntli.net...
> HI THERE
> Just a thought , I have often made my own alum boxes , for projects
> that I have built myself , and have always wanted to solder
> the edges shut , for a more pleasing look ,
> or sometimes solder two pieces together.
>
> ,Never mind the old resin trick etc ..
> I wanted to proper solder them , with an iron ..yer
>
> I have used different irons , and temperatures
> various fluxes , and methods
> and nothing has ever been successful
>
> I know all about oxidiodsation , so I thought
> could I solder it in a vacuum ??? or oxygen free
> environment ??
>
>
> say I get myself a large plastic box , air-tight joints
> and Perspex top , with an air-tight fitting door
> and a pair of fitted gloves , and a one way air valve

> connected to the hoover , to withdraw some of the air
> out of the box ???? , maybe even light a candle in the box
> to burn up the last bit of the oxygen ??
>
> the box would be large-enough for me to have all the tools
> I need , small scrapers , iron , solder , flux , and the box iam soldering
,
> etc
>
> any thoughts ????
>
> I would be prepared to go to this much trouble
> if the idea would work . iam sure I can get air tight joints
> by using rubber gaskets and expandable foam and glue
> between the joints etc ...
>
> >>>> I don't really want to hear about the construction method
> down-falls in your replies , more about the theory of
> soldering aluminium in a vacuum situation or lack of oxygen environment
> <<<<
>
> sorry to be blunt , but as so often happens in news articles
> the main question or topic is often lost by the 3 or 4th reply
> then it goes of a tangent to the main question .
>
>
> anyway hope some one may be able to help ,
> or has had experience of actually doing what iam trying to do
>
> cheers for now
> de Paul
>
>
>

3276. Re: Silver button mica ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 20:02:09 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vqla66hmsvnrc3@corp.supernews.com>
Source record: 31243

Good and bad news..
I found my capacitance meter and measured the button and it's about 1500 pf.
The bad news is in my posting I transposed red and green and the correct
color sequence is: black, brown, green, red, gold, gray..
Black desigantes military, and 1500 pf by the next 3 but I still need to
know what the gold and gray designate..
Tolerance, temp coeff, and voltage but which 2 are designated and how?. Any
tips appreciated. A spec on this cplr would be appreciated.
tnx
hank wd5jfr

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in message
news:vqfscjs7k5mi82@corp.supernews.com...
> I've got a TMC Directional Coupler Unit Model CU 2/50 and my "cheatsheet"
> for silver button micas is not to be found. I wonder if someone has one
and
> can tell me the capacitance of one that has the following six colors:
black,
> brown, red, green, gold, grey. If anyone has a schematic, please let me
> know.
> tnx
> hank wd5jfr
>
>

3277. Re: Measuring Velocity Factor w/ MFJ-259

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 20:18:18 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <boead8$j4l$1@newshost.mot.com>
Source record: 31245
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hmmm, I would have sworn the manual covers this, or is that just on the B model?....

I'll have to try this, but how about just connecting a length of coax, open at the other end and looking for the min Z. The longer it is, the less effect of any "end effect".

TO get around end effect, go to the shorted stub method...but...
I don't understand the 50 ohm in parallel. I'd put some large R in parallel when trying the shorted-end method such that there will be a reading. If I recall, mine stops above 1500 ohms. So, I'd put, say, 1 K in parallel then find the two freqs where I see some specific value lower than the resistor alone, then take the geometric mean for the stub's resonant freq.

Steve
No U's in my email addr...

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0311041741.7dee2e34@posting.google.com...
> Leading eventually to the suggestion that perhaps your MFJ analyzer
> isn't worth the powder to blow it up...
>
> But I submit that you can make VF measurements on your cable with it,
> which may be limited by the accuracy with which you can measure the
> length of line you are looking at and not by the fact that you're
> using a relatively inexpensive instrument. Here's one way. If you
> look at a shorted stub 90 electrical degrees long in parallel with a
> 50 ohm resistor, you'll have to move the frequency by some value to
> resolve a difference. The amount you have to move the frequency
> probably determines the resolution you can get in VF. But if you make
> the line 270 degrees long, you'll have three times the sensitivity.
> So a hundred foot length of line, measured near 10 meters frequency,
> would be long enough to get very good resolution--it'd be on the order
> of 1530 electrical degrees. I'd be surprised if you had trouble
> seeing the difference between, say, 0.664 and 0.665 VF. But beware
> that the VF _does_ change with frequency, even over HF. There are
> times when _I_ care about that, even if some others don't.
>
> Cheers,
> Tom
>
> "Jason Dugas" <kb5urq@hotmail.com> wrote in message
news:<vq60t3lpnait5f@corp.supernews.com>...

> > Asswipe,
> >
> > The question I posed wasn't "What's the velocity factor of ALL solid
> > polyethylene coax cable". Next time read the question and answer it.
If
> > you don't know the answer then DON'T POST A REPLY!
> >
> > Too many ignorant people in these groups anymore!
> >
> > "Reg Edwards" <g4fgq.regp@ZZZbtinternet.com> wrote in message
> > news:bnts9b$o8k$1@hercules.btinternet.com...
> > > The velocity factor of ALL solid polyethylene coax cable, regardless
of
> > > impedance, is 0.665
> > >
> > >

3278. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 20:21:49 UTC
From: dt@dt.prohosting.com
Message-ID: <u3cd1uu1u.fsf@dt.prohosting.com>
Source record: 31244

The Tac-n-Stik posting has some good suggestions. Here are a couple of variations.

1. Rather than use tac-n-stik, I usually use this procedure to initially position the part:

a. melt solder onto a corner pad (without the part)
b. keep the iron on the pad while...
c. using tweezers to guide the part into place.

Don't worry about getting a good looking joint yet. You just need mechanical stability and can always touch up the soldering later. If you're unhappy with the position, all you have to do is remelt the solder on the corner pad and move the part with the tweezers. When you like the position, solder the opposite corner to secure it.

2. The drench-and-wick trick works well, and I do use it for parts with extremely fine pitch. However, if you have a strong magnifier or microscope and a good quality iron with a fine tip, it is possible to just solder each leg in the traditional way. In that case, I'll still use the wick when I (inevitably) goof and bridge two or more pins.

David

3279. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 20:36:39 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a1450b3963ea6e5989695@news-central.giganews.com>
Source record: 31246

In article <zpgqb.86794$9E1.437033@attbi_s52>, tkreyche@well.com says...
> I can't avoid it anymore! I have an IC in SSOP package that I want to use.
> Does anyone have tips on how to do it or maybe this is on a FAQ someplace.
>
> thanks, Tom
>
>
>

SSOPs aren't too hard. Assuming your soldering iron has a high-quality
tip, solder-wick and a good pair of tweezers are all you'll need.

TSSOPs are a bit trickier, but still not impossible.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

3280. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 21:15:17 UTC
From: Sylvan Butler <Znospam+noZs_0311@hpb13799Z.Zboi.hpZ.com.invalid>
Message-ID: <slrnbqlef5.fuu.Znospam+noZs_0311@hpb13799Z.Zboi.hpZ.com.invalid>
Source record: 31247

On Wed, 05 Nov 2003 18:09:46 -0500, Bruce W...1 <bruce@noDirectEmail.com> wrote:
> mcalhoun wrote:
>> Although their normal price is about $15, float battery chargers (wall
>> wart, coiled cord, little black box with LED, two cords with large
>> alligator clips on the ends) are often advertised in Harbor Freight
>> catalogs for $7.99. I must have half a dozen of them now, keeping
>> batteries here and there up to snuff. I've never measured them, but
>> they seem to do a real good job, and they're hard to beat at that price!
>>
>> I have no connection to Harbor Freight except as a satisfied customer,

Ditto to all of the above.

> You don't say! Have you ever measured their voltage? Or is it written
> on the case?

Mine vary between 13.5v to 13.6v. If you open the little plastic
box between the transformer and the battery terminals you will find
a little adjustment that will let you tweak the voltage.

I have two different styles, one with curly coiled leads and one
with straight leads. I think the straight lead is older and has
been obsoleted. Too bad, because they made a nice low-current
adjustable power supply. :) The curly lead ones don't. But they
both seem to do a fine job of keeping lead acid batts up to snuff.

I have a couple on my bench. One set to 13.6v and one to 14.1v. I
put a gel cell on the 14.1v to charge after use, then on to the
13.6v to maintain ready for next time.

I have one in the barn. I cut off the clamps and put on a pair of
anderson powerpole connectors. A matching connector on my lawn
tractor allows me to easily attach with no concern for polarity
mismatch whether it is me or anyone else. I got 5 seasons from the
last battery, which is pretty good for a lawn tractor that sits
pretty much unused october thru april.

sdb
--
| Sylvan Butler | Not speaking for Hewlett-Packard | sbutler-boi.hp.com |
| Watch out for my e-mail address. Thank UCE. >>>> change ^ to @ <<<< |
It may be better to live under robber barons than under omnipotent moral
busybodies. The robber baron's cruelty may sometimes sleep, his
cupidity may at some point be satiated; but those who torment us for our
own good will torment us without end, for they do so with the approval
of their consciences. -- C. S. Lewis

3281. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 22:48:53 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <5dAqb.100979$PD3.5356725@nnrp1.uunet.ca>
Source record: 31248

Henry Kolesnik wrote:
> Try this...
> Get some good motor oil and put a drop on the aluminum...
> Then scrape the aluminum oxide off under the oil...
> Next get a good iron with enough wattage to tin the area under the oil with
> solder..
> Then tin another piece and you can solder the 2 together...
> A beter way perhaps would be if someone has a name that I can't recall but
> there's a compnay that makes a good Al solder that doesn't need a special
> flux..
> I've seen guys demonstrating it at hamfests and fairs..
> They generally show soldering aluminum beverage cans, Al pistons, lawn chair
> parts, etc.
> I bought some and their special stainless brush and used it successfully..
> But that was a few years ago and I have no idea where I put the stuff..
> I'll bet someone here has the url.
>
> FYI..
> If you were in cosmic space and cleaned the oxide off 2 pieces of aluminum
> they would stick without heat, solder or flux!
>
> 73
> hank wd5jfr
> "uk-hamman" <uk-hamman@ntlworld.com> wrote in message
> news:MZwqb.507$fO5.478926@newsfep1-win.server.ntli.net...
>
>>HI THERE
>>Just a thought , I have often made my own alum boxes , for projects
>>that I have built myself , and have always wanted to solder
>>the edges shut , for a more pleasing look ,
>> or sometimes solder two pieces together.
>>
>>,Never mind the old resin trick etc ..
>>I wanted to proper solder them , with an iron ..yer
>>
>>I have used different irons , and temperatures
>>various fluxes , and methods
>>and nothing has ever been successful
>>
>>I know all about oxidiodsation , so I thought
>>could I solder it in a vacuum ??? or oxygen free
>>environment ??
>>
>>

>>say I get myself a large plastic box , air-tight joints
>>and Perspex top , with an air-tight fitting door
>>and a pair of fitted gloves , and a one way air valve
>>connected to the hoover , to withdraw some of the air
>>out of the box ???? , maybe even light a candle in the box
>>to burn up the last bit of the oxygen ??
>>
>>the box would be large-enough for me to have all the tools
>>I need , small scrapers , iron , solder , flux , and the box iam soldering
>
> ,
>
>>etc
>>
>>any thoughts ????
>>
>>I would be prepared to go to this much trouble
>>if the idea would work . iam sure I can get air tight joints
>>by using rubber gaskets and expandable foam and glue
>>between the joints etc ...
>>
>>
>>>>>>I don't really want to hear about the construction method
>>
>>down-falls in your replies , more about the theory of
>>soldering aluminium in a vacuum situation or lack of oxygen environment
>><<<<
>>
>>sorry to be blunt , but as so often happens in news articles
>>the main question or topic is often lost by the 3 or 4th reply
>>then it goes of a tangent to the main question .
>>
>>
>>anyway hope some one may be able to help ,
>>or has had experience of actually doing what iam trying to do
>>
>>cheers for now
>>de Paul
>>
>>
>>
>
>
>
I just did a Google search with aluminum welding and the first one looks
very promising...$35.00 for a kit..
Eskay,,,VE3JUA..

3282. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 23:02:19 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FAAD2FB.8BBA1BE1@noDirectEmail.com>
Source record: 31249

mcalhoun wrote:
>
> Re: Harbor Freight $7.99 float chargers:
>
> >You don't say! Have you ever measured their voltage? Or is it written
> >on the case?
>
> I never had, so I went out (to the garage; brrrr!) and measured one:
> 13.58 volts. FWIW, the wallwart says "15VAC at 600 ma", but there's a
> little plastic box on the wires between the wart and the battery clips.
>
> --Myron.
> --
> Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
> PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
> NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

==========

Now we're getting somewhere. Myron said 15VAC at 600 ma. C/100 is
about 700 mA. Any idea what's inside the little voltage adjustment box?

3283. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 23:17:55 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0311061517.467ad5d7@posting.google.com>
Source record: 31250

"Bruce W...1" <bruce@noDirectEmail.com> wrote in message
news:<3FA6F24F.46947A68@noDirectEmail.com>...
> This is not ham radio related but I know you guys have the answer.
>
> I need to store a car unattended for a winter in the midwest. And I
> want to put a tricke charge on the battery.
>
> I'd rather not buy a fancy trickle charger because it would probably get
> stolen. On the other hand I have a vast array of wall wart
> transformers.
>
> If I connected one of these transformers how many milliamps should it
> put out at 12V? Or rather what's the least current that would do the
> job?
>
> It seems that lead acid batteries can dissipate too much current as
> heat. In other words I could probably feed it one amp continuously.
> But would 100 mA at 12V do the job? I'd hate to lose a 1-Amp wall wart.
>
> Thanks for your help.

Hi Bruce,
you have been given heaps of technical suggestions, heres mine.

1.Pull the battery out of the vehicle and take it back to your place.
2.Every week or so, check specific gravity with a hyrometer (sp) and
if it needs charging, do so.

This solves the problem of someone stealing the car unless they are
really keen, is simple, easy, and lo tech.

73 de VK3BFA Andrew

3284. Need source for Motorol HT800 parts

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 23:36:24 UTC
From: earcad@aol.com
Message-ID: <bf3bee01.0311061536.49268e92@posting.google.com>
Source record: 31251
Cross-posted to:
rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.scanner

Hello
Please email if you know of a source or wher i can buy a complete unit.
Thanks in advance
Regards
AC

Item Qty Unit Description

P/F (HT 800) HANDIE-TALKIE MOTOROLA

01 15 pcs Switch/Pot, ON-OFF Volume (S1/R140) # ï¿½?ï¿½
02 10 pcs Switch Frequency (S2/2 & 8 Channel) # ï¿½?ï¿½
03 10 pcs Switch (S3) # 4005 101 Q01

3285. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-06 23:37:30 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vqlmpvs49j5765@corp.supernews.com>
Source record: 31252

According to the manual the Harbor Freight charger is 15.5V. That seems a little high for a float charge to me. 12-volt LA batteries are generally float charged at 13.8V. Did you guys measure the voltage with it connected to the battery or under "no load"?

3286. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 00:32:49 UTC
From: Sylvan Butler <Znospam+noZs_0311@hpb13799Z.Zboi.hpZ.com.invalid>
Message-ID: <slrnbqlq1h.fuu.Znospam+noZs_0311@hpb13799Z.Zboi.hpZ.com.invalid>
Source record: 31254

On Thu, 6 Nov 2003 18:37:30 -0500, Bob Lewis (AA4PB) <rlewis@staffnet.com> wrote:
> According to the manual the Harbor Freight charger is 15.5V. That

I think that's the wallwart, not the voltage applied to the batt.

> seems a little high for a float charge to me. 12-volt LA batteries are
> generally float charged at 13.8V. Did you guys measure the voltage
> with it connected to the battery or under "no load"?

Either way measures the same. The little box is a basic voltage
regulator circuit.

sdb

--
| Sylvan Butler | Not speaking for Hewlett-Packard | sbutler-boi.hp.com |
| Watch out for my e-mail address. Thank UCE. >>>> change ^ to @ <<<< |
It may be better to live under robber barons than under omnipotent moral
busybodies. The robber baron's cruelty may sometimes sleep, his
cupidity may at some point be satiated; but those who torment us for our
own good will torment us without end, for they do so with the approval
of their consciences. -- C. S. Lewis

3287. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 00:38:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vqlqdc4l7pnof6@corp.supernews.com>
Source record: 31253

The recommended float voltage differs a fair amount with temperature and with battery type (liquid, starved, or, now very rare, gelled electrolyte). I'd check the manufacturer's specifications for the specific cell. Most are on the web these days. If I were floating a battery outside or in any other environment with substantial temperature variation, I'd want to use a temperature compensated charger, with the charger close to the battery.

Roy Lewallen, W7EL

Bob Lewis (AA4PB) wrote:
> According to the manual the Harbor Freight charger is 15.5V. That
> seems a little high for a float charge to me. 12-volt LA batteries are
> generally float charged at 13.8V. Did you guys measure the voltage
> with it connected to the battery or under "no load"?
>
>
>

3288. Iambic paddle plans

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 01:02:34 UTC
From: haf47@juno.com
Message-ID: <f03bf94f.0311061702.6044f4be@posting.google.com>
Source record: 31255

Hello there, I am looking for plans to build an iambic paddle with PCB material. I had found one on the net but then got a virus on my computer and lost it when I reformatted my drive.

It was not one of the tiny ones, and now that I need it, I can't find the website to save my life!

So, if you have a favorite website with this sort of info, I'd appreciate it if you'd send the URL along to me.

Thanks in advance for any possible help.

de WA2AFD

3289. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 01:22:21 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FAAF3CD.4A19BAA2@noDirectEmail.com>
Source record: 31256

Alright, so I built a voltage regulator with parts that I have around, an LM7812 with a few diodes connected to a 500 mA 12VDC wall wart. I hope you guys are happy now.

However I still maintain that a properly sized wall wart could do the job with no voltage regulation.

3290. Re: Iambic paddle plans

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 01:30:48 UTC
From: swells8044@aol.com
Message-ID: <20031106203048.26622.00000241@mb-m27.aol.com>
Source record: 31257

try WWW.amqrp.org web sight and look in the projects page

3291. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 01:39:10 UTC
From: dplatt@radagast.org
Message-ID: <vqlttu5ltb0589@corp.supernews.com>
Source record: 31258

>Alright, so I built a voltage regulator with parts that I have around,
>an LM7812 with a few diodes connected to a 500 mA 12VDC wall wart. I
>hope you guys are happy now.

What sort of open-circuit voltage are you getting out of it?

>However I still maintain that a properly sized wall wart could do the
>job with no voltage regulation.

Hey, it's your battery (or your neighbor's) - if you want to
experiement and see if you can figure out whether that sort of
charging regime will appreciably shorten the life of the battery, go
for it!

I just figure that doing the job right isn't really very much harder
than doing it "maybe right, or maybe we shorten the battery's life by
a year?".

[and I really do like the idea of those Harbor Freight float chargers...
$7.95 for a tweakable-voltage half-amp charger is so low I don't
see much sense in homebrewing my own any more! I'll have to pick up
a couple.]

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3292. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 03:47:57 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FAB15ED.B1A1AC61@noDirectEmail.com>
Source record: 31259

Andrew VK3BFA wrote:
>
> Hi Bruce,
> you have been given heaps of technical suggestions, heres mine.
>
> 1.Pull the battery out of the vehicle and take it back to your place.
> 2.Every week or so, check specific gravity with a hyrometer (sp) and
> if it needs charging, do so.
>
> This solves the problem of someone stealing the car unless they are
> really keen, is simple, easy, and lo tech.
>
> 73 de VK3BFA Andrew
==========

Screw that. This is a charity case to begin with. There's no way on
God's green earth that I'd haul the battery back to my place.

3293. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 03:58:37 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FAB186D.3361358E@noDirectEmail.com>
Source record: 31260

Roy Lewallen wrote:
>
> The recommended float voltage differs a fair amount with temperature and
> with battery type (liquid, starved, or, now very rare, gelled
> electrolyte). I'd check the manufacturer's specifications for the
> specific cell. Most are on the web these days. If I were floating a
> battery outside or in any other environment with substantial temperature
> variation, I'd want to use a temperature compensated charger, with the
> charger close to the battery.
>
> Roy Lewallen, W7EL
==========

Hmmm, temperature compensate at a certain distance from the battery.
Can you model this Roy?

3294. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 05:45:47 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a14d16ab29ac5a4989acb@192.168.42.131>
Source record: 31261

In article <MZwqb.507$fO5.478926@newsfep1-win.server.ntli.net>, uk-hamman@ntlworld.com says...

> HI THERE
> Just a thought , I have often made my own alum boxes , for projects
> that I have built myself , and have always wanted to solder
> the edges shut , for a more pleasing look ,
> or sometimes solder two pieces together.

<snip>

Won't happen. Or at least no one that I know of, in 20+ years of hamateur activity, has ever managed to do it.

The only way I know of to seamlessly join pieces of aluminum, as you describe, is by welding them. To do so, my understanding is that you need special equipment and an inert gas environment.

I suppose you could try using Epoxy, but I don't know how good the result would look.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

3295. Re: Need source for Motorol HT800 parts

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 05:47:08 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a14d1ba63f63898989acc@192.168.42.131>
Source record: 31262
Cross-posted to:
rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.scanner

In article <bf3bee01.0311061536.49268e92@posting.google.com>,
earcad@aol.com says...

> Hello
> Please email if you know of a source or wher i can buy a complete unit.
> Thanks in advance
> Regards
> AC

<snip>

Silly question. Have you tried contacting Motorola?

National parts is at 1800-422-4210

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
"Quando Omni Flunkus Moritati" (Red Green)

3296. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 07:31:48 UTC
From: k9sqg@aol.com
Message-ID: <20031107023148.12178.00000330@mb-m11.aol.com>
Source record: 31263

Heli-arc or TIG will do it...

3297. Re: Iambic paddle plans

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 08:22:36 UTC
From: PaoloC <convlist@hotmail.com>
Message-ID: <bofkoa$1dln48$1@ID-199778.news.uni-berlin.de>
Source record: 31264

Howard wrote:

Hi

> Hello there, I am looking for plans to build an iambic paddle with PCB
> material. I had found one on the net but then got a virus on my
> computer and lost it when I reformatted my drive.

I have the URL bookmarked at home, and a printed version of that page as well. I actually built that key with my very limited drilling/sewing tools, and haven't really operated it. Can't send the link until Monday, sorry.

When I operate CW I use my first attempt to build a IAMBIC key that uses two mini-switches back to back. I does make a little clicking noise and operates up to 15WPM. You can see some pictures at http://www.qsl.net/ik1zyw/hardware/key/index.html .

Still, both designs are very simple and give an idea of what kind of controls you want from a IAMBIC key (distance, spring tension, return speed, ...). Good for operating a few contacts at low speed.

72,
Paolo IK1ZYW

3298. Heathkit and other amp manual circuits here

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 11:14:33 UTC
From: Adshar64 <adshar@ihug.com.au>
Message-ID: <bofur2$k1k$1@lust.ihug.co.nz>
Source record: 31265

http://groups.yahoo.com/group/Tube_Amps/

3299. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 12:05:57 UTC
From: Paul Burridge <pb@osiris.notthisbit.co.uk>
Message-ID: <omvmqv4pgqvnt13kouqbuemo7od3dng4lf@4ax.com>
Source record: 31266

On Thu, 6 Nov 2003 21:45:47 -0800, Dr. Anton Squeegee
<SpammersAreVermin@dev.null> wrote:

>In article <MZwqb.507$fO5.478926@newsfep1-win.server.ntli.net>, uk-
>hamman@ntlworld.com says...
>
>> HI THERE
>> Just a thought , I have often made my own alum boxes , for projects
>> that I have built myself , and have always wanted to solder
>> the edges shut , for a more pleasing look ,
>> or sometimes solder two pieces together.
>
> <snip>
>
> Won't happen. Or at least no one that I know of, in 20+ years of
>hamateur activity, has ever managed to do it.
>
> The only way I know of to seamlessly join pieces of aluminum, as
>you describe, is by welding them. To do so, my understanding is that you
>need special equipment and an inert gas environment.

Indeed. The TIG welding process is ideal for this, particularly if a
professional finish is important. But the kit *is* expensive and
there's a bit of a skill to be picked up (not *that* difficult,
though).
--

Q: Why does Mike Tyson cry during sex?
A: It's the pepper spray.

3300. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 13:09:46 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3fab95ef.1107858950@news.freeserve.net>
Source record: 31267

On Thu, 6 Nov 2003 19:06:33 -0000, "uk-hamman"
<uk-hamman@ntlworld.com> wrote:

>HI THERE
>Just a thought , I have often made my own alum boxes , for projects
>that I have built myself , and have always wanted to solder
>the edges shut , for a more pleasing look ,
> or sometimes solder two pieces together.
>
I've never succeeded with soldering Ali, what I do is the use
aluminium filings loaded into epoxy resin as a glue/filler.
My method is to.
Degrease the aluminium with Carbon Tet. or similar.

Stick some tape over the joint to be 'closed' on the side you can't
easily file, leaving a gap / fillet for the epoxy to fill.

Mix the epoxy as per normal then introduce the fileings. I find
diecast ali fileings are best as they seem to be more granular and
file finer grit.

'wet' the joint with some unloaded epoxy and then fill the joint with
the loaded epoxy using a spatula.

After its set I file the joint to an acceptable profile.

I have used this method to fill unwanted holes in diecast boxes with
good results. I'm not sure about its screening ability but its a lot
better than an open hole, both for screening and presentation.

The best epoxy I have used is called "JB Weld" which is incredible for
sticking ali and it is easily worked. Acceptable results are possible
with "Araldite" but it does'nt appear to have the same 'stick'
ability.

hth, Mike W, G8NXD

3301. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 13:23:23 UTC
From: rwalter@engineer.com
Message-ID: <73aa3471.0311070523.6ea75aa3@posting.google.com>
Source record: 31268

LMAO! How many people does it take to screw in a lightbulb, or in this
case to charge a battery?

Sylvan Butler <Znospam+noZs_0311@hpb13799Z.Zboi.hpZ.com.invalid> wrote in message
news:<slrnbqlq1h.fuu.Znospam+noZs_0311@hpb13799Z.Zboi.hpZ.com.invalid>...
> On Thu, 6 Nov 2003 18:37:30 -0500, Bob Lewis (AA4PB) <rlewis@staffnet.com> wrote:
> > According to the manual the Harbor Freight charger is 15.5V. That
>
> I think that's the wallwart, not the voltage applied to the batt.
>
> > seems a little high for a float charge to me. 12-volt LA batteries are
> > generally float charged at 13.8V. Did you guys measure the voltage
> > with it connected to the battery or under "no load"?
>
> Either way measures the same. The little box is a basic voltage
> regulator circuit.
>
> sdb

3302. Re: Filament Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 14:13:59 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-A25B7A.09140107112003@news.verizon.net>
Source record: 31269

In article <isskqvgps57k2b6ed0fvegqu83acl92ood@4ax.com>,
W7TI <noway@nohow.com> wrote:

> On Thu, 06 Nov 2003 09:30:55 -0600, Biz WD&#65533;HCO <wd0hco@ev1.net> wrote:
>
> >TO BA and Homebrew NG's:
> >
> >Thanks everyone for all the help and suggestions.
> >My homebrew dream receiver is complete and working FB.
> >Thought you all might like to take a look at it.
> >
> >So here it is:
> >
> >http://www.megacycles.biz
> >
> >No laughing please! :^(
> >
> >It took about 3 weeks working a few hours a day.
> >
>
> _____
>
> Unusual tube lineup (except the 12AX7). Care to explain your choices?

I think he explained it in his web site.

> I always loved the receiver in the HW-16 but hated the chirpy transmitter.
> So I hacked into it and stole the board out of it. It's got a few mods to make
> it perform even better.

Al

--
There's never enough time to do it right the first time.....

3303. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 14:51:00 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <MNCdndI7I4x_LTaiRVn-uA@comcast.com>
Source record: 31270

I have adapted to the "toaster oven" method -- and now I am smt'ng all the time:
my technique is to use an instrument looking like a pick to place a very small dab of solder paste on each of the pads, then place the device using tweezers. it takes about 4 minutes in the toaster oven -- some film capacitors, electrolytics can only be soldered ONCE. my technique is to do all the resistors and ceramic caps first on one run, then do the electrolytics and IC's second, the discrete and non-SMT devices are then soldered in by hand.

the method was discussed in Nuts n Volts a few issues ago -- using stainless steel stencils -- I find that I can do it by hand.

"Tom Kreyche" <tkreyche@well.com> wrote in message news:zpgqb.86794$9E1.437033@attbi_s52...
> I can't avoid it anymore! I have an IC in SSOP package that I want to use.
> Does anyone have tips on how to do it or maybe this is on a FAQ someplace.
>
> thanks, Tom
>
>

3304. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 20:54:15 UTC
From: kf4tun <kf4tun@adelphia.net>
Message-ID: <XDTqb.404$KN4.240717@news1.news.adelphia.net>
Source record: 31271

There is an epoxy out there is made for joining aluminum(I forget the name, its like JB-Weld, but for aluminum). You can find it at the larger auto parts stores, and you should be able to find it on the internet. When you grind/file it down, it's hard to tell where the aluminum ends and the epoxy begins.

Jim

"Mike W" <mike@corn2.freeserve.co.uk> wrote in message news:3fab95ef.1107858950@news.freeserve.net...
> On Thu, 6 Nov 2003 19:06:33 -0000, "uk-hamman"
> <uk-hamman@ntlworld.com> wrote:
>
> >HI THERE
> >Just a thought , I have often made my own alum boxes , for projects
> >that I have built myself , and have always wanted to solder
> >the edges shut , for a more pleasing look ,
> > or sometimes solder two pieces together.
> >
> I've never succeeded with soldering Ali, what I do is the use
> aluminium filings loaded into epoxy resin as a glue/filler.
> My method is to.
> Degrease the aluminium with Carbon Tet. or similar.
>
> Stick some tape over the joint to be 'closed' on the side you can't
> easily file, leaving a gap / fillet for the epoxy to fill.
>
> Mix the epoxy as per normal then introduce the fileings. I find
> diecast ali fileings are best as they seem to be more granular and
> file finer grit.
>
> 'wet' the joint with some unloaded epoxy and then fill the joint with
> the loaded epoxy using a spatula.
>
> After its set I file the joint to an acceptable profile.
>
> I have used this method to fill unwanted holes in diecast boxes with
> good results. I'm not sure about its screening ability but its a lot
> better than an open hole, both for screening and presentation.
>
> The best epoxy I have used is called "JB Weld" which is incredible for
> sticking ali and it is easily worked. Acceptable results are possible
> with "Araldite" but it does'nt appear to have the same 'stick'
> ability.
>

> hth, Mike W, G8NXD

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.536 / Virus Database: 331 - Release Date: 11/3/03

3305. holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 22:04:21 UTC
From: lara.louder@usu.edu
Message-ID: <vpt1BpzCC5aR@cc.usu.edu>
Source record: 31272

Does anyone have a good recipe for holiday brew with low carbs?

3306. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 23:04:20 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <UxVqb.1923$jy.1808@clgrps13>
Source record: 31273

Behold, lara.louder signalled from keyed 4-1000A filament:

> Does anyone have a good recipe for holiday brew with low carbs?

Wrong kind of homebrew for here ;-)

But, I have a mean potato moonshine recipe :-D

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

3307. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-07 23:20:21 UTC
From: dplatt@radagast.org
Message-ID: <vqoa5le0pqva40@corp.supernews.com>
Source record: 31274

In article <vpt1BpzCC5aR@cc.usu.edu>, <lara.louder@usu.edu> wrote:

>Does anyone have a good recipe for holiday brew with low carbs?

Don't have my recipe book handy, unfortunately.

I can tell you, though, that dual-gate MOSFETs make a great mixer!

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3308. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 01:02:07 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <jgXqb.33311$Ec1.2859474@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31275

"Bruce W...1" <bruce@noDirectEmail.com> wrote in message
news:3FAAF3CD.4A19BAA2@noDirectEmail.com...
> Alright, so I built a voltage regulator with parts that I have around,
> an LM7812 with a few diodes connected to a 500 mA 12VDC wall wart. I
> hope you guys are happy now.
>
> However I still maintain that a properly sized wall wart could do the
> job with no voltage regulation.

Hey, you came to the group asking for help. It has been dispensed by
several responders who, by all indications, know and understand the
technology of batteries and charging much better than you. I've said to
several others like you, and I'll extend the advice to you as well... "If
you can't live with the answer, don't ask the question".
The responses to your question have been pretty much "spot on" correct. If
you don't want to take the advice of those who offered you help, then please
leave and revel in your own obstinance.
If you had taken the time to use the web and done a bit of research into
batteries and proper charging techniques, you would have saved several
helpful people a bit of wasted effort on your behalf.
Cheers....
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the
address)

Never take a laxative and a sleeping pill at the same time!!

3309. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 01:26:15 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FAC4637.27CF5309@clifto.com>
Source record: 31276

lara.louder@usu.edu wrote:
> Does anyone have a good recipe for holiday brew with low carbs?

Hook up two 807's to a tank; drive from a center-tapped transformer.

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis
to comply with their own agreements and with international law. Given that,
what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

3310. Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 02:52:55 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <9FYqb.11772$fg4.443729@news20.bellglobal.com>
Source record: 31277
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

I was wondering if there is a radio frequency absorptive or otherwise lossy material with which one might line a conductive shield or use instead of it. I have noticed when tinkering with my DX-394 receiver that when I add a conductive shield so that it is largely enclosed there is an increase in the coupling of spurious signals from one part of the radio to another, e.g., from the 455kHz IF stage into the LW internal antenna and other parts of the input circuitry. I suppose this is because the energy that would ordinarily escape through the plastic lid is now reflected back and is trapped inside, thus raising the intensity. This may amount to a degradation of 3 to 6 dB. I use galvanised steel for the shield because it is cheap, easily worked, highly conductive and ferro-magnetic so it is a good material for keeping out both electric and magnetic external fields. Likewise, it keeps the internal ones in when it would be preferable to dissipate them. Any advice on an absorptive or lossy material for use from LF to VHF?

Would a carbon spray (if there is such a thing) do the job?
How about the antistatic foam material semiconductors and other devices are packaged in?
How thick would it have to be?

73, Tom

3311. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 03:30:38 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a16033cab806d9c989ad0@192.168.42.131>
Source record: 31278

In article <vpt1BpzCC5aR@cc.usu.edu>, lara.louder@usu.edu says...

> Does anyone have a good recipe for holiday brew with low carbs?

Wrong newsgroup. Take another look at the title.
rec.RADIO.AMATEUR.homebrew.

The topic of said group is the home-based (hence 'homebrew')
design, construction, and modification of electronic equipment involved
in amateur radio communications work. Outside of possible imbibing, it
has zilch to do with home brewing of alcoholic goodies.

Ham radio does, however, make for a fun and rewarding hobby.
http://www.arrl.org has more info on it than you can pop a cork at.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

3312. Re: Really good receiver for 14MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 03:46:30 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <orZqb.11845$fg4.447047@news20.bellglobal.com>
Source record: 31279

Ashhar Farhan wrote:
[snip]
> On the front-end just use a single FET with a post-mix
> amp. check my
> transceiver for the idea at http://farhan.co.net.nr.

Oops, that's http://farhan.net.co.nr/ and a most interesting write-up.

73, Tom

3313. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 03:59:55 UTC
From: "J. Yazel" <jyazel@nls.net>
Message-ID: <qeqoqv0v9ipg8lfbjkt1qdmi1k1hm2t629@4ax.com>
Source record: 31280

On Fri, 07 Nov 2003 20:54:15 GMT, "kf4tun" <kf4tun@adelphia.net>
wrote:

>There is an epoxy out there is made for joining aluminum(I forget the name,
>its like JB-Weld, but for aluminum). You can find it at the larger auto
>parts stores, and you should be able to find it on the internet. When you
>grind/file it down, it's hard to tell where the aluminum ends and the epoxy
>begins.
>
>Jim
> ============================

I've noticed from this thread that all of the materials that
successfully allow aluminum soldering seem to have one
major disadvantage.

Loss of memory.

Jack

3314. The Islander ...a homemade 7 Watt FM Transmitter...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 05:12:05 UTC
From: braincambre500@yahoo.com
Message-ID: <85a87c6c.0311072112.264d41ae@posting.google.com>
Source record: 31281

Hello all,

Every now and then, I post my FM transmitter on different electronic forums, just in case someone is looking for a demanding, yet promising, project to make in the VHF arena!

I will give you my website further down this letter, but first, when you get to my website, just scroll down until you see the words...

'The Islander' A 7 Watt FM Transmitter

...and also read what Sir Harold had to say about his maiden voyage with the Islander...he did a spendid job on it, not to mention also making the open half wave dipole antenna!

Do enjoy all the projects at the website, it will be as much fun to make, as it was in makings them ourselves...that is...Sir Pedro and I (Patrick).

The website is at... http://braincambre500.freeservers.com

I thank each and everyone for taking the time read this message.

...and let the project begin ! ! !

Sincerely,

Patrick Cambre

P.S. If you are also looking for a dynamic one transistor FM receiver, I have one that I have worked on for nearly one year...and now it works like a little shining jem. I call it...

The 'Radio Shack Special' Project

It is also at the homepage...just look for those words above, and you will be on your way to a very very detailed construction of the one transistor FM receiver. The sensitivity and selectivity is outstanding!

3315. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 06:08:28 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FAC884B.7B528019@bellatlantic.net>
Source record: 31282

"Michael A. Terrell" wrote:
>
> ehsjr@bellatlantic.net wrote:
> >
> > "Michael A. Terrell" wrote:
> > >
> > > Thanasis wrote:
> > > >
> > > > In the book "Introduction to Radio Frequency Design" of W7ZOI and in
> > > > the section 7.9 "Voltage Controlled Oscillators" I read about how to
> > > > switch in and out a capacitor or an inductor in a VCO, using a diode
> > > > switch in order to alter the frequency of the oscillator.
> > > >
> > > > Unfortunately this information is theoritical to me and I couldn't
> > > > make my oscillator change its frequency.
> > > >
> > > > Does any one have a practical example of a Switched reactance VCO ?
> > > >
> > > > Thanks
> > > > Thanasis Lazos
> > >
> > > I worked on the Microdyne synthesizers using this method. It used strip
> > > line inductors, with a heavy ground buss along the edge of the board.
> > > The diodes were either forward or reverse biased to turn them on or off.
> > > you can't just let them float. Use a capacitor at least 100 times the
> > > highest value of the varicap to ground on the switching end of the
> > > diode, and as short as possible connections for the both ends of the
> > > diode. Connect a resistor to the diode and capacitor, and feed it a
> > > positive or negative voltage for forward or reverse bias. They have to
> > > be turned on hard, or they will rectify the RF and cause problems, but
> > > you can't exceed the current ratings, or you will damage the diode. we
> > > used + or - 12 volts for switching, and the diodes were used to switch
> > > the range at about 10% of the operating frequency. Its simple when you
> > > see it in front of you, but it is difficult to explain with text. This
> > > design was used in their 1200, 1400, 700, and 2800 series receivers, so
> > > you might find someone with a manual on one of these to see how they are
> > > built.
> > > --
> > >
> > > Michael A. Terrell
> > > Central Florida
> >
> > On the Microdynes - did you use inductors on the DC lines
> > to the diodes to keep the RF off the DC ?

>
> I looked through my collection of Microdyne manuals, and I don't have
> any with the circuit in them, so I have to work from memory. The best I
> can remember, they were switched by a ï¿½ 12 supply, and the series
> resistor was connected directly to the switching diode, where they
> soldered together on top of the capacitor. The other end of the resistor
> was connected to a simple transistor switch that converted TTL to + or
> minus 12 volt levels to switch the diode. I don't remember any coils,
> but the resistor and the switching circuit isolated the RF from the DC.
>
> Another source of phase noise turned out to be the vias between the
> heavy ground buss on the top of the board, to the full ground plane on
> the bottom. Filling them with solder, and flowing the fop and bottom
> around the holes with 2% silver solder took the noise down quite a bit.
> The board was a combination of surface mount and through hole.
>
> I had just fixed a number of design problems due to some parts
> becoming obsolete when they started to phase in a surface mount design.
> I was moved to a new product line, (RCB-2000 DSP based dual receiver and
> combiner system) before I could see how well the new boards worked. The
> only thing I do remember was the older board layout had a poor solder
> mask, and there were problems with solder bridges, and required you to
> disconnect all the wires and remove the board fairly often, but the
> surface mount had all solder joints on the top of the board so you only
> removed it to be cleaned, after the unit had passed all tests.
> --
>
> Michael A. Terrell
> Central Florida

Thanks. I'll have to experiment with resistors vs inductors.
I guess I always assumed you *had* to use inductors to keep
the RF off the supply line.

3316. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 06:27:15 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FAC8CA9.DE7E113A@earthlink.net>
Source record: 31283

ehsjr@bellatlantic.net wrote:
>
> Thanks. I'll have to experiment with resistors vs inductors.
> I guess I always assumed you *had* to use inductors to keep
> the RF off the supply line.

Just keep the leads short, and use enough current to turn the diodes
on hard. Let us know how you are doing with your project. I dug through
all the scrap modules and boards, but I don't have any parts of their
standard synthesizer module. I repaired a couple two digit serial number
units for engineering, as well as one that started with "P" (prototype)
so I doubt they ever trashed any complete boards or modules.
--

Michael A. Terrell
Central Florida

3317. Re: Really good receiver for 14MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 09:32:24 UTC
From: jvereker@wp.pl
Message-ID: <25102a3d.0311080132.5e356399@posting.google.com>
Source record: 31284

> if you already have a DC receiver, all you need to do is add a simple
> ladder filter to the input of the DC receiver, add a mixer to the
> otherside and a VFO. You will have a pretty decent superhet. Don't
> throw away the DC receiver, just build up a superhet around it.
As I wrote I have DC RX, but for 3.5 MHz. What I need is monoband for
14 MHz. My RX is very simple and I am not sure if its circuit,
especially the VFO will work well in the higher frequency.

> You current VFO can be moved up to being the Local oscillator for the
> superhet. Two or three crystal filter at the input of your current
> product dectector should provide you with bright quality of filtering.
> On the front-end just use a single FET with a post-mix amp. check my
> transceiver for the idea at http://farhan.co.net.nr.

Thanks for the link.

jvereker

3318. Re: Really good receiver for 14MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 09:37:06 UTC
From: jvereker@wp.pl
Message-ID: <25102a3d.0311080137.12e730e8@posting.google.com>
Source record: 31285

Oooops! I'm not sure but probably I've made a little error writing, that I wanna buld it "from scratch". Actually I want to brew it FROM PUBLISHED PLANS. I thought a term "from scratch" doesn't mean designing&brewing. I just got know (English isn't my first language).

jvereker@wp.pl

3319. Rainbow Tuner or any other small tuner kit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 10:59:39 UTC
From: Paul Jordan <pauljordan@gci.net>
Message-ID: <vqpj3ehf81761d@corp.supernews.com>
Source record: 31286

Hey all, I'm tryin to put together a station that I can carry all over Alaska with me and I'm down to needing a tuner. Take a look around and see if you have one of these discontinued kits from the great folks over at NJQRP Club and if you want to part with it, please drop me a message and let me know what it'll take to send it my way.

If anyone else knows of small tuners like the Rainbow, I'd be very interested in hearing about them as well..

Thanks,

Paul Jordan
kl0an
Anchorage, AK

3320. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 11:07:20 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <h8dpqv08bfd1s3tteuujiv4pq0oscj5406@4ax.com>
Source record: 31287

On Sat, 08 Nov 2003 06:08:28 GMT, ehsjr@bellatlantic.net wrote:

>
>Thanks. I'll have to experiment with resistors vs inductors.
>I guess I always assumed you *had* to use inductors to keep
>the RF off the supply line.

There is only one problem that I can think about when using only resistors to isolate the diode control voltage is the thermal noise voltage generated by any resistor. Especially in VCO control voltage lines, the thermal noise voltage generated by the resistor will add up to the control voltage, changing the capacitance and hence generate phase noise in the oscillator.

However, a reverse biased switching diode at 12 V should have a quite low absolute capacitance and thus, any switching voltage noise would have a very minimal effect on the capacitance.

Paul OH3LWR

3321. Need pdf figure 8-43 from HP 5342A Service manual

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 11:47:46 UTC
From: Yrrah <harke.smits@hccnet.nl>
Message-ID: <boikvj$f9s$1@news.hccnet.nl>
Source record: 31288

Hi,

Can someone provide me with a good readable pdf of figure 8-43 from the HP 5342A Operating and Service manual? I have a print-out of that figure from a copy that's widely circulated on internet but it's unreadable because of its small size. Thanks in advance,
Harke, PA0HRK

3322. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 12:04:14 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <1G5rb.401$rW3.438037@newsfep1-win.server.ntli.net>
Source record: 31289
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

> Any advice on an absorptive or lossy material for use from LF to VHF?
>
> Would a carbon spray (if there is such a thing) do the job?
> How about the antistatic foam material semiconductors and other devices
are
> packaged in?
> How thick would it have to be?
=======
It is perhaps somewhat expensive ,especially for larger areas , but
conductive paint would do the trick.

Frank GM0CSZ / KN6WH

3323. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 13:27:07 UTC
From: uk-hamman <uk-hamman@ntlworld.com>
Message-ID: <_i6rb.1114$Ym.120758@newsfep2-win.server.ntli.net>
Source record: 31290

HAVE YOU EVER HEARD OF
DRILLING LOTS OF SMALLER HOLES AROUND
THE DIAMATER , UNTILL THE CENTER DROPS OUT
AND THEN FILLING THE EDGES SMOOTH

THE GOOD OLD FLE WORKS WONDERS ...HMMMM

DE PAUL

3324. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 14:02:10 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0311080602.58d516f5@posting.google.com>
Source record: 31291

"Bruce W...1" <bruce@noDirectEmail.com> wrote in message
news:<3FAB15ED.B1A1AC61@noDirectEmail.com>...
> Andrew VK3BFA wrote:
> >
> > Hi Bruce,
> > you have been given heaps of technical suggestions, heres mine.
> >
> > 1.Pull the battery out of the vehicle and take it back to your place.
> > 2.Every week or so, check specific gravity with a hyrometer (sp) and
> > if it needs charging, do so.
> >
> > This solves the problem of someone stealing the car unless they are
> > really keen, is simple, easy, and lo tech.
> >
> > 73 de VK3BFA Andrew
> > ==
>
> Screw that. This is a charity case to begin with. There's no way on
> God's green earth that I'd haul the battery back to my place.

Well screw you too, Bruce. It was a reasonable suggestion, how much
longer do you want to fuck around looking for a "no effort, no brains
required" solution, or do you want someone to come around and do it
for you.

Glad I am not asking you to look after my dog for a few weeks, it
would die of starvation while you stuffed around looking for an
automatic feeder to save you from getting up off your arse and
actually putting in some of your own effort.

de VK3BFA

3325. Re: Really good receiver for 14MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 16:33:19 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <ST8rb.37322$os2.546446@news2.e.nsc.no>
Source record: 31292

IK3OIL has a 14 MHz QRP rig with schematics and PCB layouts, and if you build 2
of the 3 PCBs you get a receiver. I think if you put IK3OIL into Google you will find it.

--
Sverre, LA3ZA
www.qsl.net/la3za

"Julian Vereker" <jvereker@wp.pl> wrote in message
news:25102a3d.0311080137.12e730e8@posting.google.com...
> Oooops! I'm not sure but probably I've made a little error writing,
> that I wanna buld it "from scratch". Actually I want to brew it FROM
> PUBLISHED PLANS. I thought a term "from scratch" doesn't mean
> designing&brewing. I just got know (English isn't my first language).
>
> jvereker@wp.pl

3326. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 19:19:18 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <Wkbrb.1743$xt4.811@news01.roc.ny>
Source record: 31293
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Tom Holden wrote:

>I was wondering if there is a radio frequency absorptive or otherwise lossy
>material with which one might line a conductive shield or use instead of it.
>I have noticed when tinkering with my DX-394 receiver that when I add a
>conductive shield so that it is largely enclosed there is an increase in the
>coupling of spurious signals from one part of the radio to another, e.g.,
>from the 455kHz IF stage into the LW internal antenna and other parts of the
>input circuitry. I suppose this is because the energy that would ordinarily
>escape through the plastic lid is now reflected back and is trapped inside,
>thus raising the intensity. This may amount to a degradation of 3 to 6 dB.
>I use galvanised steel for the shield because it is cheap, easily worked,
>highly conductive and ferro-magnetic so it is a good material for keeping
>out both electric and magnetic external fields. Likewise, it keeps the
>internal ones in when it would be preferable to dissipate them. Any advice
>on an absorptive or lossy material for use from LF to VHF?
>
>Would a carbon spray (if there is such a thing) do the job?
>How about the antistatic foam material semiconductors and other devices are
>packaged in?
>How thick would it have to be?
>
>73, Tom
>
>
>
>
Carbon spray might work at microwave frequencies but I don't think it
will be thick enough
at the frequency you are working at. Tire rubber and bicycle inner tube
material works at microwave
but again I don't know about lower frequencies..

Bill K7NOM

3327. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 19:24:35 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FAD42E0.9770B991@earthlink.net>
Source record: 31294

Paul Keinanen wrote:
>
> On Sat, 08 Nov 2003 06:08:28 GMT, ehsjr@bellatlantic.net wrote:
>
> >
> >Thanks. I'll have to experiment with resistors vs inductors.
> >I guess I always assumed you *had* to use inductors to keep
> >the RF off the supply line.
>
> There is only one problem that I can think about when using only
> resistors to isolate the diode control voltage is the thermal noise
> voltage generated by any resistor. Especially in VCO control voltage
> lines, the thermal noise voltage generated by the resistor will add up
> to the control voltage, changing the capacitance and hence generate
> phase noise in the oscillator.
>
> However, a reverse biased switching diode at 12 V should have a quite
> low absolute capacitance and thus, any switching voltage noise would
> have a very minimal effect on the capacitance.
>
> Paul OH3LWR
>

You also have a capacitor to ground at both ends of the resistor.
--

Michael A. Terrell
Central Florida

3328. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 20:06:55 UTC
From: kf4tun <kf4tun@adelphia.net>
Message-ID: <z1crb.805$KN4.581783@news1.news.adelphia.net>
Source record: 31295

"J. Yazel" <jyazel@nls.net> wrote in message
news:qeqoqv0v9ipg8lfbjkt1qdmi1k1hm2t629@4ax.com...
> On Fri, 07 Nov 2003 20:54:15 GMT, "kf4tun" <kf4tun@adelphia.net>
> wrote:
>
> >There is an epoxy out there is made for joining aluminum(I forget the
name,
> >its like JB-Weld, but for aluminum). You can find it at the larger auto
> >parts stores, and you should be able to find it on the internet. When you
> >grind/file it down, it's hard to tell where the aluminum ends and the
epoxy
> >begins.
> >
> >Jim
> > ============================
>
> I've noticed from this thread that all of the materials that
> successfully allow aluminum soldering seem to have one
> major disadvantage.
>
> Loss of memory.
>
> Jack
>

What can I say? I forgot what we were talking about!

Jim

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.537 / Virus Database: 332 - Release Date: 11/6/03

3329. Re: Really good receiver for 14MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 22:01:57 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3fad675f.1227029170@news.freeserve.net>
Source record: 31296

On Sat, 8 Nov 2003 17:33:19 +0100, "Sverre Holm"
<la3za.0junk4me@qsl.net> wrote:

>IK3OIL has a 14 MHz QRP rig with schematics and PCB layouts, and if you
>build 2
>of the 3 PCBs you get a receiver. I think if you put IK3OIL into Google you
>will find it.
>
Might he/she not object ?. I know I would ;-)

3330. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 23:09:06 UTC
From: "Eike Lantzsch, ZP6CGE" <eikelan@gmx.net>
Message-ID: <slrnbqqtsi.lsa.eikelan@ID-77364.user.uni-berlin.de>
Source record: 31148

Tom Holden wrote:
> I was wondering if there is a radio frequency absorptive or otherwise lossy
> material with which one might line a conductive shield or use instead of it.
> I have noticed when tinkering with my DX-394 receiver that when I add a
> conductive shield so that it is largely enclosed there is an increase in the
> coupling of spurious signals from one part of the radio to another, e.g.,
> from the 455kHz IF stage into the LW internal antenna and other parts of the
> input circuitry. I suppose this is because the energy that would ordinarily
> escape through the plastic lid is now reflected back and is trapped inside,
> thus raising the intensity. This may amount to a degradation of 3 to 6 dB.
> I use galvanised steel for the shield because it is cheap, easily worked,
> highly conductive and ferro-magnetic so it is a good material for keeping
> out both electric and magnetic external fields. Likewise, it keeps the
> internal ones in when it would be preferable to dissipate them. Any advice
> on an absorptive or lossy material for use from LF to VHF?
>
> Would a carbon spray (if there is such a thing) do the job?
> How about the antistatic foam material semiconductors and other devices are
> packaged in?
> How thick would it have to be?
>
> 73, Tom
>
>

If you need a thicker absorbtive layer you can use the conductive
sponge which is used to pack old style DIL ICs.

Kind regards, Eike

3331. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-08 23:35:19 UTC
From: averyfineman@aol.com
Message-ID: <20031108183519.07578.00001555@mb-m25.aol.com>
Source record: 31147

In article <h8dpqv08bfd1s3tteuujiv4pq0oscj5406@4ax.com>, Paul Keinanen
<keinanen@sci.fi> writes:

>On Sat, 08 Nov 2003 06:08:28 GMT, ehsjr@bellatlantic.net wrote:
>
>>
>>Thanks. I'll have to experiment with resistors vs inductors.
>>I guess I always assumed you *had* to use inductors to keep
>>the RF off the supply line.
>
>There is only one problem that I can think about when using only
>resistors to isolate the diode control voltage is the thermal noise
>voltage generated by any resistor. Especially in VCO control voltage
>lines, the thermal noise voltage generated by the resistor will add up
>to the control voltage, changing the capacitance and hence generate
>phase noise in the oscillator.

That should not normally be a problem. The basic formula for
RMS noise voltage is SQRT(4 k T Bw R) with k = 1.38 x 10^-23,
T is temperature in Kelvin, Bw is bandwidth of noise, R is Ohms
of the resistor.

Assuming a VCO control loop bandwidth of 5 KHz, temperature on
the warm side at 320 K, and a resistor value of 10 KOhms, the
RMS noise voltage would be about 0.94 microVolts.

If the VCO control voltage range is 4 VDC and the tuning range is
approximately linear over 4 MHz, that 0.94 uV will produce a phase
noise of 0.94 Hz RMS. Not a great deal...:-)

It's more than likely that stray voltage garbage in the circuit from
other sources (such as inadequately bypassed supply rails) would
be a potential problem. [pun intended]*

Len Anderson
retired (from regular hours) electronic engineer person

* when puns are outlawed, only outlaws will have puns...

3332. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 00:02:54 UTC
From: mcalhoun@ksu.edu
Message-ID: <bok07e$5th@unix2.cc.ksu.edu>
Source record: 31149

>Try this...
>Get some good motor oil and put a drop on the aluminum...
>Then scrape the aluminum oxide off under the oil...
>....[snip]....

I've done the very same thing except using silver-cleaning paste!
Although it's a bother, it DOES work.

I've also seen the demonstrations of the things sold at hamfests,
it appears to work very well, and the cost was not bad, either.

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3333. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 00:15:22 UTC
From: averyfineman@aol.com
Message-ID: <20031108191522.21642.00002211@mb-m01.aol.com>
Source record: 31150

In article <slrnbqqtsi.lsa.eikelan@ID-77364.user.uni-berlin.de>, "Eike Lantzsch, ZP6CGE" <eikelan@gmx.net> writes:

>Tom Holden wrote:
>> I was wondering if there is a radio frequency absorptive or otherwise
>lossy
>> material with which one might line a conductive shield or use instead of
>it.
>> I have noticed when tinkering with my DX-394 receiver that when I add a
>> conductive shield so that it is largely enclosed there is an increase in
>the
>> coupling of spurious signals from one part of the radio to another, e.g.,
>> from the 455kHz IF stage into the LW internal antenna and other parts of
>the
>> input circuitry. I suppose this is because the energy that would
>ordinarily
>> escape through the plastic lid is now reflected back and is trapped
>inside,
>> thus raising the intensity. This may amount to a degradation of 3 to 6 dB.
>> I use galvanised steel for the shield because it is cheap, easily worked,
>> highly conductive and ferro-magnetic so it is a good material for keeping
>> out both electric and magnetic external fields. Likewise, it keeps the
>> internal ones in when it would be preferable to dissipate them. Any advice
>> on an absorptive or lossy material for use from LF to VHF?
>>
>> Would a carbon spray (if there is such a thing) do the job?
>> How about the antistatic foam material semiconductors and other devices
>are
>> packaged in?
>> How thick would it have to be?
>>
>> 73, Tom
>
>If you need a thicker absorbtive layer you can use the conductive
>sponge which is used to pack old style DIL ICs.

I doubt that such will work below VHF. Absorbing foam polymers
have been used for decades on antenna ranges for the microwave
region. Emerson & Cuming have been making various grades of
that for a long time. Search the Web for them and see what they
say and what they have for information.

I've seen a fair amount of electronic hardware over the last half
century and haven't encountered any equipment operating below
1 GHz that used any sort of "RF-absorbing" material.

The best bet is just plain old metal shielding, bypassing feed-thrus,
series inductances, etc.

Len Anderson
retired (from regular hours) electronic engineer person

3334. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 01:12:28 UTC
From: Phillip Jockell <philjXXX@spearnet.net>
Message-ID: <Xns942DCD90C7A4pj12345pjpj@206.127.4.21>
Source record: 31151

Check out this guys site. He builds everything from scratch and
shows schematics for exaclty what you asked about, including 3 transistor
SSB transceivers!!!

http://www.intio.or.jp/jf10zl/index.html

He has FM, SSB and AM transceivers for various bands and
must be the King of homebrew.

phil - N4GWV

> I am looking for a simple -- as in not too much more complex than a
> Pixie -- schematic for a 2m or 6m FM transmitter or transceiver. Anyone
> know where I can find one that's low-cost and suitable for a beginner to
> build, if such a thing exists?

3335. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 02:18:15 UTC
From: dplatt@radagast.org
Message-ID: <vqr8v7q7id8h0f@corp.supernews.com>
Source record: 31152

In article <20031108191522.21642.00002211@mb-m01.aol.com>,
Avery Fineman <averyfineman@aol.com> wrote:

> I've seen a fair amount of electronic hardware over the last half
> century and haven't encountered any equipment operating below
> 1 GHz that used any sort of "RF-absorbing" material.

I've seen ads in an EMI-related trade magazine for a ferrite (or ferrite-loaded polymer I suppose) material, in the form of an adhesive-backed sheet which can be cut and then stuck onto the tops of ICs (CPUs, DSPs) or placed between adjacent circuit boards, to help reduce unwanted emissions. I don't know whether this stuff's useful frequency range goes low enough for the OP's needs, but it might be worth a look.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3336. Re: Switched reactances in VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 10:36:13 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <57rrqvsh9pk58rq841shkuib3viheb7mqg@4ax.com>
Source record: 31153

On 08 Nov 2003 23:35:19 GMT, averyfineman@aol.com (Avery Fineman) wrote:

>
> Assuming a VCO control loop bandwidth of 5 KHz, temperature on
> the warm side at 320 K, and a resistor value of 10 KOhms, the
> RMS noise voltage would be about 0.94 microVolts.

Typically the DC end of the resistor is heavily bypassed to ground, thus the resistor is more or less in parallel with the resonant circuit reactances. In many cases a 10 kohm resistor would heavily load the Q of the resonant circuit and thus, a larger resistor (say 1 Mohm) might have to be used. This would increase the noise voltage ten times.

Looking first at a free running VCO with the control signal coming through a large resistor. The noise is generated at an infinite bandwidth, but the varactor (and other stray) capacitances (often in the order of 10 pF) in the resonant circuit will form a first order RC low pass filter with the -3 dB point at 100 kHz .. 1 MHz. Above this frequency the noise power drops by -3dB/octave, thus it contributes the same amount of noise power as below the crossover point.

Thus, for a free running VCO, the noise voltage could be up to 10 times larger than previously assumed at 5 kHz bandwidth. With a larger resistor, the boise voltage would be in an order of 100 uV RMS.

If the VCO is part of a PLL, the only effect is to the noise frequencies _inside_ the loop bandwidth. The noise outside the loop bandwidth is _not_ attenuated. The loop bandwidth can be quite narrow in the order of 100 Hz in some channellised systems especially if a fixed prescaler is used. The loop bandwidth could be well below 100 Hz in VHF/UHF FM gears if the audio (and CTCSS) modulation is injected directly into the PLL control voltage line. Thus, the PLL cleanup operation affects only a minuscule part of the noise bandwidth.

> If the VCO control voltage range is 4 VDC and the tuning range is
> approximately linear over 4 MHz, that 0.94 uV will produce a phase
> noise of 0.94 Hz RMS. Not a great deal...:-)

At least in many VHF/UHF systems, the VCO sensitivity could be 10 MHz/V and with a noise voltage of 100 uV, the phase noise would be 1 kHz. This would severely limit the SNR obtainable when using FM in addition to the increased reverse mixing. These kinds of problems are common with VHF/UHF FM gears.

However, some badly designed simple up converting general coverage HF receivers could suffer from quite high phase noise, if a single VCO is used without switching in reactances. In such receivers, any CW signal would sound as it is coming through the aurora :-).

Clearly, this discussion shows that picking the right initial assumptions, quite different conclusions can be made.

Paul OH3LWR

3337. Re: Simple schematics for 6m or 2m transceivers?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 10:58:40 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311090258.69bf9f85@posting.google.com>
Source record: 31154

Phillip Jockell <philjXXX@spearnet.net> wrote in message
news:<Xns942DCD90C7A4pj12345pjpj@206.127.4.21>...

> Check out this guys site. He builds everything from scratch and
> shows schematics for exaclty what you asked about, including 3 transistor
> SSB transceivers!!!
>
> http://www.intio.or.jp/jf10zl/index.html
>

i have seen this site a number of times and spent some time reviewing
it in detail. his designs are pretty simple. and i would say, too
simple to be replicated and used.

for instance, he has a transceiver with 50mW output. while this might
be a good experiment, don't expect to work all the grids using this
one. similarly, his receivers (like the one SSB transceiver with three
transistors) might work across the lab bench. but it will hardly
suffice as the main rig in a station. in anycase, i think we are past
the point of measuring rig complexities with the number of active
devices. these days the active devices often cost less than some
passive components. I get decent RF low power transistors for less
about 3 cents each.

This week, i finished an 2M transceiver too (The schematics are still
being drawn out, i will post the circuit soon.) It uses (i just
counted) 19 transistors, two ICs and two diodes. The total cost of
material is still less than 10 dollars (at least in india). Quite
often, using active devices often reduces the cost rather than
increasing it. For instance, a phasing type of SSB transceiver cost
far less than a single collins mechanical filter. Yet, the performance
is as good if not better than a that of a filter type ssb generator
and all most all circuit complexity is at audio frequencies.

too often, we tend to look for the simplest (read least active device
count) system only to find that it doesn't work as advertised. It is
more likely that a slightly more complex circuit turns out to be more
stable and easier to get going that the least count winner.

easy replication of a design means that if you build it again, you
should expect the same performance. this usually means that you
extract a little less out of each stage than it is capable of leaving
some head-room for device variation and component value tolerance.
That is the reason why many of us here like to reuse certain blocks
(like broad-band feedback amplifiers) over and over again.

finally, i would say, that it is not enough (at least for me personally) to build something that makes a contact across the city. one should aspire for the best quality in terms of whatever your personal design goals are. Often, unrestricted by the need to include all the features (like multiband, PLL, etc.) and with the ability to use one off components, the amateur can spend more effort in building and aligning his rig that a commercial counterpart. That is a goal worth acheiving. it is not enough to match a commercial rig in terms of performance, it is just a moderate challenge to build something that that surpasses it by your own criterion.

3338. Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 13:06:41 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <6P-dnecxYdzxpjOi4p2dnA@comcast.com>
Source record: 31155

with what would appear to be a plethora of devices using SMA connectors, why are they still so expensive?

3339. ECLips?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 14:08:41 UTC
From: Blackie Beard <bb@fearlessimmortalwretch.com>
Message-ID: <iTrrb.25594$L77.1978@fed1read03>
Source record: 31156

Hi all;

A search turned up an interesting excerpt from one Michael Black from this newsgroup, wherein he was describing designing a circuit using something called a "Motorola ECLips" chip (to compose the frequency divider portion of the circuit).

I looked high and low but could find no reference to this. Anyone know what he's talking about? Date of post was Tue, 14 Nov 2000 01:24:51, threadname "Old working wide band catv tuner".

Thanks in advance,
BB

3340. Re: ECLips?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 15:19:19 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000e5.000a7d3a@btinternet.com>
Source record: 31157

Hi,

> A search turned up an interesting excerpt from one
> Michael Black from this newsgroup, wherein he was
> describing designing a circuit using something called
> a "Motorola ECLips" chip (to compose the frequency
> divider portion of the circuit).

That should be ECLinPS.

73 de Joe, G3LLV

3341. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 15:31:43 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FAE5DCB.1F7F643A@earthlink.net>
Source record: 31158

John Walton wrote:
>
> with what would appear to be a plethora of devices using SMA connectors, why
> are they still so expensive?

Precision machining. The tolerances are tighter than most connectors.
Some of the newer RF connectors are even worse. They have to be machine
assembled and ordered made to length, or with a single connector.
--

Michael A. Terrell
Central Florida

3342. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 15:45:14 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bolne3ibq1@bob.news.rcn.net>
Source record: 31159

"Dave Platt" <dplatt@radagast.org> wrote in message
news:vqr8v7q7id8h0f@corp.supernews.com...
>
> In article <20031108191522.21642.00002211@mb-m01.aol.com>,
> Avery Fineman <averyfineman@aol.com> wrote:
>
> > I've seen a fair amount of electronic hardware over the last half
> > century and haven't encountered any equipment operating below
> > 1 GHz that used any sort of "RF-absorbing" material.
>
> I've seen ads in an EMI-related trade magazine for a ferrite (or
> ferrite-loaded polymer I suppose) material, in the form of an
> adhesive-backed sheet which can be cut and then stuck onto the tops of
> ICs (CPUs, DSPs) or placed between adjacent circuit boards, to help
> reduce unwanted emissions. I don't know whether this stuff's useful
> frequency range goes low enough for the OP's needs, but it might be
> worth a look.

From my few weeks in the microwave absorber business :)) , IIRC an absorber has to be ELECTRICALLY at least nearly a quarter-wave thick to be really good. The ferrite loading helps accomplish this. A good impedance match to the 377 ohm impedance of free space helps avoid reflections. For a broad band, this encourages the use of the deep pyramid absorbers to taper the impedance mismatch.

Some hams have found that absorbing material inside to covers of preamps in the __hundreds of MHz region___ reduces the likelihood of self oscillation. I've never seen a serious suggestion that absorbers would help in the few-MHz region.

73 de bob w3otc

3343. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 16:47:28 UTC
From: Mr G H Ireland <igor@argonet.co.uk>
Message-ID: <na.a0bd044c4e.a80320igor@argonet.co.uk>
Source record: 31167

In article <MZwqb.507$fO5.478926@newsfep1-win.server.ntli.net>, "uk-hamman"
<uk-hamman@ntlworld.com> wrote:
> I would be prepared to go to this much trouble
> if the idea would work . iam sure I can get air tight joints

I seem to remember that molten Al reacts with nitrogen. Perhaps you would
have to fill your glove box with argon.
Good luck!

G.H.Ireland

--
igor
____
Acorn RISC OS4
____

3344. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 17:16:58 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a18166291e1848c989adc@192.168.42.131>
Source record: 31160

In article <3FAE5DCB.1F7F643A@earthlink.net>, mike.terrell@earthlink.net says...

> John Walton wrote:
> >
> > with what would appear to be a plethora of devices using SMA connectors, why
> > are they still so expensive?
>
> Precision machining. The tolerances are tighter than most connectors.
> Some of the newer RF connectors are even worse. They have to be machine
> assembled and ordered made to length, or with a single connector.

Regrettably true. The SMA/SMB series are the last ones I know of that still have big enough individual pieces (barely) to be hand-assemble capable. Those tiny center pins are a real pain, though...

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

3345. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 18:12:36 UTC
From: averyfineman@aol.com
Message-ID: <20031109131236.01893.00001672@mb-m22.aol.com>
Source record: 31161

In article <MPG.1a18166291e1848c989adc@192.168.42.131>, Dr. Anton Squeegee
<SpammersAreVermin@dev.null> writes:

>In article <3FAE5DCB.1F7F643A@earthlink.net>, mike.terrell@earthlink.net
>says...
>
>> John Walton wrote:
>> >
>> > with what would appear to be a plethora of devices using SMA connectors,
>why
>> > are they still so expensive?
>>
>> Precision machining. The tolerances are tighter than most connectors.
>> Some of the newer RF connectors are even worse. They have to be machine
>> assembled and ordered made to length, or with a single connector.
>
> Regrettably true. The SMA/SMB series are the last ones I know of
>that still have big enough individual pieces (barely) to be hand-
>assemble capable. Those tiny center pins are a real pain, though...

The basic SMA design came about almost 30 years ago as a small
coaxial connector that would work on up to X-band (8 to 12 GHz).
In order to even approach that frequency ALL the mating surface
tolerances have to be precise in order to avoid discontinuities that
raise the VSWR. Tighter tolerances mean greater cost to produce.

The old "UHF" connectors (SO-, PL- numbers) common on amateur
HF and low-VHF equipment were obsolete for new designs a half
century ago. Those are cheap because there isn't much QC on
them and the tolerances are sloppy in comparison.

SMAs used with semi-rigid coax are quite easy to make once you
get the hang of it and are incredibly durable physically and in all
kinds of environments. The solid center conductor of the semi-rigid
becomes the "pin" just as in the TV set F connector used with
RG-59 75 Ohm semi-flexible. F connectors are good to 1 GHz
(with some higher VSWR than others) so don't anyone knock the
method. SMAs are dandy to use with stripline in aluminum hog-
out enclosures.

SMBs are on the SMA basic plan but are push-on, pull-off mating
for quick connect/disconnect. Okay for limited testing in systems
and prototyping. Note that BNC males with the outer bayonet
connecting sleeve removed will mate with N females for quick
testing too (no remarks about miscegenation, please...).

You can spot a pro in microwave RF work by the extra 3/8" across the flats wrench within easy reach. An open-end, closed-end combo 3/8" wrench is only about 3 1/2" long (Craftsman). I used to carry mine on the business keychain in my pants pocket...:-)

Len Anderson
retired (from regular hours) electronic engineer person

3346. Motorola Expo HT info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 18:33:25 UTC
From: jcplpsm@aol.communicate
Message-ID: <20031109133325.12125.00000379@mb-m18.aol.com>
Source record: 31162

I am in need of the pinout for the Motorola Expo HT speaker mic. Does anyone have this information?

Thanks,
Scott

3347. Re: Tayloe Mixer Resistance Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 18:37:39 UTC
From: Dan Tayloe <dtayloe@cox.net>
Message-ID: <3FAE8973.7EEF0B25@cox.net>
Source record: 31163

Some quick notes on the application of the Tayloe mixer to answer some of your questions:

Recovered power is not relevant for this detector depending on the kind of post detector pre-amp is used. Detected power might be more a concern if you were driving something like a discrete bipolar transistor post detector amplifier.

Infinite input impedance (such as the + side of an op-amp) allows for best detected voltage and best adjacent frequency roll-off. Instrumentation amplifiers do this best, but are more noisy when run at reasonable gains. Remember, the detector acts as a bandpass filter. Best frequency roll off gives the best high signal performance.

You can also present feed the "-" side of an op-amp, and use the detector more like a current source. The detector bandwidth is more flat when this is done.

The best low noise compromise seems to be to feed one side into "-" and one side into "+" on the post detector amplifier. The balance is compromised a bit, and the detector roll off is not a sharp, but it does give best sensitivity without having to resort to an instrumentation amp with 1000x gain, which would kill the dynamic range of the front end. "Low noise" instrumentation amps are kind of noisy unless they are run high gain. A gain of 15x is the right kind of ball park for the voltage gain of the post detector preamp.

When a 50 ohm source is used, the 4:1 multiplexing action makes each output look like a 200 ohm impedance (neglecting switching times and switch resistance), so 220 ohms is close to the best power match.

Any resistance in series with the following preamplifier introduces noise, which is not a good thing when best sensitivity is the objective. Some series resistors in the inputs to an op-amp, can give better frequency roll off (high signal level performance) at a cost of some sensitivity (a trade off). Modeling can show you the roll off trade, calculations can give you the noise voltage (sensitivity) impact. 220 ohms is a high here (over double the noise voltage of a 50 ohm system). This resistance matters less if you are simply interested in ok sensitivity performance, which is a "don't care" on something like 40m and lower.

The 50 ohm on the input to the detector is not needed. The system impedance provides an equivalent input "R" for the detector caps to work against.

A low noise op-amp is desirable for the post detector amplifier. 50 ohm system noise is around 0.85 nV/squarerootHz. Some opamps have noise performance to match this such as the LT1115 (0.85 nV/squarerootHz), but are about $4 each and you will need two. I have heard that some folks have built their own low noise preamps using 2N3904s, but I have not really tried that.

More common decent op-amps are in the 4 nV/squarerootHz range, such as the LM833 or the NE5532, which are under $0.50 in a dual opamp package. Recognize that 0.85 nV/SqrtHz noise rating compared to a noise rating of 4 nV/SqrtHz is a 13.5 db (sensitivity!) difference.

Perfect receiver sensitivity (3 db S+N/N) is about -148 dbm with a 500 Hz bandwidth. In practice, I have gotten -142 dbm sensitivity performance using a pair of LT1115s and no RF preamp. With this rig on 20m, QRP cw signals in a contest could be heard weakly but clearly that were not there on a K2 (A/B comparison using the same antenna). With a NE5532, expected performance is in the -134 to -136 dbm range.

Beware when an op-amp claims low noise! The specification sheet will give the noise vs. frequency curve. Many "low noise" op-amps, are only low noise at 100 KHz. Be sure to check the noise curve at 300 to 1000 Hz!

- Dan, N7VE

Steve Kavanagh wrote:
>
> There seems to be some difference of opinion on how to properly
> terminate Tayoe detectors (and other similar circuits) at audio
> frequencies. See the following published examples:
>
> (1)G0BBL et al (QRP2001): load resistors are 220 ohms
> (2)Hans Summers: load resistors are 1k
> (3)9A2HL (on Hans Summers' website): Approx. 0 ohms, detector goes
> directly to op-amp pins
> (4)AC5OG (recent QEX series, Part 1): Approx. 0 ohms, detector goes
> directly to op-amp pins
> (5)AC5OG (recent QEX series, Part 4): 60 megohms (doubly balanced
> circuit).
>
> In addition references 1-3 use a series 47 ohm resistor at the input
> of the detector, which seems unnecssary to me - the 50 ohm antenna
> should perform the function of the filter resistor, shouldn't it ?
>
> I did some Spice modelling and found that my detector was well matched
> to the 50 ohm RF source for audio load resistances of a few hundred
> ohms (470 ohms worked well), and the conversion loss was a bit more
> than 3 dB when matched. With somewhat lower resistances the match was
> not as good but the conversion loss was reduced - 220 ohms may be
> close to optimum for both reasonable input match to 50 ohms and
> conversion loss. With higher (and much lower) resistances both
> conversion loss and input match degraded. The integrator capacitors

> were 0.1uF in this model.
>
> Note that I am defining conversion loss as the relationship between
> the total power delivered to the 4 load resistances and the forward
> power at the input. With high load resistances the voltage at each
> load is indeed closer to the input voltage than for lower load
> resistances, but most of the power incident at the mixer is reflected
> back to the antenna. Therefore the conversion loss (defined in terms
> of power, which is what matters for noise figure) goes up.
>
> I would be interested in the comments of those of you with some
> experience with these detectors. Also, can I assume (for the purpose
> of computing noise figure of the audio preamps) that the source
> impedance seen by the audio amps is simply equal to the load
> resistance that gives the best match at the mixer input ?
>
> Steve, VE3SMA

3348. Re: Filament Question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 18:44:51 UTC
From: averyfineman@aol.com
Message-ID: <20031109134451.25517.00001996@mb-m15.aol.com>
Source record: 31164

In article <s40tqv462bgsste912ajhhaufb27mv35v5@4ax.com>, W7TI <noway@nohow.com>
writes:

>On Sat, 8 Nov 2003 13:27:07 -0000, "uk-hamman" <uk-hamman@ntlworld.com>
>wrote:
>
>>HAVE YOU EVER HEARD OF
>>DRILLING LOTS OF SMALLER HOLES AROUND
>>THE DIAMATER , UNTILL THE CENTER DROPS OUT
>>AND THEN FILLING THE EDGES SMOOTH
>>
>>THE GOOD OLD FLE WORKS WONDERS ...HMMMM
>____
>
>This is how our Neanderthal ancestors did it, and if it was good enough
>for them....
>--
>Bill, W7TI

Practically speaking (as one neanderthal to another...):

That method does work if there's no drill press available. But, be
sure to buy an extra drill bit for the size desired going around the
rim. Had to do that with a 4 1/4" diameter speaker hole in an 1/8"
aluminum rack panel (alloy tougher than 2024 but not as stiff as
6061). That included light oil lubrication. The "center" didn't
"drop right out" but centerpunching the many holes right allowed
using old wire cutters to snip the narrow left-overs between holes.

A Hand File to complete?!?!? Good grief, no. A Dremel Moto-Tool
with several "mill type" cutter bits is much preferred to smooth out
the rough edges. Note: Home Depot, Lowe's, Do-It-Centers, OSH,
all carry extra bits for Dremel Moto-Tools, many which aren't
included in the Dremel kits. Use a biggie mill cutter to hog out the
worst, go to a small bit to smooth those edges. One of several
grind wheels can be used to finish it off. Takes a steady hand
(usually both hands if panel is in a vise).

Absolutely needed: A scribe marked circle on the panel as a guide!
Maybe two concentric circles, the inner one slightly smaller than
desired as a "target." If one gets sloppy, it's possible to cut farther
out than the inner, smaller "target" circle. To get the scribed circle,
use a grade-school compass in REVERSE, the "pencil" part in a
small drill hole at center, the "center" part (pointy end) doing the
scribing.

Dremel also makes a dandy mini-drill-press stand for the Moto-Tool which is just lovely for through-hole PCB drilling. I use one for that plus the AC line voltage adjusted with a Powerstat (Superior Electric) variable autotransformer to control the "drill press" speed. BTW, liquid hand soap, slightly diluted, works out as a PCB drilling lubricant and washes out with hot water...and can be used with a rough-surface sponge to buff out surface oxidation on the copper foil or removing tiny burrs in the drill holes.

Len Anderson
retired (from regular hours) electronic engineer person

3349. Re: ECLips?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 20:00:26 UTC
From: DRGrok@munged.net
Message-ID: <bom6c3$ns5$1@bob.news.rcn.net>
Source record: 31165

In article <iTrrb.25594$L77.1978@fed1read03>, "Blackie Beard"
<bb@fearlessimmortalwretch.com> wrote:
>Hi all;
>
>A search turned up an interesting excerpt from one
>Michael Black from this newsgroup, wherein he was
>describing designing a circuit using something called
>a "Motorola ECLips" chip (to compose the frequency
>divider portion of the circuit).
>
>I looked high and low but could find no reference to
>this. Anyone know what he's talking about? Date
>of post was Tue, 14 Nov 2000 01:24:51, threadname
>"Old working wide band catv tuner".
>
>Thanks in advance,
>BB
>
>
That would be the "ECL in ps" [ps = picoseconds] series of devices, have 10E
or 100E prefixes. Very high speed -- max clock rates typically 700 MHz to 1
GHz. [Stretching it a little to refer to them as picoseconds, IMHO]

Dr. G.

3350. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 20:04:07 UTC
From: DRGrok@munged.net
Message-ID: <bom6j1$ns5$2@bob.news.rcn.net>
Source record: 31166

In article <20031109131236.01893.00001672@mb-m22.aol.com>, averyfineman@aol.com (Avery Fineman) wrote:
>In article <MPG.1a18166291e1848c989adc@192.168.42.131>, Dr. Anton Squeegee
><SpammersAreVermin@dev.null> writes:
>
>>In article <3FAE5DCB.1F7F643A@earthlink.net>, mike.terrell@earthlink.net
>>says...
>>
>>> John Walton wrote:
>>> >
>>> > with what would appear to be a plethora of devices using SMA connectors,
>>why
>>> > are they still so expensive?
>>>
>>> Precision machining. The tolerances are tighter than most connectors.
>>> Some of the newer RF connectors are even worse. They have to be machine
>>> assembled and ordered made to length, or with a single connector.
>>
>> Regrettably true. The SMA/SMB series are the last ones I know of
>>that still have big enough individual pieces (barely) to be hand-
>>assemble capable. Those tiny center pins are a real pain, though...
>
> The basic SMA design came about almost 30 years ago as a small
> coaxial connector that would work on up to X-band (8 to 12 GHz).
> In order to even approach that frequency ALL the mating surface
> tolerances have to be precise in order to avoid discontinuities that
> raise the VSWR. Tighter tolerances mean greater cost to produce.
>
> The old "UHF" connectors (SO-, PL- numbers) common on amateur
> HF and low-VHF equipment were obsolete for new designs a half
> century ago. Those are cheap because there isn't much QC on
> them and the tolerances are sloppy in comparison.
>
> SMAs used with semi-rigid coax are quite easy to make once you
> get the hang of it and are incredibly durable physically and in all
> kinds of environments. The solid center conductor of the semi-rigid
> becomes the "pin" just as in the TV set F connector used with
> RG-59 75 Ohm semi-flexible. F connectors are good to 1 GHz
> (with some higher VSWR than others) so don't anyone knock the
> method. SMAs are dandy to use with stripline in aluminum hog-
> out enclosures.
>
> SMBs are on the SMA basic plan but are push-on, pull-off mating
> for quick connect/disconnect. Okay for limited testing in systems

> and prototyping. Note that BNC males with the outer bayonet
> connecting sleeve removed will mate with N females for quick
> testing too (no remarks about miscegenation, please...).
>
> You can spot a pro in microwave RF work by the extra 3/8" across
> the flats wrench within easy reach. An open-end, closed-end
> combo 3/8" wrench is only about 3 1/2" long (Craftsman). I used
> to carry mine on the business keychain in my pants pocket...:-)
>
> Len Anderson
> retired (from regular hours) electronic engineer person

But the pro who uses SMA's always has a 5/16" open end wrench handy.

Dr. G.

3351. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 21:00:21 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <KVxrb.420$kA6.43292@news20.bellglobal.com>
Source record: 31170
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Thanks to everyone who has responded. I think the conclusion is that at the frequencies I'm interested in, and the available space inside the radio (a little RS DX-394 table radio), it's impractical to absorb the 455 kHz crosstalk energy from 2nd IF to frontend. Better to attempt to compartmentalize the radio. That may prove to be impractical also as it would appear very difficult to make small (removable) shields over the IF section that would not have gaps. However, I'll examine the pcb layout more closely to see if there are any viable paths for the sides of the shield box.

73, Tom

3352. Re: Tayloe Mixer Resistance Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 21:07:09 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <10yrb.6686$6c3.6055@newsread1.news.pas.earthlink.net>
Source record: 31168

One additional item to model is using highly reactive antennas.

The Lowpass rolloff point caused by the integrating capacitors is controlled by the effective antenna impedance.

While one can assume 50 ohms, more or less, for a matched antenna, using the Tayloe detector in a general coverage system should be calculated to assume the antenna has massive mismatches at most frequencies.

I did some simplistic modelling and the results were interesting. To control the detector rolloff, I'd be tempted to use a low gain RF preamp and perhaps a small attenuator pad feeding the mixer....

Besides, as I recall, the Tayloe detector responds to harmonics of the LO and so some frequency selective flters in the RF preamp might be useful.

All in all, The Tayloe detector has some benefits, but as with most detectors, adding some components can enhance the system performance.

Jim Pennell
N6BIU

3353. Source for Mitrek parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 21:07:15 UTC
From: GET NJ <aolsz@bellatlantic.net>
Message-ID: <3FAEAC80.C97D38E2@bellatlantic.net>
Source record: 31169

Can anybody suggest a source for Mitrek parts?

Right now, I'm looking for a pre-amp for a UHF 100 watt transceiver.
I'm sure I'll be looking for other items soon

Anthony Olszewski

--

GET NJ
Free Ads -- AND LOTS MORE!
http://www.getnj.com

3354. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 21:40:30 UTC
From: "Eike Lantzsch, ZP6CGE" <eikelan@gmx.net>
Message-ID: <slrnbqtd2e.ofm.eikelan@ID-77364.user.uni-berlin.de>
Source record: 31171

R J Carpenter wrote:
>
> "Dave Platt" <dplatt@radagast.org> wrote in message
> news:vqr8v7q7id8h0f@corp.supernews.com...
> >
> > In article <20031108191522.21642.00002211@mb-m01.aol.com>,
> > Avery Fineman <averyfineman@aol.com> wrote:
> >
> > > I've seen a fair amount of electronic hardware over the last half
> > > century and haven't encountered any equipment operating below
> > > 1 GHz that used any sort of "RF-absorbing" material.
> >
> > I've seen ads in an EMI-related trade magazine for a ferrite (or
> > ferrite-loaded polymer I suppose) material, in the form of an
> > adhesive-backed sheet which can be cut and then stuck onto the tops of
> > ICs (CPUs, DSPs) or placed between adjacent circuit boards, to help
> > reduce unwanted emissions. I don't know whether this stuff's useful
> > frequency range goes low enough for the OP's needs, but it might be
> > worth a look.
>
> From my few weeks in the microwave absorber business :)) , IIRC an absorber
> has to be ELECTRICALLY at least nearly a quarter-wave thick to be really
> good. The ferrite loading helps accomplish this. A good impedance match to
> the 377 ohm impedance of free space helps avoid reflections. For a broad
> band, this encourages the use of the deep pyramid absorbers to taper the
> impedance mismatch.
>
> Some hams have found that absorbing material inside to covers of preamps in
> the __hundreds of MHz region___ reduces the likelihood of self oscillation.
> I've never seen a serious suggestion that absorbers would help in the
> few-MHz region.
>
> 73 de bob w3otc
>
You are right of course.
My fault. I didn't read the OP's question thoroughly enough. I was
thinking of freq. above UHF. Absorbing material for lower freq. has
to be a LOT thicker than 1 cm. This can easyly be seen in any test
chamber.
With wavelengths longer than the compartment of the circuit I do
not see the necessity of absorbing material. Common construction
practice as pointed out will be suficient. Or just bury the device
6 feet deep in the soil ;-))

Kind regards, Eike

3355. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 22:37:52 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bomfjp$g6d$1@bob.news.rcn.net>
Source record: 31172
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

"Tom Holden" <holden_family@sympatico.ca> wrote in message
news:KVxrb.420$kA6.43292@news20.bellglobal.com...
> Thanks to everyone who has responded. I think the conclusion is that at
the
> frequencies I'm interested in, and the available space inside the radio (a
> little RS DX-394 table radio), it's impractical to absorb the 455 kHz
> crosstalk energy from 2nd IF to frontend. Better to attempt to
> compartmentalize the radio. That may prove to be impractical also as it
> would appear very difficult to make small (removable) shields over the IF
> section that would not have gaps. However, I'll examine the pcb layout
more
> closely to see if there are any viable paths for the sides of the shield
> box.

Small gaps won't matter as long as they are shorted out at one or both ends.
A well-fitting cover would do that. You'll observe that commercial gear uses
very thin tinned steel? for shield boxes. The lid edges are bent into spring
fingers to hold them in place.

3356. HP3330 Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 23:02:43 UTC
From: IZ5FCY Roberto <iz5fcy@NOSPAMlibero.it>
Message-ID: <nlzrb.444462$R32.14807441@news2.tin.it>
Source record: 31173

Hi,
I'm looking for a Service / Operation Manuals for my generator HP3330B.
Can you help me?

Many thanks!

Roberto IZ5FCY

3357. Re: Filament Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-09 23:20:40 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FAECBC8.1302A3FC@clifto.com>
Source record: 31174

W7TI wrote:
> On Fri, 07 Nov 2003 14:13:59 GMT, Al <no.spam@here.com> wrote:
> >> Unusual tube lineup (except the 12AX7). Care to explain your choices?
> > >
> > >I think he explained it in his web site.
> >
> > ----------
> >
> > I checked the web site again and did not see any explanations. The
> > questions still stands.

I checked the site and it says, "Parts come from a bunch of dead tube
radios, which I couldn't or didn't want to repair so they got 'recycled'
into this receiver."

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis
to comply with their own agreements and with international law. Given that,
what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

3358. Re: HP3330 Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 00:29:38 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <SZArb.41450$Ec1.3084960@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31175

"IZ5FCY Roberto" <iz5fcy@NOSPAMlibero.it> wrote in message
news:nIzrb.444462$R32.14807441@news2.tin.it...
> Hi,
> I'm looking for a Service / Operation Manuals for my generator HP3330B.
> Can you help me?
>
> Many thanks!
>
> Roberto IZ5FCY
>
>

www.yourmanualsource.com

Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Never take a laxative and a sleeping pill at the same time!!

3359. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 01:17:28 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vqtppl2io5hr4c@corp.supernews.com>
Source record: 31176

What buch of bunk! What we need is to get the Chinese factories to start production. Their copies of well known watches that sell for a few dollars are a testament to their cpabilites to maintain and keep close tolerance while being competitive.
73
hank wd5jfr

"John Walton" <jdwalton@comcast.net> wrote in message news:6P-dnecxYdzxpjOi4p2dnA@comcast.com...
> with what would appear to be a plethora of devices using SMA connectors, why
> are they still so expensive?
>
>

3360. IF/BFO crystal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 01:22:01 UTC
From: brokebob@aol.com
Message-ID: <20031109202201.29118.00000368@mb-m23.aol.com>
Source record: 31177

I am looking for a 455 khz crystal to make a filter for another of my projects. I always loved the feel of a good crystal filter back in the fifties and sixties and would like to do it again with one of my old receivers. Got a junk chassis maybe with the crystal still in there?

W4PEX (since 1949)
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

3361. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 02:01:26 UTC
From: la8ak.xnd@online.no
Message-ID: <3faeee30.119700174@news.online.no>
Source record: 31178

On 09 Nov 2003 18:12:36 GMT, averyfineman@aol.com (Avery Fineman)
wrote:

> The old "UHF" connectors (SO-, PL- numbers) common on amateur
> HF and low-VHF equipment were obsolete for new designs a half
> century ago. Those are cheap because there isn't much QC on
> them and the tolerances are sloppy in comparison.

It is good for many purposes, even up to 432MHz - in spite of what
somebody says. In the local radio club the problem is that they don't
like to solder and even SO239/PL259 means a great problem. Not to
mention a club which went into a very large scale of antenna
installations for CQ-WW contest last year and discovered that some of
the antennas which were put up few days before didn't work any more
>
> SMAs used with semi-rigid coax are quite easy to make once you
> get the hang of it and are incredibly durable physically and in all
> kinds of environments. The solid center conductor of the semi-rigid
> becomes the "pin" just as in the TV set F connector used with
> RG-59 75 Ohm semi-flexible. F connectors are good to 1 GHz
> (with some higher VSWR than others) so don't anyone knock the
> method. SMAs are dandy to use with stripline in aluminum hog-
> out enclosures.

With all the available semi-rigid cables with connectors available as
surplus it has never been neccessary to mount such connectors, got a
few hundred cable connector 10 years ago, but really not needed them,
and I do have 10GHz SSB transverter with SMA connectors

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/d.htm
--
remove ,xnd to reply (Spam precaution!)

3362. Re: IF/BFO crystal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 02:40:36 UTC
From: brokebob@aol.com
Message-ID: <20031109214036.19456.00000430@mb-m18.aol.com>
Source record: 31179

Forgot to mention..... I have for trade for the crystal EITHER an R L Drake DL1000 model 1551 dummy load (1000 watts I think) that tests OK with my ohmmeter OR a PROTAX five position COAX switch with SO-239 connectors which also checks ok. I will pay shipping in the main 48.

I can be checked out on EBay.

Bob
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

3363. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 05:07:48 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FAF1D0D.9237DAFF@earthlink.net>
Source record: 31180

Henry Kolesnik wrote:
>
> What buch of bunk! What we need is to get the Chinese factories to start
> production. Their copies of well known watches that sell for a few dollars
> are a testament to their cpabilites to maintain and keep close tolerance
> while being competitive.
> 73
> hank wd5jfr

Cheap garbage is out there, but after you've seen it, you will never
use it again. I have seen imported "N" "ell" adapters with over 20 dB of
attenuation. I have seen crappy SMA connectors that pop apart before you
can even tighten them to the chassis connector.

I will not buy or use garbage. I have some Omni-Spectra, and a pile
of surplus SMA connectors left, plus a pile of modules from commercial
Sat receivers, and telemetry equipment that should last me a couple
years.
--

Michael A. Terrell
Central Florida

3364. Re: Motorola Expo HT info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 05:36:11 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a18c3a76b4c42ce989ae1@192.168.42.131>
Source record: 31181

In article <20031109133325.12125.00000379@mb-m18.aol.com>,
jcplpsm@aol.communicate says...

> I am in need of the pinout for the Motorola Expo HT speaker mic. Does anyone
> have this information?

Your best bet is to dig around at a hamfest (ham radio swap meet)
for an Expo manual. Motorola hasn't made those radios for at least 12
years, and no longer has any support or manuals available.

You may want to ask this same question on
http://batboard.batlabs.com.

For locations of ham radio swaps near you, it's best to locate a
ham radio club. Check the listings at http://www.arrl.org

Good hunting.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

3365. Re: Source for Mitrek parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 05:39:04 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a18c457de41d23b989ae2@192.168.42.131>
Source record: 31182

In article <3FAEAC80.C97D38E2@bellatlantic.net>, aolsz@bellatlantic.net
says...

> Can anybody suggest a source for Mitrek parts?

Best source these days is: Another Mitrek. ;-)

Seriously, Motorola barely has service manuals still available for
the Mitrek, and those are reproductions.

> Right now, I'm looking for a pre-amp for a UHF 100 watt transceiver.
> I'm sure I'll be looking for other items soon

You may want to ask this question of the gang at
http://batboard.batlabs.com, particularly the 'For Sale/Wanted' section.

Good hunting.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

3366. Re: Really good receiver for 14MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 09:27:23 UTC
From: jvereker@wp.pl
Message-ID: <25102a3d.0311100127.161a591e@posting.google.com>
Source record: 31183

> IK3OIL has a 14 MHz QRP rig with schematics and PCB layouts, and if you
> build 2
> of the 3 PCBs you get a receiver. I think if you put IK3OIL into Google you
> will find it.
I found. Nice projects. He got even frequency counter I also plan to build. Thanks.

jvereker@wp.pl

3367. Re: HP3330 Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 11:50:14 UTC
From: IZ5FCY Roberto <iz5fcy@NOSPAMlibero.it>
Message-ID: <WXKrb.446395$R32.14880686@news2.tin.it>
Source record: 31184

Many, many thanks....

Roberto IZ5FCY

3368. Z-Match tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 11:55:44 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vquv62s2ruu27@corp.supernews.com>
Source record: 31185

Does anybody have a copy of the January 2003 QST that has the construction article on the "Z-match tuner"? I had a copy and I can`t find it. If someone could scan it in and e-mail it to me, it would be greatly appreciated!! Rob WB8VWI

3369. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 12:50:26 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <ovMrb.361$W%.294047@newsfep1-win.server.ntli.net>
Source record: 31187

> > The old "UHF" connectors (SO-, PL- numbers) common on amateur
> > HF and low-VHF equipment were obsolete for new designs a half
> > century ago. Those are cheap because there isn't much QC on
> > them and the tolerances are sloppy in comparison.
>
> It is good for many purposes, even up to 432MHz - in spite of what
> somebody says. In the local radio club the problem is that they don't
> like to solder and even SO239/PL259 means a great problem. Not to
> mention a club which went into a very large scale of antenna
> installations for CQ-WW contest last year and discovered that some of
> the antennas which were put up few days before didn't work any more
==========
There are High quality PL259 connectors with teflon insulation where only
the (gold plated) centre pin has to be soldered .
The braid connection is like an N-connector with a 'flanged braid insert'
.
They are relatively expensive (GBP 3.00 = US$ 4.50) ,yet I have adopted them
as standard for all the necessary 'UHF' connections in the shack.
In the UK these connectors are available from Westlake.

Frank GM0CSZ / KN6WH

3370. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 13:00:10 UTC
From: Alex Flinsch <alex@localhost.localdomain>
Message-ID: <slrnbqv369.ral.alex@homer.linux1.lan>
Source record: 31186

On <lara.louder@usu.edu> wrote:
>
> Does anyone have a good recipe for holiday brew with low carbs?

Wrong newsgroup, check rec.crafts.brewing

3371. Re: Z-Match tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 13:54:25 UTC
From: ON5MJ <"on5mj_no_more _spam_in_stock_sorry_"@skynet.be>
Message-ID: <3faf991d$0$4046$ba620e4c@reader3.news.skynet.be>
Source record: 31188

I have replied by 3 separate e-mails - high resolution (for printing) but B&W.

73 de Jacques - ON5MJ

3372. Re: ECLips?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 16:38:18 UTC
From: Blackie Beard <bb@fearlessimmortalwretch.com>
Message-ID: <y9Prb.31298$L77.16593@fed1read03>
Source record: 31189

Ultra cool. Thanks you guys!

BB

"Dr. Grok" <DRGrok@munged.net> wrote in message
news:bom6c3$ns5$1@bob.news.rcn.net...
> In article <iTrrb.25594$L77.1978@fed1read03>, "Blackie Beard"
<bb@fearlessimmortalwretch.com> wrote:
> >Hi all;
> >
> >A search turned up an interesting excerpt from one
> >Michael Black from this newsgroup, wherein he was
> >describing designing a circuit using something called
> >a "Motorola ECLips" chip (to compose the frequency
> >divider portion of the circuit).
> >
> >I looked high and low but could find no reference to
> >this. Anyone know what he's talking about? Date
> >of post was Tue, 14 Nov 2000 01:24:51, threadname
> >"Old working wide band catv tuner".
> >
> >Thanks in advance,
> >BB
> >
> >
> That would be the "ECL in ps" [ps = picoseconds] series of devices, have
10E
> or 100E prefixes. Very high speed -- max clock rates typically 700 MHz to
1
> GHz. [Stretching it a little to refer to them as picoseconds, IMHO]
>
> Dr. G.

3373. Nova-686

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 17:58:01 UTC
From: Chuck <wa7rai@raibeam.com>
Message-ID: <QbQrb.4815$3z5.392@okepread02>
Source record: 31190

Does anyone in this group have
a copy of Nova-686, a freeware
circuit modeling program?

The website, nova2002.com
is no longer on the web.

tnx, de Chuck, WA7RAI

email:
wa7rai at cox dot net.

3374. Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 22:03:06 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com>
Source record: 31191
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Tektronix is trying to manipulate the oscilloscope market. Today I learned from my local dealership that they are required by contract to destroy every scope which is traded in for a new Tektronix scope, regardless of age or condition. So if you decide to trade in that old scope for a Tektronix, know ahead of time that it is NOT going to end up in the hands of a ham, or of some kid learning and experimenting in electronics on a tight budget like I was thir... er, twenty years ago. No, Tektronix needs to raise their profits by destroying every used scope they can get their greedy little hands on, regardless of who feels the pinch!

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 100,000 Newsgroups - 19 Different Servers! =-----

3375. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 22:48:38 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <bop24v$84p$1@news1.kornet.net>
Source record: 31192
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

"Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
news:qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com...
> Tektronix is trying to manipulate the oscilloscope market. Today I learned
from
> my local dealership that they are required by contract to destroy every
scope
> which is traded in for a new Tektronix scope, regardless of age or
condition. So
> if you decide to trade in that old scope for a Tektronix, know ahead of
time
> that it is NOT going to end up in the hands of a ham, or of some kid
learning
> and experimenting in electronics on a tight budget like I was thir... er,
twenty
> years ago. No, Tektronix needs to raise their profits by destroying every
used
> scope they can get their greedy little hands on, regardless of who feels
the
> pinch!
>

Interesting, last I heard (and that was only a few weeks ago) the Tek
Country Store was still in business, selling their used trade-ins, among
other things. Could your dealer be blowing smoke up your behind?

3376. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-10 23:31:59 UTC
From: Dave VanHorn <dvanhorn@cedar.net>
Message-ID: <TO2dne8WkrNQgi2iRVn-vg@comcast.com>
Source record: 31193
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

> Interesting, last I heard (and that was only a few weeks ago) the Tek
> Country Store was still in business, selling their used trade-ins, among
> other things. Could your dealer be blowing smoke up your behind?

The scope I'm using now was purchased as a used demo unit, at a significant
discount.
<$10k! :)

3377. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 00:18:39 UTC
From: brianburke@juno.com
Message-ID: <f45722ac.0311101618.5715cff1@posting.google.com>
Source record: 31194

lara.louder@usu.edu wrote in message news:<vpt1BpzCC5aR@cc.usu.edu>...
> Does anyone have a good recipe for holiday brew with low carbs?

Lara, please forgive some of the other respondents - they're not well rounded in the art of "homebrewing." After all, this is amateur radio homebrewing.

OK, on to the ale.

Get malt with a high conversion ratio - that is, you want malt that will ferment to dryness without much residiual sugar left behind. Left behind sugars can also mean flavor, so your brew will lack a big, malty flavor, but that's OK for a holiday brew style.

Are you using all-grain or extract? Munton & Fison extract usually does well in this area. If you are using all-grain watch your mash temp and get the best extraction that you can. Leave out all or most of the specialty grains, and keep the SG reasonable. You can even sub some cane sugar for some malt to reduce the unfermentables. Remember, though, lots of alcohol is lots of carbs.

Next, what do you plan to add to make it "holiday?" Most folks like orange zest and strange spices. I'll leave that up to you as even my Belgians are sans the strange stuff.

Next is the yeast. Get a Belgian yeast with high attenuation, that is it will ferment out all the malt sugars (or at least most of them). I like White LAbs yeast in vials - no need to "smack" or any of that nonsense.

http://www.whitelabs.com/craft_belgianyeast.html

To recap, get good extraction so that unfermentable sugars are low, keep the SG reasonable (most Belgian beers are not so reasonable), and get a high attenuation yeast to ferment the brew to dryness.

Finally, start real soon or it won't ready.

I think I'll go pop the top on a kwak-clone that I made last spring.

73, Brian

3378. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 00:30:19 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <v4Wrb.232466$0v4.16903734@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31195
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

"Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
news:qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com...
> Tektronix is trying to manipulate the oscilloscope market. Today I
learned from
> my local dealership that they are required by contract to destroy
every scope
> which is traded in for a new Tektronix scope, regardless of age or
condition. So
> if you decide to trade in that old scope for a Tektronix, know ahead
of time
> that it is NOT going to end up in the hands of a ham, or of some kid
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> and experimenting in electronics on a tight budget like I was thir...
er, twenty
> years ago. No, Tektronix needs to raise their profits by destroying
every used
> scope they can get their greedy little hands on, regardless of who
feels the
> pinch!
>
>
>

"Tucker Electronics is a proud reseller of New, Used and Refurbished
Tektronix Test and Measurement Instruments and we stock many late model
Tektronix Instruments. "

http://www.tucker.com/java/information/tek_splsh.jsp

There must be others. Tucker was at the top of the Google page when I
entered "new used tektronix oscilloscopes"

Frank Dresser

3379. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 00:40:03 UTC
From: Larry Johnson <larryj@teleport.com>
Message-ID: <3FB02EC0.1CA9B6C2@teleport.com>
Source record: 31196
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Frank - this is how big business works. They're not in business to do
favors for you, they're in business to make money. Period.

Teletype Corp. used to do the same thing with used Teletype machines.
Motorola used to do the same with traded-in 2-way radios (I had a friend
who drove the truck to the crusher.)

That's the way it works, Frank....
LJ

Frank Gilliland wrote:
>
> Tektronix is trying to manipulate the oscilloscope market. Today I learned from
> my local dealership that they are required by contract to destroy every scope
> which is traded in for a new Tektronix scope, regardless of age or condition. So
> if you decide to trade in that old scope for a Tektronix, know ahead of time
> that it is NOT going to end up in the hands of a ham, or of some kid learning
> and experimenting in electronics on a tight budget like I was thir... er, twenty
> years ago. No, Tektronix needs to raise their profits by destroying every used
> scope they can get their greedy little hands on, regardless of who feels the
> pinch!
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> ------== Over 100,000 Newsgroups - 19 Different Servers! =-----

3380. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 00:53:11 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a19d2d4266d86cd989ae4@192.168.42.131>
Source record: 31097
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

In article <qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com>,
sparky@NOSPAMaimcomm.net says...

> Tektronix is trying to manipulate the oscilloscope market. Today I learned from
> my local dealership that they are required by contract to destroy every scope
> which is traded in for a new Tektronix scope, regardless of age or condition. So

<snip>

Do you have hard evidence of this, such as an official statement
from someone at Tektronix in authority to make such statements?

I think your local dealership is pulling your leg. I visited the
Tektronix company surplus store less than four months ago, and found a
generous assortment of older 7000 and 11000 series mainframes and plug-
ins, many of which were in perfectly usable condition.

Don't even get me started on the seemingly vast quantity of Tek
scopes and other such goodies that seem to be in constant availability
on the surplus side of things (hamfests, stores like Kaiser Technologies
in the Bay Area, etc.)

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
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"Quando Omni Flunkus Moritati" (Red Green)

3381. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 02:02:16 UTC
From: Steve <zarco@sonic.net>
Message-ID: <IqXrb.5918$Wy2.72827@typhoon.sonic.net>
Source record: 31098
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

If this really is true, its a shame. I've been using and repairing old
Tek scopes for about 30 years (!), and love to see kids, hobbyist,
and hams get their hands on them.

Realistically, 'scopes Tek gets in
on trade will be a very small percentage of the number out there, so
it should have little effect.

Steve

3382. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 02:16:55 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <rEXrb.120261$275.350478@attbi_s53>
Source record: 31099
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

"Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
news:qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com...
> Tektronix is trying to manipulate the oscilloscope market. Today I learned
from
> my local dealership that they are required by contract to destroy every
scope
> which is traded in for a new Tektronix scope, regardless of age or
condition. So
> if you decide to trade in that old scope for a Tektronix, know ahead of
time
> that it is NOT going to end up in the hands of a ham, or of some kid
learning
> and experimenting in electronics on a tight budget like I was thir... er,
twenty
> years ago. No, Tektronix needs to raise their profits by destroying every
used
> scope they can get their greedy little hands on, regardless of who feels
the
> pinch!

<Troll check>

Please supply the name of this Tektronix dealer or distributor -
I will make a personal call - and then if verified to Tektronix.

G. Beat

3383. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 02:33:28 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <tsh0rv8tgvua3h0alvvj6a3p5b20jlplia@4ax.com>
Source record: 31100
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Yes, this is how business works, but that doesn't mean it works well, as many companies rely on their longstanding reputations as 'good guys'. The info I received came from the GM of Radar, Inc. in Spokane. Whether the policy was initiated by Radar or by Tektronix, or applies to any other brand, he didn't say. What he -did- say was that he has had to send several dozen scopes the the incinerator since this policy began not long ago -- and some nice ones, too.

Either way, it still sucks.

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http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 100,000 Newsgroups - 19 Different Servers! =-----

3384. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 03:19:31 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@dev.null>
Message-ID: <MPG.1a19f522b660f442989ae5@192.168.42.131>
Source record: 31101
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

In article <tsh0rv8tgvua3h0alvvj6a3p5b20jlplia@4ax.com>,
sparky@NOSPAMaimcomm.net says...

> Yes, this is how business works, but that doesn't mean it works well, as many
> companies rely on their longstanding reputations as 'good guys'. The info I
> received came from the GM of Radar, Inc. in Spokane. Whether the policy was
> initiated by Radar or by Tektronix, or applies to any other brand, he didn't
> say. What he -did- say was that he has had to send several dozen scopes the the
> incinerator since this policy began not long ago -- and some nice ones, too.
>
> Either way, it still sucks.

Has to have been Radar's policy (and a stupid one it is, too). I
don't see Tek doing it because Where do you think they get so much of
their inventory for the company surplus store?

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

3385. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 04:26:17 UTC
From: Larry Johnson <larryj@teleport.com>
Message-ID: <3FB06360.75CC3FE7@teleport.com>
Source record: 31103
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

A lot of the items at the Country Store are prototypes, special modified
units used as test fixtures, etc. that wouldn't have much appeal to
end-user customers as much as to experimenters.

"Dr. Anton Squeegee" wrote:
>
> In article <tsh0rv8tgvua3h0alvvj6a3p5b20jlplia@4ax.com>,
> sparky@NOSPAMaimcomm.net says...
>
> > Yes, this is how business works, but that doesn't mean it works well, as many
> > companies rely on their longstanding reputations as 'good guys'. The info I
> > received came from the GM of Radar, Inc. in Spokane. Whether the policy was
> > initiated by Radar or by Tektronix, or applies to any other brand, he didn't
> > say. What he -did- say was that he has had to send several dozen scopes the the
> > incinerator since this policy began not long ago -- and some nice ones, too.
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> Has to have been Radar's policy (and a stupid one it is, too). I
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> --
> Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
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> kyrrin a/t bluefeathertech d-o=t c&o&m
> Motorola Radio Programming & Service Available -
> http://www.bluefeathertech.com/rf.html
> "Quando Omni Flunkus Moritati" (Red Green)

3386. Michigan Mighty Mite question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 04:29:46 UTC
From: jim&julz <shrumj@spamsucks.madisontelco.com>
Message-ID: <bopo95$bkg3$1@news3.infoave.net>
Source record: 31102

Greetings...
Has anyone here actually built the MMM and had success w/ it? I've tried it 2 times on the bread board and each time ... nothing. I have followed the schematic perfectly, but I get absolutely no output at all (per the frequency counter, and FS meter).

The only thing that I can think of that might be off, is the crystals that I'm using. They're not specifically transmitter crystals... just ones that I've scrapped out of junk. I was using a 10.145Mhz Xtal w/ the 30meter coil directions. Is there actually a difference w/ xtals, other than frequency? Also for the variable cap, I'm using a variable cap from an old am/fm radio... I assume this will work.

I was just wondering if anyone has tried and failed, or tried and succeeded. Any help would be much appreciated. Thanks

Jim
shrumj@madisontelco.com

3387. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 04:31:20 UTC
From: Frank Gilliland <sparky@NOSPAMaimcomm.net>
Message-ID: <mcp0rvgp2cknegveeofjdcmj9ge1nt7sol@4ax.com>
Source record: 31104
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

In <MPG.1a19f522b660f442989ae5@192.168.42.131>, Dr. Anton Squeegee
<SpammersAreVermin@dev.null> wrote:

>In article <tsh0rv8tgvua3h0alvvj6a3p5b20jlplia@4ax.com>,
>sparky@NOSPAMaimcomm.net says...
>
>> Yes, this is how business works, but that doesn't mean it works well, as many
>> companies rely on their longstanding reputations as 'good guys'. The info I
>> received came from the GM of Radar, Inc. in Spokane. Whether the policy was
>> initiated by Radar or by Tektronix, or applies to any other brand, he didn't
>> say. What he -did- say was that he has had to send several dozen scopes the the
>> incinerator since this policy began not long ago -- and some nice ones, too.
>>
>> Either way, it still sucks.
>
> Has to have been Radar's policy (and a stupid one it is, too). I
>don't see Tek doing it because Where do you think they get so much of
>their inventory for the company surplus store?

Is that a trick question?

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3388. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 04:37:27 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <bIZrb.233617$0v4.16931845@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31105
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

"Dr. Anton Squeegee" <SpammersAreVermin@dev.null> wrote in message
news:MPG.1a19f522b660f442989ae5@192.168.42.131...
>
> Has to have been Radar's policy (and a stupid one it is, too). I
> don't see Tek doing it because Where do you think they get so much of
> their inventory for the company surplus store?
>
>
If the policy exists, it is stupid. A used Tek scope may present some
compitition to a new Tek scope, but it presents much more compitition to
the new scopes of the lower price manufacturers.

Frank Dresser

3389. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 04:48:53 UTC
From: private <private@private.com>
Message-ID: <3FB06A35.C11BD40A@private.com>
Source record: 31106
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Tek sucks for MANY reasons!

Frank Gilliland wrote:

> Tektronix is trying to manipulate the oscilloscope market. Today I learned from
> my local dealership that they are required by contract to destroy every scope
> which is traded in for a new Tektronix scope, regardless of age or condition. So
> if you decide to trade in that old scope for a Tektronix, know ahead of time
> that it is NOT going to end up in the hands of a ham, or of some kid learning
> and experimenting in electronics on a tight budget like I was thir... er, twenty
> years ago. No, Tektronix needs to raise their profits by destroying every used
> scope they can get their greedy little hands on, regardless of who feels the
> pinch!
>
> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3390. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 05:05:17 UTC
From: --exray-- <a@b.c>
Message-ID: <vr0recj5mlq4dd@corp.supernews.com>
Source record: 31107
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Frank Dresser wrote:
> "Dr. Anton Squeegee" <SpammersAreVermin@dev.null> wrote in message
> news:MPG.1a19f522b660f442989ae5@192.168.42.131...
>
>>Has to have been Radar's policy (and a stupid one it is, too). I
>>don't see Tek doing it because Where do you think they get so much of
>>their inventory for the company surplus store?
>>
>>
>
> If the policy exists, it is stupid. A used Tek scope may present some
> compitition to a new Tek scope, but it presents much more compitition to
> the new scopes of the lower price manufacturers.
>
> Frank Dresser
>
>
You have to be a corporate "bean counter" on a rant to come up with
schemes like this. You're right, Frank, a $500 used model isn't hardly
competition to their latest-greatest $20,000 model. Mr. Bean-Counter
would like to think they could eliminate such competition but odds are
Mr. Bean-Counter wouldn't know a o'scope if it bit him in the arse.
If Tek is really doing this nowadays the only purpose it serves is to
make them appear as knuckleheads.

One rather large electronic mfr that I used to deal with had an "outlet
store" where they sold the trade-ins, factory refurbs, etc. Basically a
scratch-and-dent outlet. Prices were only maybe 25% less than the good
stuff...the biggest advantage was not having to step thru the corporate
ordering nightmare spending days, if not weeks, playing phone tag with
some "account representative" who was the only person authorized to take
your order.

The outlet store made too much sense so they closed it.

-Bill

3391. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 05:56:18 UTC
From: Alfred Carlson <wa7uhr@gte.net>
Message-ID: <3FB07A11.18E65F5D@gte.net>
Source record: 31108
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Tektronix is a good and reputable company. Don't care what anyone might think, I know better. My uncle (Warren K. Dallas) helped establish the groundwork for a reputation since 1947, that prevails within Tektronix to this day. Any doubts, read the book "Winning with People: The first 40 years of Tektronix. I rest my case. 73 de Fred.

3392. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 06:08:49 UTC
From: Dave VanHorn <dvanhorn@cedar.net>
Message-ID: <gr-dnbMckN1W4S2i4p2dnA@comcast.com>
Source record: 31109
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

> "Tucker Electronics is a proud reseller of New, Used and Refurbished
> Tektronix Test and Measurement Instruments and we stock many late model
> Tektronix Instruments. "

They certainly are proud of their gear!
Their prices are, IMHO, about 2-3x what they should be.

3393. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 06:42:44 UTC
From: --exray-- <a@b.c>
Message-ID: <vr1153eri8tl45@corp.supernews.com>
Source record: 31110
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Alfred Carlson wrote:
> Tektronix is a good and reputable company. Don't care what anyone might
> think, I know better. My uncle (Warren K. Dallas) helped establish the
> groundwork for a reputation since 1947, that prevails within Tektronix to this
> day. Any doubts, read the book "Winning with People: The first 40 years of
> Tektronix. I rest my case. 73 de Fred.
>
Check your fly, Fred. Something ridiculous is hanging out.
I've never heard anybody say Tek was a "bad" company or made bad gear.
Tempramental, maybe, but not bad. But this day in time (since the book
came out) big corporations aren't run by the good guys like Warren K....
-Bill

3394. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 16:00:44 UTC
From: RP Jones <rparsley@verizon.NOSPAMnet>
Message-ID: <MI7sb.8866$bQ3.1070@nwrdny03.gnilink.net>
Source record: 31111
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Could it be they don't want to do anymore service, perhaps it cheaper just
to replace those new off seas plastic cheap ones one under warrantee.
I called them about a Tek 2232 and someone on the other end got all pissed
off, said call GTE for service ?

"Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
news:qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com...
> Tektronix is trying to manipulate the oscilloscope market. Today I learned
from
> my local dealership that they are required by contract to destroy every
scope
> which is traded in for a new Tektronix scope, regardless of age or
condition. So
> if you decide to trade in that old scope for a Tektronix, know ahead of
time
> that it is NOT going to end up in the hands of a ham, or of some kid
learning
> and experimenting in electronics on a tight budget like I was thir... er,
twenty
> years ago. No, Tektronix needs to raise their profits by destroying every
used
> scope they can get their greedy little hands on, regardless of who feels
the
> pinch!
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> -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> -----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3395. Re: ECLips?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 16:00:50 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <SI7sb.173171$Fm2.151546@attbi_s04>
Source record: 31112

Motorola originally named this logic family "ECLips" but had
to change it due to trademark infringment to "ECLinps".
The line was sold to On Semiconductor in the 1990's.
See www.onsemi.com.

Rick N6RK
"Blackie Beard" <bb@fearlessimmortalwretch.com> wrote in message
news:iTrrb.25594$L77.1978@fed1read03...
> Hi all;
>
> A search turned up an interesting excerpt from one
> Michael Black from this newsgroup, wherein he was
> describing designing a circuit using something called
> a "Motorola ECLips" chip (to compose the frequency
> divider portion of the circuit).
>
>

3396. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 16:22:17 UTC
From: Dave VanHorn <dvanhorn@cedar.net>
Message-ID: <ib-dnUUdkeYMkSyiRVn-hQ@comcast.com>
Source record: 31113
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

"RP Jones" <rparsley@verizon.NOSPAMnet> wrote in message
news:MI7sb.8866$bQ3.1070@nwrdny03.gnilink.net...
> Could it be they don't want to do anymore service, perhaps it cheaper just
> to replace those new off seas plastic cheap ones one under warrantee.
> I called them about a Tek 2232 and someone on the other end got all pissed
> off, said call GTE for service ?

I had quite the opposite result when I called them on an encoder failure on
my TDS-420a

They were very helpful, and the replacement encoder was surprisingly
inexpensive.
They took a few minutes to verify that we were ordering the right part,
because of an ambiguity in the part number, but it was resolved quickly.
The whole thing was less than $50 and I even got spare encoders at that
price, in case of a future failure.

3397. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 17:44:33 UTC
From: Bob Liesenfeld <robert.liesenfeld@neicoltech.org>
Message-ID: <3FB12001.89D7A9A9@neicoltech.org>
Source record: 31114
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Frank Gilliland wrote:

> Tektronix is trying to manipulate the oscilloscope market.

Perhaps. However I know in some industries, the same thing is done to prevent something like this happening:

Original owner of functioning, well cared for unit sells it at a flea market etc.
New owner modifies/breaks unit, then sells it to 3rd owner
3rd owner is dissatisfied and blames manufacturer, perhaps with little effect, perhaps with significant damage to manufacturers reputation.

I know from first hand experience that this was the case with 2 well known 2 way radio companies. If you were caught sneaking a trade-in out of the path of the crusher, you got canned.

3398. Re: Filament Help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 18:45:28 UTC
From: k5dh@raytheon.com
Message-ID: <c7asb.196$b77.265@dfw-service2.ext.raytheon.com>
Source record: 31115

His description indicates that the circuit board (and
presumably everything on it) came out of a Heathkit
HW-16 transceiver. It was Heath's choice on tubes.

I've thought many times about doing the same thing
using the receiver section from an junked HW-16 that
I have in storage.

73,
Dean K5DH

In article <2k92rvcsm0tst5ujuucomqid8r2eg7legr@4ax.com>, noway@nohow.com
says...
>
>You're not understanding my question. I asked him to explain why he
>chose certain tubes, not where they came from.
>
>If the answer is "that's all I had available", that's fine, but I'd like
>to hear him say so. Otherwise, I'm curious why he chose a 6EW6, for
>example, over other types. Presumably with "a bunch of dead tube
>radios" he would have some options.
>
>I did TV repair back in the '60s and '70s and the subtle differences
>between tube types has always been interesting to me.
>
>--
>Bill, W7TI
>

3399. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 20:06:41 UTC
From: "J. Yazel" <jyazel@nls.net>
Message-ID: <n8g2rvo3smvjn9jgbbfpc04d8sl2h2nn0i@4ax.com>
Source record: 31118

>
>This is somewhat OT, but I am regularly amazed at the Chinese ability to
>turn out high quality parts dirt cheap. Computer components are a good
>example.
>
>Psst... Don't tell them. :-)
==========

Tell them what? 8-)

Jack

3400. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 20:08:50 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-1CF6E2.15085011112003@news.verizon.net>
Source record: 31119

In article <m7a2rvsst12lcqpsusjmoq2rk2og4e78d7@4ax.com>,
W7TI <noway@nohow.com> wrote:

> On Sun, 9 Nov 2003 19:17:28 -0600, "Henry Kolesnik"
> <wd5jfr@oklahoma.net> wrote:
>
> >What we need is to get the Chinese factories to start
> >production. Their copies of well known watches that sell for a few dollars
> >are a testament to their cpabilites to maintain and keep close tolerance
> >while being competitive.
>
> ____
>
> This is somewhat OT, but I am regularly amazed at the Chinese ability to
> turn out high quality parts dirt cheap. Computer components are a good
> example.
>
> Psst... Don't tell them. :-)

You could too if you paid your workforce a buck day.

Al

--
There's never enough time to do it right the first time.....

3401. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 20:21:01 UTC
From: private <private@private.com>
Message-ID: <3FB144AD.F421DCC1@private.com>
Source record: 31122
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Tek is a shitty company. Worked there myself.
Shitty management, too. If you go back far enough
it was a good place.
I got the propaganda and it doesn't change a thing.

Alfred Carlson wrote:

> Tektronix is a good and reputable company. Don't care what anyone might
> think, I know better. My uncle (Warren K. Dallas) helped establish the
> groundwork for a reputation since 1947, that prevails within Tektronix to this
> day. Any doubts, read the book "Winning with People: The first 40 years of
> Tektronix. I rest my case. 73 de Fred.

3402. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 20:22:19 UTC
From: private <private@private.com>
Message-ID: <3FB144FA.92676A25@private.com>
Source record: 31121
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Actually exray you're the one who needs to check his fly.
I'm the one who made the comment about Tek. The place
sucks.

--exray-- wrote:

> Alfred Carlson wrote:
> > Tektronix is a good and reputable company. Don't care what anyone might
> > think, I know better. My uncle (Warren K. Dallas) helped establish the
> > groundwork for a reputation since 1947, that prevails within Tektronix to this
> > day. Any doubts, read the book "Winning with People: The first 40 years of
> > Tektronix. I rest my case. 73 de Fred.
> >
> Check your fly, Fred. Something ridiculous is hanging out.
> I've never heard anybody say Tek was a "bad" company or made bad gear.
> Tempramental, maybe, but not bad. But this day in time (since the book
> came out) big corporations aren't run by the good guys like Warren K....
> -Bill

3403. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 20:24:26 UTC
From: Larry Johnson <larryj@teleport.com>
Message-ID: <3FB1425B.A76E9FCD@teleport.com>
Source record: 31120
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Me too - I was in their Sales division...

W7TI wrote:
>
> On Tue, 11 Nov 2003 00:40:03 GMT, Larry Johnson <larryj@teleport.com>
> wrote:
>
> >Frank - this is how big business works. They're not in business to do
> >favors for you, they're in business to make money. Period.
>
> ----------
>
> Not true. Like all businesses, Tek must please their customers while
> making money or soon there will be no customers. The trick is to strike
> the right balance. Tektronix has been in business for ~50 years now, so
> I'd say they are doing it right.
>
> --
> Bill, W7TI
>
> p.s. I'm an ex-employee, so grains of salt will be distributed as
> necessary.

3404. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 20:26:04 UTC
From: private <private@private.com>
Message-ID: <3FB145DC.5428C551@private.com>
Source record: 31123
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Did they actually pull off that deal with GTE for service.
I was there training some of those fuckers.

RP Jones wrote:

> Could it be they don't want to do anymore service, perhaps it cheaper just
> to replace those new off seas plastic cheap ones one under warrantee.
> I called them about a Tek 2232 and someone on the other end got all pissed
> off, said call GTE for service ?
>
> "Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
> news:qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com...
> > Tektronix is trying to manipulate the oscilloscope market. Today I learned
> from
> > my local dealership that they are required by contract to destroy every
> scope
> > which is traded in for a new Tektronix scope, regardless of age or
> condition. So
> > if you decide to trade in that old scope for a Tektronix, know ahead of
> time
> > that it is NOT going to end up in the hands of a ham, or of some kid
> learning
> > and experimenting in electronics on a tight budget like I was thir... er,
> twenty
> > years ago. No, Tektronix needs to raise their profits by destroying every
> used
> > scope they can get their greedy little hands on, regardless of who feels
> the
> > pinch!
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> >
> > -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> > http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> > -----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3405. realistic dx-160 speaker wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 20:54:39 UTC
From: John Couch <vk3jd@optusnet.com.au>
Message-ID: <3fb14c8f$0$20047$afc38c87@news.optusnet.com.au>
Source record: 31124

Can any one help with this peaker please,
I have purchased a receiver recently at a flea market for 10 dollars, this has cleaned up lovely, and works great. But I do need a matching speaker.

vk3jd@optusnet.com.au

Regards
John vk3jd

3406. FS Ad: Electronic Components including TIL311 Hex Displays - LEDs - TTL Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 22:51:42 UTC
From: jrpart@excite.com
Message-ID: <357f4a42.0311111451.b78efea@posting.google.com>
Source record: 31125
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.homebrew,uk.radio.amateur

All prices are in US Funds.

QTY. Part # Unit Price Description
---- --------- ---------- -----------
OPTO.

125 TIL311 $7.00 ea. The TI TIL-311 is a Hexadecimal Dot
Matrix Display with integral TTL driver
electronics to accept, store & display
4-bit binary data, Epoxy package
(Note: This part wholesales at about $16.50 each)

8 TIL311A $7.00 ea. The TI TIL-311A is a Hexadecimal Dot
Matrix Display with integral TTL driver
circuit to accept, store & display
4-bit binary data, Plastic package

10 DIS1417 $7.00 ea. The TI DIS-1417 is a Hexadecimal Dot
Matrix Display with integral TTL driver
circuit to accept, store & display
4-bit binary data, Epoxy package

For a copy of the TIL311 Datasheet see:
http://www-s.ti.com/sc/ds/til311.pdf and it is mirrored at
http://umwnt1.physics.lsa.umich.edu/mttc/images/til311.pdf

275 Green LED $0.10 ea. Rectangular 5mm x 2mm face/lens
$17.50 per bag of 250 ($0.07 each) and

8,750 Red LED $0.10 ea. T1 3/4, 5mm Diameter or 0.2" Diameter
Sharp P/N: GL5PR4 (5mA at 1.9V)
$17.50 per bag of 250 ($0.07 each) and
$100 per box of 2000 ($0.05 each)

106 MAN6440 $0.95 ea. Dual Digit, Green 7 Segment display,
0.56" tall character, Common Cathode
$15 per tube of 20 MAN- 6440 ($0.75 ea.)

85 FND6740 $0.95 ea. Dual Digit, Red 7 Segment display,
0.56" tall character, Common Cathode
$15 per tube of 20 FND-6740 ($0.75 ea.)

TTL CHIPS, DIP Package

550 7407N $0.18 ea. $4.00 per tube of 25 ($0.16 each)
Hex Non-Inverted Buffer with
Open-Collector outputs

605 74ALS20AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
Dual 4-Input Positive NAND Gates

240 74ALS27AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
Triple 3-Input Positive NOR Gates

1350 74LS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
Dual D-Type Positive Edge-triggered
Flip-Flops with Preset and Clear.

100 74ALS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
Dual D-Type Positive Edge-triggered
Flip-Flops with Preset and Clear.

RESISTORS

55,000 100 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
$15 per box of 5000 or
$100 for 50,000 pieces.

4,000 220 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
$12 per box of 4000 or

4,000 680 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
$12 per box of 4000 or

A pack of 100 resistors is $4 inclusive shipping to anywhere
in the US and Canada

e-mail: jrpart@excite.com

Minimum purchase $4 including postage.

No shipping is included in the above prices. To quote a
total including shipping, I require your full ZIP code or
postal code in addition to a list of what you are interested
in. Please specify the country for international orders
outside of North America. The shipping you will be quoted
is the cost of the postage stamp (plus insurance if requested).

The only part that I will ship for a total of $4 (by regular
mail) to anywhere in the US and Canada is a pack of 100
resistors.

All components are new. All semi-conductors are stored in
anti-static tubes/bags or on anti-static foam if you purchase
less than a tube/bag.

Offers on the lot are welcome. Keep in mind that I am looking
for a price below wholesale, but more than the commercial buyers
of surplus electronic parts are offering.

3407. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-11 23:59:55 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb175d4.24297584@news.online.no>
Source record: 31126
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

On Sun, 9 Nov 2003 16:00:21 -0500, "Tom Holden"
<holden_family@sympatico.ca> wrote:

>Thanks to everyone who has responded. I think the conclusion is that at the
>frequencies I'm interested in, and the available space inside the radio (a
>little RS DX-394 table radio), it's impractical to absorb the 455 kHz
>crosstalk energy from 2nd IF to frontend. Better to attempt to
>compartmentalize the radio. That may prove to be impractical also as it
>would appear very difficult to make small (removable) shields over the IF
>section that would not have gaps. However, I'll examine the pcb layout more
>closely to see if there are any viable paths for the sides of the shield
>box.
>
>73, Tom
>
>
You'll never know before you have tried, and remember that Racal
solved a similar problem with their famous RA-17 series receivers
using a hacksaw to make a little mark in the chassis to stop unwanted
radiation from one point to another. Believe I've seen the application
of those carbonized foam used in the lids of boxes which were
definitely not microwave equipment

Such things are impossible to predict

It is also some definite requirement for the thickness of the walls to
act as screen on certain frequencies, as an example could be mentioned
that pcb laminates are not thick enough for good screening on 80m in
an application with two oscillators which need good screening to avoid
coupling to be used for third order IP measurements

73
Jan-Martin, LA8AK
Amateur radio techniques http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

3408. Re: Don't Apply this package from the Microsoft

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 00:16:34 UTC
From: Ron Andrews <randrew1@rochesterDOTrr.com>
Message-ID: <CZesb.67616$ji3.5375@twister.nyroc.rr.com>
Source record: 31127
Cross-posted to: rec.music.makers.marketplace,rec.pets.dogs.health,rec.pets.dogs.misc,rec.photo.equipment.35mm,rec.photo.equipment.large-format,rec.photo.equipment.medium-format,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.swap

This warning is probably superfluous, but just in case someone has been living in a cave for the past few weeks, these messages are not from Microsoft and they contain viruses

--
Ron Andrews
http://members.hostedscripts.com/antispam.html

3409. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 01:13:30 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311111713.22d9e100@posting.google.com>
Source record: 31128
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Bob Liesenfeld <robert.liesenfeld@neicoltech.org> wrote in message
news:<3FB12001.89D7A9A9@neicoltech.org>...
> Frank Gilliland wrote:
>
> > Tektronix is trying to manipulate the oscilloscope market.
>
> Perhaps. However I know in some industries, the same thing is done to prevent
> something like this happening:
>
> Original owner of functioning, well cared for unit sells it at a flea market etc.
> New owner modifies/breaks unit, then sells it to 3rd owner
> 3rd owner is dissatisfied and blames manufacturer, perhaps with little effect,
> perhaps with significant damage to manufacturers reputation.
>
> I know from first hand experience that this was the case with 2 well known 2 way
> radio companies. If you were caught sneaking a trade-in out of the path of the
> crusher, you got canned.

the last time frankenstein bought a scope it was $1200.00 new.....So
now he thinks the company sucks because he is a tight ass.

3410. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 01:48:24 UTC
From: Larry Johnson <larryj@teleport.com>
Message-ID: <3FB18D65.83C5A9C@teleport.com>
Source record: 31129
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Me too, but it was after many years of not being able to get them - read
the stories by Wayne Green and Byron Kretzman about the machines that
used to go to the landfill. Same with Motorola - a few hams spoiled it
for everyone by reselling 2-way radio gear back into commercial service
after they had "promised" (and signed waivers) that the equipment would
be used only for ham radio use and not resold into commercial service.

Sometimes it's just cheaper in the long run to dispose of gear than try
to support it and lose a potential new equipment sale.....
LJ

Dave Holford wrote:
>
> When I applied for a used Teletype machine I only had to sign a waiver
> that it would never be put back in commercial service. I found out about
> the program from several friends who had also obtained used machines
> this way.
>
> Dave
>
> Larry Johnson wrote:
> >
> > Frank - this is how big business works. They're not in business to do
> > favors for you, they're in business to make money. Period.
> >
> > Teletype Corp. used to do the same thing with used Teletype machines.
> > Motorola used to do the same with traded-in 2-way radios (I had a friend
> > who drove the truck to the crusher.)
> >
> > That's the way it works, Frank....
> > LJ
> >
> > Frank Gilliland wrote:
> > >
> > > Tektronix is trying to manipulate the oscilloscope market. Today I learned from
> > > my local dealership that they are required by contract to destroy every scope
> > > which is traded in for a new Tektronix scope, regardless of age or condition. So
> > > if you decide to trade in that old scope for a Tektronix, know ahead of time
> > > that it is NOT going to end up in the hands of a ham, or of some kid learning
> > > and experimenting in electronics on a tight budget like I was thir... er, twenty
> > > years ago. No, Tektronix needs to raise their profits by destroying every used
> > > scope they can get their greedy little hands on, regardless of who feels the
> > > pinch!
> > >

> > > -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> > > http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> > > -----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3411. TR751 Power Out and APC adjustments

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 03:01:46 UTC
From: John <jmort@despammed.com>
Message-ID: <botn8iggo1@newsg3.svr.pol.co.uk>
Source record: 31140

I have just got my TR751 working. (Kenwood 2m multimode transceiver)

Does anyone have details of the APC adjustment procedure? Also details of which pot controls power output in Hi power position. I am getting nearly 40 Watts out on FM in to 50 ohms whereas the spec says 25 Watts. I want to turn power out down so as not to stress the output brick.

Thanks

3412. TS829 WARC mod

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 03:50:42 UTC
From: DAVE <dave@winslows-dowv.net>
Message-ID: <m8b3rvo4jmujbpoc00mcqtgb89j8gi2di9@4ax.com>
Source record: 31116

```
if anyone has a copy of this info from QST feb 83 could they please
email a copy to me
Thanks
Dave
```

3413. Re: TS829 WARC mod

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 03:58:22 UTC
From: DAVE <dave@winslows-dowv.net>
Message-ID: <irb3rv82j6t77ph35ds2qid3b0vmkmf60k@4ax.com>
Source record: 31117

Email Dave at daveb@toyotacelicas.net

On Tue, 11 Nov 2003 19:50:42 -0800, DAVE <dave@winslows-dowv.net>
wrote:

>if anyone has a copy of this info from QST feb 83 could they please
>email a copy to me
>Thanks
>Dave

3414. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 04:40:43 UTC
From: averyfineman@aol.com
Message-ID: <20031111234043.21457.00002034@mb-m10.aol.com>
Source record: 31130

In article <vca2rv88fs8ai43v60qa4j0v7894fku4rb@4ax.com>, W7TI <noway@nohow.com>
writes:

>On Tue, 11 Nov 2003 00:40:03 GMT, Larry Johnson <larryj@teleport.com>
>wrote:
>
>>Frank - this is how big business works. They're not in business to do
>>favors for you, they're in business to make money. Period.
>
>____
>
>Not true. Like all businesses, Tek must please their customers while
>making money or soon there will be no customers. The trick is to strike
>the right balance. Tektronix has been in business for ~50 years now, so
>I'd say they are doing it right.
>
>--
>Bill, W7TI
>
>p.s. I'm an ex-employee, so grains of salt will be distributed as
>necessary.

Bill, I've never worked for Tektronix. My personal oscilloscope is a
Philips 50 MHz dual-trace used demo unit bought at a fair deal from a
Philips representative in 1981. On the other hand, I've been very
much acquainted with their line of instruments since 1954 and can
say that their quality, maintainability, and holding-of-accuracy is
excellent. I can afford them for contract jobs...just can't afford them
for personal use.

The price of ALL electronics instruments has constantly gone up in
the last half century...the major reason probably in that the
performance and range and flexibility has also increased...which
leads to the various companies amortizing new instrument
development costs back to the buyers. Like TS for all those who
want high-performance goodies at Knight-Kit prices.

Len Anderson
retired (from regular hours) electronic engineer person

3415. Re: Michigan Mighty Mite question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 06:10:02 UTC
From: n2cqr@clix.pt
Message-ID: <97f305da.0311112210.6a71deaa@posting.google.com>
Source record: 31131

Jim: I built one years ago. Mine worked. It was one of my first
successful HB projects. It was great fun to get that thing to oscillate.
I'd set the freq counter aside and listen around the xtal freq with your
receiver. It may be oscillating faintly up or down a few khz from the freq
marked on the rock. And it will probably be too weak for the FS meter.
Good luck. Hang in there. 73 from London Bill M0HBR

"jim&julz" <shrumj@spamsucks.madisontelco.com> wrote in message
news:<bopo95$bkg3$1@news3.infoave.net>...
> Greetings...
> Has anyone here actually built the MMM and had success w/ it? I've tried it
> 2 times on the bread board and each time ... nothing. I have followed the
> schematic perfectly, but I get absolutely no output at all (per the
> frequency counter, and FS meter).
>
> The only thing that I can think of that might be off, is the crystals that
> I'm using. They're not specifically transmitter crystals... just ones that
> I've scrapped out of junk. I was using a 10.145Mhz Xtal w/ the 30meter coil
> directions. Is there actually a difference w/ xtals, other than frequency?
> Also for the variable cap, I'm using a variable cap from an old am/fm
> radio... I assume this will work.
>
> I was just wondering if anyone has tried and failed, or tried and succeeded.
> Any help would be much appreciated. Thanks
>
> Jim
> shrumj@madisontelco.com

3416. Pin out, MCL ASK-1?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 06:52:30 UTC
From: n2cqr@clix.pt
Message-ID: <97f305da.0311112252.53dd2079@posting.google.com>
Source record: 31132

Anyone have the pin out for the MCL ASK-1?
Thanks Bill M0HBR

3417. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 07:12:39 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <H3lsb.240710$0v4.17073525@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31133
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

As of last year, Motorola still did send their trade-ins to the crusher.
They did the same thing with engineering units. I can't tell you how many
XTS-3000s went to the crusher.

Pete

Larry Johnson <larryj@teleport.com> wrote in message
news:3FB02EC0.1CA9B6C2@teleport.com...
> Frank - this is how big business works. They're not in business to do
> favors for you, they're in business to make money. Period.
>
> Teletype Corp. used to do the same thing with used Teletype machines.
> Motorola used to do the same with traded-in 2-way radios (I had a friend
> who drove the truck to the crusher.)
>
> That's the way it works, Frank....
> LJ
>
>
> Frank Gilliland wrote:
> >
> > Tektronix is trying to manipulate the oscilloscope market. Today I
learned from
> > my local dealership that they are required by contract to destroy every
scope
> > which is traded in for a new Tektronix scope, regardless of age or
condition. So
> > if you decide to trade in that old scope for a Tektronix, know ahead of
time
> > that it is NOT going to end up in the hands of a ham, or of some kid
learning
> > and experimenting in electronics on a tight budget like I was thir...
er, twenty
> > years ago. No, Tektronix needs to raise their profits by destroying
every used
> > scope they can get their greedy little hands on, regardless of who feels
the
> > pinch!
> >
> > -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> > http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> > -----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3418. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 08:15:52 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <R+dUMyF4wes$EA1j@ifwtech.co.uk>
Source record: 31138
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

J M Noeding wrote:
>>
>You'll never know before you have tried, and remember that Racal solved
>a similar problem with their famous RA-17 series receivers using a
>hacksaw to make a little mark in the chassis to stop unwanted radiation
>from one point to another.
[...]

More than a "little mark" - a big cut, deliberately intended to
interrupt an unwanted current path through the chassis.

>
>Such things are impossible to predict
>
If you stop to think about it, such things often *can* be predicted...
or at least explained with the benefit of hindsight.

When we connect a signal from point A to point B, we often forget about
the return path through 'ground'. But every signal path must also have a
return path - that's why we call these things "circuits". Even if we
shield the signal conductor to provide a preferred return path, there
are still other return paths available in parallel with that, through
the box.

Return currents will divide between these paths according to the RF
impedance that each path presents (Ohm's law), so you will always get
some RF currents in the body of the box. The box is just another RF
conductor, and when currents flow through it, voltages will appear.

The key thing is to remember that there's no magic that makes the box a
perfect zero potential. For all us Sixties children: "'Ground' is a
delusion, Grasshopper."

Therefore in a complex project you will always get some interaction
between different stages. What's hard to predict is how much effect this
will have on overall performance.

The problem that plagued Racal was spurious receiver responses. Racal
was a startup company with a revolutionary all-band receiver concept...
but it involved several oscillators in different stages, that were
getting into the wrong parts of the receiver and causing "birdies". They
couldn't sell a single unit until that problem was fixed.

They had already gone to the huge expense of a diecast chassis divided
into many shielding compartments... and it wasn't working. Very soon,
the money would run out and Racal could cease to exist. Hence the

desperate solution with the hacksaw - and it saved the company. Legend has it that the prototype receiver (complete with saw cut) was on display in Reception for many years... maybe they shoulda kept the hacksaw too?

I once had a problem of this type with spurious responses from a receiver that was constructed in three (apparently) shielded diecast boxes with coax signal interconnections. The boxes were stacked side by side inside the case of the receiver. Remembering the Racal experience, something made me shove a piece of folded paper under one of the boxes, to insulate it from the receiver case. The spurs disappeared!

Looking further into this, the real problem was with the power interconnections between the boxes, which I'd been ignoring until then. RF was getting into the power rails, and contact between the boxes formed a ground loop. Unwanted signals were being transferred between the two boxes via this 'back channel'. With better bypassing of the power rails, it was possible to re-connect the boxes to the case of the receiver.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

3419. Re: Help With UK Crystal Nomenclature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 08:32:43 UTC
From: John <jmort@despammed.com>
Message-ID: <boucgkksd1@news6.svr.pol.co.uk>
Source record: 31145

"Mike" <w9wis@charter.net> wrote in message
news:20306d79.0311121235.26bcbfda@posting.google.com...
> I need a new calibrator crystal for my Eddystone 770U Mk II. The
> specifications are in the manual but I need to know what "package" it
> is ... the manual states it is a "Style D". I suspect from the way
> the crystal holder looks that this might be a HC-48U ? Any help
> appreciated ?
>
> Mike, W9WIS

Style D is the UK military holder designation equivalent to USA type HC6/U

John,
G3UGY

3420. Re: TR751 Power Out and APC adjustments

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 08:34:02 UTC
From: John <jmort@despammed.com>
Message-ID: <boucj3$ml2$1@newsg1.svr.pol.co.uk>
Source record: 31146

"John" <noaddress@noaddress.net> wrote in message
news:DcOdnaU11505Pi-i4p2dnA@comcast.com...
>
> "John" <jmort@despammed.com> wrote in message
> news:botn8iggo1@newsg3.svr.pol.co.uk...
> > I have just got my TR751 working. (Kenwood 2m multimode transceiver)
> >
> > Does anyone have details of the APC adjustment procedure? Also details
of
> > which pot controls power output in Hi power position. I am getting
nearly
> > 40 Watts out on FM in to 50 ohms whereas the spec says 25 Watts. I want
> to
> > turn power out down so as not to stress the output brick.
> >
> > Thanks
> >
> >
> I'm not sure what you mean by "APC adjustment procedure".
> The complete transmitter adjustment covers two and a half pages and
> requires a lot of test equipment. RF voltmeter, frequency counter,
> power meter, DC voltmeter, linear detector, oscilloscope, spectrum
> analyzer, and AF voltmeter to name most of them.
>
> The power adjustment is the easy part.
> Place the radio in front of you with the controls toward you.
> Remove the top cover.
> In the right rear you will find VR4, VR3, and VR7 close together
> on the composite unit (TX) board. They form a triangle.
> VR3 is the low power adjust
> VR4 is the high power adjust
> VR7 is the CW break in delay
>
> Low power is supposed to be adjusted for 5 watts
> High power is supposed to be adjusted for 27 watts
>
> Power should be adjusted with the radio in CW mode.
> A VHF capable 50 ohm dummy load must be used for the adjustment.
>
> Be careful - there are three VR3 and two VR4 pots in the radio.
>
> John

Thanks a lot for the info John. Have now adjusted power o/p as you suggest. Am I right in thinking that you have a TR-751 ? On SSB mode my 751 receiver background noise is very quiet although the RX is quite sensitive. What is the background noise on SSB mode like on your 751 ?

Does the service manual run to many pages ? Do you have a scanned copy by any chance ? I do have access to all the necessary test equipment in your list.

John G3UGY

3421. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 08:42:39 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb179a3.25272103@news.online.no>
Source record: 31134

On Mon, 10 Nov 2003 12:50:26 -0000, "Frank Dinger"
<gm0csz.kn6wh@ntlworld.com> wrote:

>> It is good for many purposes, even up to 432MHz - in spite of what
>> somebody says. In the local radio club the problem is that they don't
>> like to solder and even SO239/PL259 means a great problem. Not to
>> mention a club which went into a very large scale of antenna
>> installations for CQ-WW contest last year and discovered that some of
>> the antennas which were put up few days before didn't work any more
>===============

>There are High quality PL259 connectors with teflon insulation where only
>the (gold plated) centre pin has to be soldered .
>The braid connection is like an N-connector with a 'flanged braid insert'
>.
>They are relatively expensive (GBP 3.00 = US$ 4.50) ,yet I have adopted them
>as standard for all the necessary 'UHF' connections in the shack.
>In the UK these connectors are available from Westlake.
>
>Frank GM0CSZ / KN6WH
>
SO239/PL259 were used in the 60's for radio link equipment on 400MHz,
but it was a prosedure to connect the cables correctly.

I wouldn't choose such connector, my choice would be N-type or Spinner
for cables going out of the equipment, with a limited application of
BNC type. In fact BNC is just as bad as PL-259, and it is seldom
mentioned in AR groups, but rather intermittent above 1GHz. Suppose
most participants on the NG's operates only 2m FM? TNC is far better,
but I don't like to mix up with too many standards. PL259 are good
enough when already installed on proffesional equipment, and only
then.
Inside the equipment I would prefer conhex on lower frequencies and
BNC when impedance is important, SMA on SHF. Also have some equipment
with dezi-fix connectors, but I've never seen much comments on these,
not sure when they are 50 or 60 ohm type

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/21a.htm
--
remove ,xnd to reply (Spam precaution!)

3422. Re: Don't Apply this package from the Microsoft

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 08:50:13 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb1f3c1.56539498@news.online.no>
Source record: 31135
Cross-posted to: rec.music.makers.marketplace,rec.pets.dogs.health,rec.pets.dogs.misc,rec.photo.equipment.35mm,rec.photo.equipment.large-format,rec.photo.equipment.medium-format,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.swap

On Wed, 12 Nov 2003 00:16:34 GMT, "Ron Andrews"
<randrew1@rochesterDOTrr.com> wrote:

> This warning is probably superfluous, but just in case someone has been
>living in a cave for the past few weeks, these messages are not from
>Microsoft and they contain viruses
>
you can never underestimate other users enough, it is just incredible
to learn how stupid somebody is when it comes to data and collecting
infected mail which any idiot should easily have understood was a
problem

--
remove ,xnd to reply (Spam precaution!)

3423. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 10:03:08 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <pznsb.23360$mb5.1962@fed1read02>
Source record: 31136
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

"W7TI" <noway@nohow.com> wrote in message
news:vca2rv88fs8ai43v60qa4j0v7894fku4rb@4ax.com...
> On Tue, 11 Nov 2003 00:40:03 GMT, Larry Johnson <larryj@teleport.com>
> wrote:
>
> >Frank - this is how big business works. They're not in business to do
> >favors for you, they're in business to make money. Period.
>
> ____
>
> Not true. Like all businesses, Tek must please their customers while
> making money or soon there will be no customers. The trick is to strike
> the right balance. Tektronix has been in business for ~50 years now, so
> I'd say they are doing it right.
>
> --
> Bill, W7TI
>
> p.s. I'm an ex-employee, so grains of salt will be distributed as
> necessary.

Your analysis might be true, IF there was any continuity to typical management. Businesses that have been "doing the right thing" for 50 years can suddenly do bizarre things, often from bringing in a "breath of fresh air" in the form of a manager hired from competition, or, even worse, from some totally unrelated industry. Or the management level fills up with lawyers and bean counters. Got synergy?

Other things, like management loosing their collective nerve or direction, can also produce this effect. Remember Coke? For 90 plus years, brand leader with an unchanging formula. Then the data comes in from some market focus group, and we suddenly get New Coke!

BTW, this "news" about destroying obsolete products is very old news. Seems like more than 10 years ago, HP was doing this on 141-series analyzer mainframes. Come to think of it, HP ain't the old HP anymore, huh?

Ed
wb6wsn

3424. Re: Pin out, MCL ASK-1?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 10:48:03 UTC
From: "Thomas C. Sefranek" <WA1RHP@ARRL.NET>
Message-ID: <GvqdnUcHyNK6jS-iRVn-jA@comcast.com>
Source record: 31137

```
Pin 1 - LO
Pin 4 - RF
Pin 5 - IF
Pins 2,3,6 Gnd

The specs are on their web site too.

"Bill Meara" <n2cqr@clix.pt> wrote in message
news:97f305da.0311112252.53dd2079@posting.google.com...
> Anyone have the pin out for the MCL ASK-1?
> Thanks Bill M0HBR

--
*
| __O Thomas C. Sefranek WA1RHP@ARRL.net
|_-\<,_ Amateur Radio Operator: WA1RHP
(*)/ (*) Bicycle mobile on 145.41, 448.625 MHz

http://hamradio.cmcorp.com/inventory/Inventory.html
http://www.harvardrepeater.org
```

3425. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 15:14:38 UTC
From: Ghost writer <Spamfree@Spamfree.com>
Message-ID: <y7ssb.38217$A%3.499952@ord-read.news.verio.net>
Source record: 31139
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message
news:pznsb.23360$mb5.1962@fed1read02...
>
> "W7TI" <noway@nohow.com> wrote in message
> news:vca2rv88fs8ai43v60qa4j0v7894fku4rb@4ax.com...
> > On Tue, 11 Nov 2003 00:40:03 GMT, Larry Johnson <larryj@teleport.com>
> > wrote:
> >
> > >Frank - this is how big business works. They're not in business to do
> > >favors for you, they're in business to make money. Period.
> >
> > ____
> >
> > Not true. Like all businesses, Tek must please their customers while
> > making money or soon there will be no customers. The trick is to strike
> > the right balance. Tektronix has been in business for ~50 years now, so
> > I'd say they are doing it right.
> >
> > --
> > Bill, W7TI
> >
> > p.s. I'm an ex-employee, so grains of salt will be distributed as
> > necessary.
>
>
> Your analysis might be true, IF there was any continuity to typical
> management. Businesses that have been "doing the right thing" for 50 years
> can suddenly do bizarre things, often from bringing in a "breath of fresh
> air" in the form of a manager hired from competition, or, even worse, from
> some totally unrelated industry. Or the management level fills up with
> lawyers and bean counters. Got synergy?
>
> Other things, like management loosing their collective nerve or direction,
> can also produce this effect. Remember Coke? For 90 plus years, brand
leader
> with an unchanging formula. Then the data comes in from some market focus
> group, and we suddenly get New Coke!
>
> BTW, this "news" about destroying obsolete products is very old news.
Seems
> like more than 10 years ago, HP was doing this on 141-series analyzer
> mainframes. Come to think of it, HP ain't the old HP anymore, huh?
>

> Ed
> wb6wsn
>

In this current time, NOTHING is as it used to be.. As the man pointed out with management, ideas, formulas and so on, it seems all of what "used to be" common sense has gone out the window. Nothing should come as a surprise in this day and age.
But, speaking of trashing items, I too know of a few companies that trash their items with no regard to future use, and so on.
This world is run by a whole different set of rules now and even they aren't set in stone. It is a shame to see such equipment still with some life to it demolished, but such is life. G.W.

3426. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 16:36:38 UTC
From: Radioman <radio@ptt.edu>
Message-ID: <3FB26196.A98EDB69@ptt.edu>
Source record: 31141
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

> Come to think of it, HP ain't the old HP anymore, huh?

They even advertise, The New HP!

3427. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 20:35:50 UTC
From: Phil Kane <Phil.Kane@nov.shmovz.ka.pop>
Message-ID: <xnfcneeyarg.ho90f2b.pminews@netnews.comcast.net>
Source record: 31142
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

On Wed, 12 Nov 2003 11:36:38 -0500, Radioman wrote:

>> Come to think of it, HP ain't the old HP anymore, huh?
>
>They even advertise, The New HP!

IIRC HP broke into several different companies - the one that makes
computers absorbed Compaq (or was it the other way around) and the
one that makes printer stuff is the "new HP".

The one that made (from the start) and still makes some of the best
test equipment now has a new name.

It shudd'a been the other way around.

--
73 de K2ASP - Phil Kane

From a Clearing in the Silicon Forest
Beaverton (Washington County) Oregon

3428. Help With UK Crystal Nomenclature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 20:35:53 UTC
From: w9wis@charter.net
Message-ID: <20306d79.0311121235.26bcbfda@posting.google.com>
Source record: 31143

I need a new calibrator crystal for my Eddystone 770U Mk II. The specifications are in the manual but I need to know what "package" it is ... the manual states it is a "Style D". I suspect from the way the crystal holder looks that this might be a HC-48U ? Any help appreciated ?

Mike, W9WIS

3429. Re: TR751 Power Out and APC adjustments

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-12 21:18:20 UTC
From: John <noaddress@noaddress.net>
Message-ID: <DcOdnaU11505Pi-i4p2dnA@comcast.com>
Source record: 31144

"John" <jmort@despammed.com> wrote in message
news:botn8iggo1@newsg3.svr.pol.co.uk...
> I have just got my TR751 working. (Kenwood 2m multimode transceiver)
>
> Does anyone have details of the APC adjustment procedure? Also details of
> which pot controls power output in Hi power position. I am getting nearly
> 40 Watts out on FM in to 50 ohms whereas the spec says 25 Watts. I want
to
> turn power out down so as not to stress the output brick.
>
> Thanks
>
>
I'm not sure what you mean by "APC adjustment procedure".
The complete transmitter adjustment covers two and a half pages and
requires a lot of test equipment. RF voltmeter, frequency counter,
power meter, DC voltmeter, linear detector, oscilloscope, spectrum
analyzer, and AF voltmeter to name most of them.

The power adjustment is the easy part.
Place the radio in front of you with the controls toward you.
Remove the top cover.
In the right rear you will find VR4, VR3, and VR7 close together
on the composite unit (TX) board. They form a triangle.
VR3 is the low power adjust
VR4 is the high power adjust
VR7 is the CW break in delay

Low power is supposed to be adjusted for 5 watts
High power is supposed to be adjusted for 27 watts

Power should be adjusted with the radio in CW mode.
A VHF capable 50 ohm dummy load must be used for the adjustment.

Be careful - there are three VR3 and two VR4 pots in the radio.

John

3430. New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 00:14:43 UTC
From: GTS <gts_sp@brewityourselfers.com>
Message-ID: <3FB2CCF3.6040308@brewityourselfers.com>
Source record: 31048

Greetings all,

This is a message to let you know about our new homebrewing web site :
http://www.brewityourselfers.com.

We have home brewing supplies, recipes, and information. It is a site
dedicated to the homebrewer, and everything that
the homebrewer needs. Be sure and check it out. If you have any
suggestions, they are appreciated, the more input the better.

Some of the features:

* Home Brewing supplies
http://www.brewityourselfers.com/docs/Products.php

* Home brew recipes
http://www.brewityourselfers.com/docs/recipes.php
- Order supplies based upon the recipe

* Keep your own home brewing recipe book
http://www.brewityourselfers.com/docs/Products.php
- Keep recipes privately, or publicly
- Keep private notes on recipes

* First time home brewer's instructions
http://www.brewityourselfers.com/docs/first beer home brew.php

* Beer calculator --http://www.brewityourselfers.com/docs/beer
calculator home brew.php
- Calculate Alcohol content
- Convert Balling and specific gravity
- Adjust specific gravity for temperature

Hope to see you there,

GandalftheStout
http://www.brewityourselfers.com

3431. Re: Help With UK Crystal Nomenclature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 00:46:49 UTC
From: Michael Melland <w9wis@charter.net>
Message-ID: <vr5e5jh423voed@corp.supernews.com>
Source record: 31047

Thanks John !

73 de Mike, W9WIS

3432. 2m Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 01:50:35 UTC
From: Jason Dugas <kb5urq@hotmail.com>
Message-ID: <vr5orog64fmu14@corp.supernews.com>
Source record: 31049

Hi, I'm interested in homebrewing a 2m amplifier for SSB use. Was wandering if anyone had some suggestions as for plans/schematics, etc. Did a google search, but didn't see much.

Thanks,

Jason

3433. Re: TR751 Power Out and APC adjustments

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 02:47:28 UTC
From: John <noaddress@noaddress.net>
Message-ID: <y_GdnWno_PpNbS-i4p2dnA@comcast.com>
Source record: 31050

```
"John" <jmort@despammed.com> wrote in message
news:boucj3$ml2$1@newsg1.svr.pol.co.uk...
>
> "John" <noaddress@noaddress.net> wrote in message
> news:DcOdnaU11505Pi-i4p2dnA@comcast.com...
> >
> > "John" <jmort@despammed.com> wrote in message
> > news:botn8i$ggo$1@newsg3.svr.pol.co.uk...
> > > I have just got my TR751 working. (Kenwood 2m multimode transceiver)
> > >
> > > Does anyone have details of the APC adjustment procedure? Also
details
> of
> > > which pot controls power output in Hi power position. I am getting
> nearly
> > > 40 Watts out on FM in to 50 ohms whereas the spec says 25 Watts. I
want
> > to
> > > turn power out down so as not to stress the output brick.
> > >
> > > Thanks
> > >
> > >
> > I'm not sure what you mean by "APC adjustment procedure".
> > The complete transmitter adjustment covers two and a half pages and
> > requires a lot of test equipment. RF voltmeter, frequency counter,
> > power meter, DC voltmeter, linear detector, oscilloscope, spectrum
> > analyzer, and AF voltmeter to name most of them.
> >
> > The power adjustment is the easy part.
> > Place the radio in front of you with the controls toward you.
> > Remove the top cover.
> > In the right rear you will find VR4, VR3, and VR7 close together
> > on the composite unit (TX) board. They form a triangle.
> > VR3 is the low power adjust
> > VR4 is the high power adjust
> > VR7 is the CW break in delay
> >
> > Low power is supposed to be adjusted for 5 watts
> > High power is supposed to be adjusted for 27 watts
> >
> > Power should be adjusted with the radio in CW mode.
> > A VHF capable 50 ohm dummy load must be used for the adjustment.
> >
```

> > Be careful - there are three VR3 and two VR4 pots in the radio.
> >
> > John
>
>
> Thanks a lot for the info John. Have now adjusted power o/p as you
suggest.
> Am I right in thinking that you have a TR-751 ? On SSB mode my 751
> receiver background noise is very quiet although the RX is quite
sensitive.
> What is the background noise on SSB mode like on your 751 ?
>
> Does the service manual run to many pages ? Do you have a scanned copy by
> any chance ? I do have access to all the necessary test equipment in your
> list.
>
> John G3UGY

Yes I have a TR-751. In SSB mode, in the absence of a signal, there is considerable background noise if the squelch is off and the RF gain is at maximum. The squelch knob works in SSB mode. I recently had to replace both the volume and squelch pots in my TR-751 and my TR-851. I took one of the bad ones apart and found that the metal wiper had come loose from the plastic piece that supports it. If I had a surgeons hands I probably could have repaired it.

I have an original service manual. I don't have a scanned copy. The service manual is the equivalent of 94 8-1/2" x 11" pages. There are several double and triple fold out pages. Quite a few pages are taken up by the parts list, the schematics, and colored images of both sides of the circuit boards. The adjustment section is 12 pages. The circuit description is 12 pages. The element function description is 7 pages.

It looks like the manual may be available from

http://www.amateurmanuals.co.uk/

If not, I can probably scan at least the adjustment section for you. You can get my email address by looking up my call sign at

http://www.qrz.com

John WA3TSW

3434. Re: 2m Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 02:47:51 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <00s5rvk28osucnka4bu5nsc8agvbpn8k7h@4ax.com>
Source record: 31051

On Wed, 12 Nov 2003 19:50:35 -0600, "Jason Dugas" <kb5urq@hotmail.com>
wrote:

|Hi, I'm interested in homebrewing a 2m amplifier for SSB use. Was wandering
|if anyone had some suggestions as for plans/schematics, etc. Did a google
|search, but didn't see much.
|
|Thanks,
|
|Jason

http://web.wt.net/~w5un/8877-1.htm

|

3435. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 03:56:14 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <yhDsb.43206$jy.26407@clgrps13>
Source record: 31052

Wrong group dude.

But thanks, we like beer ;-)

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

3436. Re: Pin out, MCL ASK-1?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 06:34:32 UTC
From: n2cqr@clix.pt
Message-ID: <97f305da.0311122234.64d86f1c@posting.google.com>
Source record: 31053

Tom: Thanks, good to hear from you again. I've not used this style
of
case before, and don't know which pin is #1 etc. I didn't see this
kind of diagram on the site. 73 Bill

"Thomas C. Sefranek" <WA1RHP@ARRL.NET> wrote in message
news:<GvqdnUcHyNK6jS-iRVn-jA@comcast.com>...
> Pin 1 - LO
> Pin 4 - RF
> Pin 5 - IF
> Pins 2,3,6 Gnd
>
> The specs are on their web site too.
>
> "Bill Meara" <n2cqr@clix.pt> wrote in message
> news:97f305da.0311112252.53dd2079@posting.google.com...
> > Anyone have the pin out for the MCL ASK-1?
> > Thanks Bill M0HBR

3437. Re: Pin out, MCL ASK-1?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 06:37:54 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FB326AA.6E3F905C@earthlink.net>
Source record: 31054

Bill Meara wrote:
>
> Tom: Thanks, good to hear from you again. I've not used this style
> of
> case before, and don't know which pin is #1 etc. I didn't see this
> kind of diagram on the site. 73 Bill
>
> "Thomas C. Sefranek" <WA1RHP@ARRL.NET> wrote in message
news:<GvqdnUcHyNK6jS-iRVn-jA@comcast.com>...
> > Pin 1 - LO
> > Pin 4 - RF
> > Pin 5 - IF
> > Pins 2,3,6 Gnd
> >
> > The specs are on their web site too.
> >
> > "Bill Meara" <n2cqr@clix.pt> wrote in message
> > news:97f305da.0311112252.53dd2079@posting.google.com...
> > > Anyone have the pin out for the MCL ASK-1?
> > > Thanks Bill M0HBR

Pin one should be marked by a dot on the top of the case, or a
different color glass seal on the "pin one" lead.
--

Michael A. Terrell
Central Florida

3438. Re: 2m Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 07:20:25 UTC
From: james <james@nospam.com>
Message-ID: <3FB330B8.EDD1A83E@nospam.com>
Source record: 31055

> Hi Jason,

Here is a link for you

http://www.communication-concepts.com/

they have hf and vhf kits

http://www.communication-concepts.com/vhf_amplifiers.htm

73 jimbo

>
>
> |Hi, I'm interested in homebrewing a 2m amplifier for SSB use. Was wandering
> |if anyone had some suggestions as for plans/schematics, etc. Did a google
> |search, but didn't see much.
> |
> |Thanks,
> |
> |Jason
>
> http://web.wt.net/~w5un/8877-1.htm
>
> |

3439. Re: Pin out, MCL ASK-1?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 09:57:35 UTC
From: "Thomas C. Sefranek" <WA1RHP@ARRL.NET>
Message-ID: <XJKdnaVADsZGyC6i4p2dnA@comcast.com>
Source record: 31056

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:3FB326AA.6E3F905C@earthlink.net...
> Bill Meara wrote:
> >
> > Tom: Thanks, good to hear from you again. I've not used this style
> > of
> > case before, and don't know which pin is #1 etc. I didn't see this
> > kind of diagram on the site. 73 Bill
> >
> > "Thomas C. Sefranek" <WA1RHP@ARRL.NET> wrote in message
news:<GvqdnUcHyNK6jS-iRVn-jA@comcast.com>...
> > > Pin 1 - LO
> > > Pin 4 - RF
> > > Pin 5 - IF
> > > Pins 2,3,6 Gnd
> > >
> > > The specs are on their web site too.
> > >
> > > "Bill Meara" <n2cqr@clix.pt> wrote in message
> > > news:97f305da.0311112252.53dd2079@posting.google.com...
> > > > Anyone have the pin out for the MCL ASK-1?
> > > > Thanks Bill M0HBR
>
> Pin one should be marked by a dot on the top of the case, or a
> different color glass seal on the "pin one" lead.

WRONG! The index is on pin 6!!!

http://www.minicircuits.com/cgi-bin/spec?cat=mixer&model=ASK-1&pix=w38.gif&bv=4

> --
>
>
> Michael A. Terrell
> Central Florida

--
*
| __O Thomas C. Sefranek WA1RHP@ARRL.net
|_-\<,_ Amateur Radio Operator: WA1RHP
(*)/ (*) Bicycle mobile on 145.41, 448.625 MHz

http://hamradio.cmcorp.com/inventory/Inventory.html
http://www.harvardrepeater.org

3440. Re: Z-Match tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 10:12:32 UTC
From: Paul Jordan <pauljordan@gci.net>
Message-ID: <vr6n1cg2a0kr2a@corp.supernews.com>
Source record: 31057

I wouldn't mind getting a copy of that article myself.. Thinkin about ordering the BLT tuner here shortly..

Thanks
Paul Jordan
kl0an
Anchorage, AK

"rob34" <rob34@infinet.com> wrote in message news:vquv62s2ruu27@corp.supernews.com...
> Does anybody have a copy of the January 2003 QST that has the
> construction article on the "Z-match tuner"? I had a copy and I can`t
> find it. If someone could scan it in and e-mail it to me, it would be
> greatly appreciated!! Rob WB8VWI
>

3441. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 13:20:20 UTC
From: Alex Flinsch <alex@localhost.localdomain>
Message-ID: <slrnbr71h1.1aj.alex@homer.linux1.lan>
Source record: 31058

On <nospam@unknown.org> wrote:
> Wrong group dude.
>
> But thanks, we like beer ;-)
>

perhaps they sell 807's

--
Alex/AB2RC
Avid homebrewer (beer & antennas)

3442. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 15:02:27 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <uJedncUvvvYSAS6iRVn-sQ@comcast.com>
Source record: 31059

On a "real" basis -- adjusted for inflation -- the cost of instruments has been going down. a TEK7704a with 4 plug-ins cost as much as a car when it was introduced -- today you can get same performance (well actually more since you have FFT and math) in a TDS3034 for 1/2 the price of a car.

> The price of ALL electronics instruments has constantly gone up in
> the last half century...the major reason probably in that the
> performance and range and flexibility has also increased...which
> leads to the various companies amortizing new instrument
> development costs back to the buyers. Like TS for all those who
> want high-performance goodies at Knight-Kit prices.
>
> Len Anderson
> retired (from regular hours) electronic engineer person

3443. Re: 2m Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 17:12:26 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0311130912.406e7a02@posting.google.com>
Source record: 31060

"Jason Dugas" <kb5urq@hotmail.com> wrote in message
news:<vr5orog64fmu14@corp.supernews.com>...
> Hi, I'm interested in homebrewing a 2m amplifier for SSB use. Was wandering
> if anyone had some suggestions as for plans/schematics, etc. Did a google
> search, but didn't see much.

Power level?

Low end: use a brick.

High end: look in just about any reference published in
the last 25 years, including the UHF/Microwave Projects
Book and the VHF/UHF DX Book.

Laura Halliday VE7LDH "Que les nuages soient notre
Grid: CN89mg pied a terre..."
ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

3444. Re: Z-Match tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 17:19:37 UTC
From: Eskay <sieb_kNOS@PAMyahoo.ca>
Message-ID: <a2Psb.106385$PD3.5480644@nnrp1.uunet.ca>
Source record: 31061

Paul Jordan wrote:
> I wouldn't mind getting a copy of that article myself.. Thinkin about
> ordering the BLT tuner here shortly..
>
> Thanks
> Paul Jordan
> kl0an
> Anchorage, AK
>
> "rob34" <rob34@infinet.com> wrote in message
> news:vquv62s2ruu27@corp.supernews.com...
>
>>Does anybody have a copy of the January 2003 QST that has the
>>construction article on the "Z-match tuner"? I had a copy and I can`t
>>find it. If someone could scan it in and e-mail it to me, it would be
>>greatly appreciated!! Rob WB8VWI
>>
>
>
>
OK guys..
Anyone who wants a copy of this article please send me an E-mail at the
address below..(not the one in the header)
ve3jua at arrl dot net

3445. Re: Absorptive Shielding?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 18:24:18 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vr7j3ap87pch34@corp.supernews.com>
Source record: 31062
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Most novice designers get burned somewhere along the line by failure to realize what Ian is describing -- that all amplifiers are differential amplifiers, and calling one of the inputs "ground" doesn't impart magic properties. Once that lesson has been learned (alas, usually the hard way), the probability of making circuits work as designed increases dramatically.

Even so, though, a surprise sometimes comes along at the last minute. I know of one expensive, high quality test instrument that had a ground path broken at the last minute because of ground current that was induced in the signal path by the field from the display CRT deflection yoke. Forewarned, I discovered 100 mA of induced current in the shield of a multi-turn delay line from the same source, in an instrument in whose design I was participating. Simply soldering the turns of semi-rigid coax together reduced the effective transformer secondary to one turn from 20 or so, making it possible to reduce the coupling and its effect to an acceptable level by other means.

But I remember that shortly after I went to work at Tektronix, I was in the main lobby admiring the example of the first oscilloscope model produced by that company, which was on display there. Its success and the reputation it gathered as a quality test instrument was instrumental in launching the company. It had two chassis, one above the other, supported by four L - cross section aluminum legs between the chassis. One of those four legs had very neatly been cut, leaving a small gap. A sturdy piece of phenolic was mounted between the gapped ends, again very neatly, with countersunk flathead screws. I remember that seeing this gave me a good feeling that ground currents could be a problem for the best of 'em.

The 'scope in the lobby was a production model, but somewhere, I'm sure, there was a prototype much like the Racal device -- with a hacksaw cut across the leg.

Roy Lewallen, W7EL

Ian White, G3SEK wrote:
> J M Noeding wrote:
>
>>>
>> You'll never know before you have tried, and remember that Racal
>> solved a similar problem with their famous RA-17 series receivers
>> using a hacksaw to make a little mark in the chassis to stop unwanted
>> radiation from one point to another.
>

> [...]
>
> More than a "little mark" - a big cut, deliberately intended to
> interrupt an unwanted current path through the chassis.
>
>>
>> Such things are impossible to predict
>>
> If you stop to think about it, such things often *can* be predicted...
> or at least explained with the benefit of hindsight.
>
> When we connect a signal from point A to point B, we often forget about
> the return path through 'ground'. But every signal path must also have a
> return path - that's why we call these things "circuits". Even if we
> shield the signal conductor to provide a preferred return path, there
> are still other return paths available in parallel with that, through
> the box.
>
> Return currents will divide between these paths according to the RF
> impedance that each path presents (Ohm's law), so you will always get
> some RF currents in the body of the box. The box is just another RF
> conductor, and when currents flow through it, voltages will appear.
>
> The key thing is to remember that there's no magic that makes the box a
> perfect zero potential. For all us Sixties children: "'Ground' is a
> delusion, Grasshopper."
>
> Therefore in a complex project you will always get some interaction
> between different stages. What's hard to predict is how much effect this
> will have on overall performance.
>
> The problem that plagued Racal was spurious receiver responses. Racal
> was a startup company with a revolutionary all-band receiver concept...
> but it involved several oscillators in different stages, that were
> getting into the wrong parts of the receiver and causing "birdies". They
> couldn't sell a single unit until that problem was fixed.
>
> They had already gone to the huge expense of a diecast chassis divided
> into many shielding compartments... and it wasn't working. Very soon,
> the money would run out and Racal could cease to exist. Hence the
> desperate solution with the hacksaw - and it saved the company. Legend
> has it that the prototype receiver (complete with saw cut) was on
> display in Reception for many years... maybe they shoulda kept the
> hacksaw too?
>
>
> I once had a problem of this type with spurious responses from a
> receiver that was constructed in three (apparently) shielded diecast
> boxes with coax signal interconnections. The boxes were stacked side by
> side inside the case of the receiver. Remembering the Racal experience,

> something made me shove a piece of folded paper under one of the boxes,
> to insulate it from the receiver case. The spurs disappeared!
>
> Looking further into this, the real problem was with the power
> interconnections between the boxes, which I'd been ignoring until then.
> RF was getting into the power rails, and contact between the boxes
> formed a ground loop. Unwanted signals were being transferred between
> the two boxes via this 'back channel'. With better bypassing of the
> power rails, it was possible to re-connect the boxes to the case of the
> receiver.
>
>

3446. AM receiver filter characteristics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 21:15:42 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bp0s9j$p1q$1@news.oregonstate.edu>
Source record: 31063

For a direct conversion AM receiver for the commercial broadcast band (550-1710kHz), could someone suggest appropriate low pass filter specifications? I'm looking at a standard (cheap) superhet receiver with a two stage transformer coupled IF amplifier/filter, and then end up with a bandwidth of +/3kHz (around 455kHz). Hence, this would be equivalent to a 4th order filter with a corner frequency of 3kHz -- correct? I was thinking I'd need somewhat more aggressive (but wider) filtering than this (more like an 8th order filter with a corner at 5kHz).

If a commercial AM station is transmitting at, say, 550kHz, is it a safe bet that the FCC wouldn't have stuck another reasonably powerful station at 560kHz, the next 'channel', in the same geographic location? That they'd at least wait until 570kHz to do so? Historically I would think they'd have had to do so in order to allow these simple IF transformer coupled amps/filters to perform satisfactorily.

Thanks,
---Joel Kolstad

3447. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 21:26:13 UTC
From: GTS <gts_sp@brewityourselfers.com>
Message-ID: <3FB3F6F5.6030209@brewityourselfers.com>
Source record: 31064

Sorry about that, a case of mistaken identity.

Fortunately, I like radio. :-)

Alex Flinsch wrote:
> On <nospam@unknown.org> wrote:
>
>>Wrong group dude.
>>
>>But thanks, we like beer ;-)
>>
>
>
> perhaps they sell 807's
>
> --
> Alex/AB2RC
> Avid homebrewer (beer & antennas)

3448. FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 21:56:22 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vr7v1i2v7uoqb8@corp.supernews.com>
Source record: 31065
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Would it be possible, though not necessarily practical, to make a reciever for the modern FM broadcast band, using only pre-WWII tube technology? I know they had FM on a lower frequency band at that time. What sorts of tubes could one use from the 1930's to make a reciever that could tune in the modern FM band? I'm sure I wont actually attempt such a thing, especially any time soon, but just wondered how difficult it might be. Are there any schematics or construction articles from the late 30's about making FM radios that might be adapted over to the new FM band?

just curious,

Dave

3449. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 22:00:31 UTC
From: Bob <balbert@access1.net>
Message-ID: <dpWdnbs7FruSYi6iU-KYkQ@ecrii.com>
Source record: 31066
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

There is no problem doing that. Realize that the 'modern' miniature tubes of the 1950s that were used to make FM tuners are internally identical to the old tubes from the 1930s.

You use a 6K7 instead of a 6SG7 for instance. Or if you want to go even older, a 36 I think. A 27 instead of a 6AT6 (triode section).

The lead lengths are longer and might require a bit more care in layout but it should be okay. Just look at the Hallicrafters S-27 for some ideas.

Bob

3450. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 22:16:59 UTC
From: Phil Nelson <philnelson@antiqueradio.orgNOSPAM>
Message-ID: <vpTsb.11806$6c3.5633@newsread1.news.pas.earthlink.net>
Source record: 31067
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

To my simple mind, the technology is essentially the same between prewar FM and "new" FM. You would change some coils & whatnot, primarily in the front end (experts, chime in here as usual to correct my habitual blunders :-), to receive and decode the same kind of signal, only in a different frequency band. You would also want a dipole antenna of slightly different size than what's used now. Otherwise, I see nothing to prevent you from building a "new FM" receiver using prewar components.

Phil

3451. Re: AM receiver filter characteristics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 23:21:26 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bp13kqrci1@bob.news.rcn.net>
Source record: 31068

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:bp0s9j$p1q$1@news.oregonstate.edu...

> If a commercial AM station is transmitting at, say, 550kHz, is it a safe
bet
> that the FCC wouldn't have stuck another reasonably powerful station at
> 560kHz, the next 'channel', in the same geographic location? That they'd
at
> least wait until 570kHz to do so? Historically I would think they'd have
> had to do so in order to allow these simple IF transformer coupled
> amps/filters to perform satisfactorily.

You won't find stations closer than 40 (sometimes 30) kHz "in the same town". Rimshot stations are often closer spaced. However at night you have long distance ionospheric propagation. At night, most stations are only protected to the contour where their signal and the signal 10 kHz away are EQUAL. What signal level this is differs by class of station and also stations can accept worse. IIRC, some may not be protected beyond their 25 mV/m contour at night. 2.5 or 5 mV/m is more common. Pretty much all bets are off for stations on the graveyard channels of 1230, 1240, 1340, 1400, 1450 and 1490.

The FCC never allocated on the basis of the worst possible receiver. Super el cheapo radios may well have trouble within the "interference-free" contour.

3452. inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 23:34:50 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1068766532.187629@smtp-1.griffin.com>
Source record: 31069

need to id an inductor..its marked up 220..

i should know this but my minds gone blank...how does the coding go??
obviously first 2 digits are the value and last multiplyer so to speak..so
22 what..nh?uh? etc

thanks..

3453. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 23:41:43 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bp14qr$t5$1@bob.news.rcn.net>
Source record: 31070
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"David Forsyth" <foda01@ncx.com> wrote in message
news:vr7v1i2v7uoqb8@corp.supernews.com...
> Would it be possible, though not necessarily practical, to make a reciever
> for the modern FM broadcast band, using only pre-WWII tube technology? I
> know they had FM on a lower frequency band at that time.

About half the present frequency.

> What sorts of
> tubes could one use from the 1930's to make a reciever that could tune in
> the modern FM band?

It was something of an effort for them to reach even 50 MHz. Tubes like the 6AC7 would have some gain. No one building entertainment radios had heard of noise figure, so their sensitivity was terrible by post-war standards. One of the most popular and best prewar tuners was the GE JFM-90. Its front end was two pentode mixers, one after the other. Its noise figure must have been astronomical. At least 20 or 30 dB worse than today's radios.

> I'm sure I wont actually attempt such a thing,
> especially any time soon, but just wondered how difficult it might be.

The main problem would be the large cpapacitance in the big octal tubes. IIRC, the first all-glass 7-pin miniature tubes didn't appear until 1940-41, the 9001, 9002, and 9003. You could build a fair set with them given today's knowledge.

> Are
> there any schematics or construction articles from the late 30's about
> making FM radios that might be adapted over to the new FM band?

The new band wasn't chosen until about the end of WW2, so prewar sets weren't designed with it in mind. There were only a dozen or so operating FM stations before WW2, so there wasn't a lot of discussion of the technology. I have/had a just-prewar book of build-it-yourself radios put out by Popular Science (I think) which had an FM set. It was pretty complicated. They hadn't learned how to cut corners. The IF in old-band sets was 4.3 MHz, not today's 10.7 MHz. The lower frequency allowed better gain with the tubes at hand, and the narrower FM band didn't result in inband images. Modulation, etc, was the same as today.

Some of old VHF Hallicrafters sets used the acorn 954, 955, etc, tubes. They would do ok at 100 MHz, but were exotic and never used in consumer equipment.

3454. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 23:48:54 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vr85ki20duloac@corp.supernews.com>
Source record: 31071
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

So basically if I could somehow use 30's tubes to tune to 100 MHz more or less, all I would need to do then is to add a suitable FM detector and bingo? Hmm I think I will need to do a lot more research on this one....

Dave

"John H. Smith" <neutrodyne@aol.com> wrote in message news:20031113172244.26041.00000161@mb-m05.aol.com...
> >Subject: FM from the stone age?
> >From: "David Forsyth" foda01@ncx.com
> >Date: 11/13/2003 3:56 PM Central Standard Time
> >Message-id: <vr7v1i2v7uoqb8@corp.supernews.com>
> >
> >Would it be possible, though not necessarily practical, to make a reciever
> >for the modern FM broadcast band, using only pre-WWII tube technology? I
> >know they had FM on a lower frequency band at that time. What sorts of
> >tubes could one use from the 1930's to make a reciever that could tune in
> >the modern FM band? I'm sure I wont actually attempt such a thing,
> >especially any time soon, but just wondered how difficult it might be. Are
> >there any schematics or construction articles from the late 30's about
> >making FM radios that might be adapted over to the new FM band?
> >
> >just curious,
> >
> >Dave
>
> Look up some ham / swl construction articles from the 30's. The "5 Meter"
> ham band was quite popular among home constructors and magazine authors. Only
> very slight modifications are needed to cover the modern FM band with these
> circuits, some of which used the newest tubes out at the time, but many of
> which used what would have been cheap surplus tubes from the late 20's, early
> 30's.
> Keep in mind that the Super- regenerative circuits you will find are very
> effective radiators of RF when they are receiving, so be careful about slipping
> into the aircraft band or bothering the neighbors. A short antenna is a 1/4

> wave at these frequencies, so you can really "get out" with one of these.
Look
> at the tranciever circuits, there isn't much difference between the
receive and
> the transmit circuit, since a SPDT switch often was all the switching
> rerquired! These will detect FM about as well as AM.
> If you go with a TRF or superhet design, you'll need to add an FM
detector
> of some sort or modify the AM detector a bit for slope detection. You can
see
> examples of slope detectors and simple FM detectors in early broadcast FM
> radios and in ham gear for 2 meters from the 30's.
> There were many tricks for making early tubes work at higher
frequencies,
> and the ham's articles detail them nicely. An advantage of articles from
the
> 30's is that they tended to lean heavily on household items, hand made
items
> and surplus components due to the Depression. This makes recreating them
> somewhat easier.
> The reprints of Gernsback's "Official Short Wave Manual" of 1934 and
1935
> are loaded with 5 meter circuits for home construction articles and
commercial
> products. These are available from Lindsay and others. Old ARRL manuals
are
> plentiful on Ebay or if you request one here, someone will ususally have
one to
> sell reasonably.
> Another source of early FM info is in the schematics of early TV
sets. The
> kit sets especially, shaved tube and part counts as much as possible and
had
> simple FM detectors for the FM audio.
> Hams were quite active on the 5 meter band while they had it, going
by the
> results, they made the available tubes work fairly well.
> Neutrodyne
>

3455. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 23:49:49 UTC
From: jgboyles@aol.com
Message-ID: <20031113184949.20183.00000206@mb-m04.aol.com>
Source record: 31072

>need to id an inductor..its marked up 220..
>

22 pico-henries? A 220 cap would be a 22 pico-farad. Sorry, my advise would be measure. And you are right, we both should know this.
73 Gary N4AST

3456. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-13 23:55:03 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <rRUsb.58150$Ec1.3544595@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31073
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"David Forsyth" <foda01@ncx.com> wrote in message
news:vr85ki20duloac@corp.supernews.com...
> So basically if I could somehow use 30's tubes to tune to 100 MHz more
or
> less, all I would need to do then is to add a suitable FM detector and
> bingo? Hmm I think I will need to do a lot more research on this
one....
>
>
> Dave
>
>
>
You should be able to get good performance with acorn tubes in the front
end. Acorn tubes pre-date octals, if I recall.

The prewar FM setup not only used a different band, but also a different
audio pre-emphesis. 100us as compared to the current 75us.

Frank Dresser

3457. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 00:08:44 UTC
From: jbyrns@rcn.com
Message-ID: <jbyrns-1311031808450001@216-80-74-144.d.enteract.com>
Source record: 31074
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

In article <rRUsb.58150$Ec1.3544595@bgtnsc05-news.ops.worldnet.att.net>,
"Frank Dresser" <analogdial@worldnet.att.net> wrote:

> "David Forsyth" <foda01@ncx.com> wrote in message
> news:vr85ki20duloac@corp.supernews.com...
> > So basically if I could somehow use 30's tubes to tune to 100 MHz more
> or
> > less, all I would need to do then is to add a suitable FM detector and
> > bingo? Hmm I think I will need to do a lot more research on this
> one....
> >
> >
> > Dave
> >
> >
> >
> You should be able to get good performance with acorn tubes in the front
> end. Acorn tubes pre-date octals, if I recall.
>
> The prewar FM setup not only used a different band, but also a different
> audio pre-emphesis. 100us as compared to the current 75us.

Different pre-emphasis is hardly a big deal, the important thing is that
the only significant difference was the frequency band used. The FM
deviation was the same for the pre war and the post war systems, so a pre
war IF strip and detector would work on the post war band, the only
potential problem being image responses due to the lower IF frequency used
pre war.

Regards,

John Byrns

Surf my web pages at, http://users.rcn.com/jbyrns/

3458. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 00:31:39 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FB42252.75BFB1D3@earthlink.net>
Source record: 31075
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

R J Carpenter wrote:
>
> "David Forsyth" <foda01@ncx.com> wrote in message
> news:vr7v1i2v7uoqb8@corp.supernews.com...
> > Would it be possible, though not necessarily practical, to make a reciever
> > for the modern FM broadcast band, using only pre-WWII tube technology? I
> > know they had FM on a lower frequency band at that time.
>
> About half the present frequency.
>
> > What sorts of
> > tubes could one use from the 1930's to make a reciever that could tune in
> > the modern FM band?
>
> It was something of an effort for them to reach even 50 MHz. Tubes like the
> 6AC7 would have some gain. No one building entertainment radios had heard
> of noise figure, so their sensitivity was terrible by post-war standards.
> One of the most popular and best prewar tuners was the GE JFM-90. Its front
> end was two pentode mixers, one after the other. Its noise figure must have
> been astronomical. At least 20 or 30 dB worse than today's radios.
>
> > I'm sure I wont actually attempt such a thing,
> > especially any time soon, but just wondered how difficult it might be.
>
> The main problem would be the large cpapacitance in the big octal tubes.
> IIRC, the first all-glass 7-pin miniature tubes didn't appear until 1940-41,
> the 9001, 9002, and 9003. You could build a fair set with them given
> today's knowledge.
>
> > Are
> > there any schematics or construction articles from the late 30's about
> > making FM radios that might be adapted over to the new FM band?
>
> The new band wasn't chosen until about the end of WW2, so prewar sets
> weren't designed with it in mind. There were only a dozen or so operating
> FM stations before WW2, so there wasn't a lot of discussion of the
> technology. I have/had a just-prewar book of build-it-yourself radios put
> out by Popular Science (I think) which had an FM set. It was pretty
> complicated. They hadn't learned how to cut corners. The IF in old-band sets
> was 4.3 MHz, not today's 10.7 MHz. The lower frequency allowed better gain
> with the tubes at hand, and the narrower FM band didn't result in inband
> images. Modulation, etc, was the same as today.
>

> Some of old VHF Hallicrafters sets used the acorn 954, 955, etc, tubes.
> They would do ok at 100 MHz, but were exotic and never used in consumer
> equipment.

Articles I have seen about early attempts at VHF talked about removing the tube bases to reduce lead inductance but gain was still very low, even around 50 MHz. The early, hand made tubes used widely spaced elements that didn't perform very well at higher frequencies. Remember the old "Let the hams have 160 meters an up because its useless? It was, because there was nothing available at the time to make use of higher frequencies. Remember too, that early RADAR was at lower than optimum frequencies, as well. The 15E was an early RADAR transmitter tube that pushed the limits of the day. If 100 MHz or high band VHF was reasonable technology at the start of WWII you would have seen a lot of equipment surplus for those bands, rather than the HF band.
--

Michael A. Terrell
Central Florida

3459. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 00:34:20 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <gqVsb.58249$Ec1.3548632@bgtnsc05-news.ops.worldnet.att.net>
Source record: 31076
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"John Byrns" <jbyrns@rcn.com> wrote in message
news:jbyrns-1311031808450001@216-80-74-144.d.enteract.com...
>
> Different pre-emphasis is hardly a big deal, the important thing is
that
> the only significant difference was the frequency band used. The FM
> deviation was the same for the pre war and the post war systems, so a
pre
> war IF strip and detector would work on the post war band, the only
> potential problem being image responses due to the lower IF frequency
used
> pre war.
>
>
> Regards,
>
> John Byrns
>
>
> Surf my web pages at, http://users.rcn.com/jbyrns/

Yep. But the original poster might as well take the difference into account. Also, I think a 10.7 Mc IF strip would still be allowed under a pre-war tube technology stipulation.

Frank Dresser

3460. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 00:59:43 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <3OVsb.783$m84.610029@news1.news.adelphia.net>
Source record: 31077

Brian wrote:

> lara.louder@usu.edu wrote in message news:<vpt1BpzCC5aR@cc.usu.edu>...
>
>>Does anyone have a good recipe for holiday brew with low carbs?
>
>
> Lara, please forgive some of the other respondents - they're not well
> rounded in the art of "homebrewing." After all, this is amateur radio
> homebrewing.
>
> OK, on to the ale.
>
> Get malt with a high conversion ratio - that is, you want malt that
> will ferment to dryness without much residiual sugar left behind.
> Left behind sugars can also mean flavor, so your brew will lack a big,
> malty flavor, but that's OK for a holiday brew style.
>
> Are you using all-grain or extract? Munton & Fison extract usually
> does well in this area. If you are using all-grain watch your mash
> temp and get the best extraction that you can. Leave out all or most
> of the specialty grains, and keep the SG reasonable. You can even sub
> some cane sugar for some malt to reduce the unfermentables. Remember,
> though, lots of alcohol is lots of carbs.
>
> Next, what do you plan to add to make it "holiday?" Most folks like
> orange zest and strange spices. I'll leave that up to you as even my
> Belgians are sans the strange stuff.
>
> Next is the yeast. Get a Belgian yeast with high attenuation, that is
> it will ferment out all the malt sugars (or at least most of them). I
> like White LAbs yeast in vials - no need to "smack" or any of that
> nonsense.
>
> http://www.whitelabs.com/craft_belgianyeast.html
>
> To recap, get good extraction so that unfermentable sugars are low,
> keep the SG reasonable (most Belgian beers are not so reasonable), and
> get a high attenuation yeast to ferment the brew to dryness.
>
> Finally, start real soon or it won't ready.
>
> I think I'll go pop the top on a kwak-clone that I made last spring.

Hey Brian, have you ever tried adding Beano to the wort? Sounds crazy, but apparently it is similar to what the Japanese use to make their "dry" beers. the enzymes ferment out things that would otherwise not.. I don't know if the Beano would fulfill it's original purpose or not! 8^)

- Mike KB3EIA -

3461. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 01:22:29 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <p7Wsb.792$m84.613115@news1.news.adelphia.net>
Source record: 31078

GTS wrote:

> Sorry about that, a case of mistaken identity.
>
> Fortunately, I like radio. :-)
>
>
> Alex Flinsch wrote:
> > On <nospam@unknown.org> wrote:
> >
> >>Wrong group dude.
> >>
> >>But thanks, we like beer ;-)
> >>
> >
> >
> > perhaps they sell 807's

As a homebrewer and a homebrewer, I think that's what I'll name my next batch!

- Mike KB3EIA -

3462. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 01:29:05 UTC
From: mikea@mikea.ath.cx
Message-ID: <bp1b51$r1k$1@puck.litech.org>
Source record: 31079

Mike Coslo <mcoslo@adelphia.net> wrote:
> GTS wrote:

> > > perhaps they sell 807's

> As a homebrewer and a homebrewer, I think that's what I'll name my next
> batch!

I'm a homebrewer and a homebrewer, too.

I predict a batch of "Firebottle" beer coming up. Maybe something with
Habañero peppers?

--
Censorship sucks^H^H^H^H^H is for your own good.

3463. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 01:33:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vr8c7s6sstb98@corp.supernews.com>
Source record: 31080
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

As I recall, Armstrong invented and patented the FM radio before WWII. If I'm correct, his patent should show a schematic of the circuit he used. It's probably still available from the patent office.

Roy Lewallen, W7EL

3464. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 01:47:33 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <bp19odemv1@news1.kornet.net>
Source record: 31081
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:vr8c7s6sstb98@corp.supernews.com...
> As I recall, Armstrong invented and patented the FM radio before WWII.
> If I'm correct, his patent should show a schematic of the circuit he
> used. It's probably still available from the patent office.
>

It was actually posited in a presentation in 1935. See Wikipedia entry on
FM.

3465. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 02:02:12 UTC
From: dplatt@radagast.org
Message-ID: <vr8dt4jracg4cf@corp.supernews.com>
Source record: 31082

>> As a homebrewer and a homebrewer, I think that's what I'll
>name my next batch!

>I'm a homebrewer and a homebrewer, too.
>
>I predict a batch of "Firebottle" beer coming up. Maybe something with
>Haba□ero peppers?

I suppose you could brew up some "BPL" (boiled-pepper lager), but
what's the sense in making a beer which drowns out all the flavors in
your food and makes it impossible for you to talk?

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3466. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 02:30:22 UTC
From: Robert Casey <wa2ise@ix.netcom.com>
Message-ID: <3FB43E3C.8050200@ix.netcom.com>
Source record: 31083
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

David Forsyth wrote:

>Would it be possible, though not necessarily practical, to make a receiver
>for the modern FM broadcast band, using only pre-WWII tube technology? I
>know they had FM on a lower frequency band at that time.
>
I have a few pre war FM sets, see
http://www.geocities.com/wa2ise/radios/fm45.html

> What sorts of
>tubes could one use from the 1930's to make a receiver that could tune in
>the modern FM band?
>
Focus on the front end. Once you get to the IF, then my Emerson 460 pre
war set
would have the same technology as your "what if" set. I think acorn
tubes were pre war,
and were designed for VHF service. 2 or 3 such tubes (one RF amp,
another local
osc, and the 3rd the mixer) should make a good 100MHz front end. The
above Emerson
had an IF around 4 or was it 8 MHz, used octal tubes like 6SG7 and 6SH7
and a 6H6
for an FM detector.

3467. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 02:41:36 UTC
From: Robert Casey <wa2ise@ix.netcom.com>
Message-ID: <3FB440DD.2010908@ix.netcom.com>
Source record: 31084
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Brenda Ann wrote:

>"Roy Lewallen" <w7el@eznec.com> wrote in message
>news:vr8c7s6sstb98@corp.supernews.com...
>
>
>>As I recall, Armstrong invented and patented the FM radio before WWII.
>>If I'm correct, his patent should show a schematic of the circuit he
>>used. It's probably still available from the patent office.
>>
>>
>>
>
>It was actually posited in a presentation in 1935. See Wikipedia entry on
>FM.
>
>
>
>
>
FM back then was on frequencies around 25MHz for experiments. Ordinary
higher frequency HF SW front ends would have sufficed, with a higher
frequency IF strip. Today hams have a
small 10 meter sub-band for FM somewhere around 29MHz. Later a
broadcast band
from about 41 to 50MHz was set up. See
http://members.aol.com/jeff560/jeff.html for more FM history.

3468. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 02:51:17 UTC
From: Melvyn T Phillips <melvyn@g7onh.fsnet.co.uk>
Message-ID: <bp1fv9$9op$1@newsg3.svr.pol.co.uk>
Source record: 31085

Try 220 Micro Henry's :-)

JGBOYLES wrote:

> >need to id an inductor..its marked up 220..
> >
>
> 22 pico-henries? A 220 cap would be a 22 pico-farad. Sorry, my advise would
> be measure. And you are right, we both should know this.
> 73 Gary N4AST

3469. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 02:52:22 UTC
From: Melvyn T Phillips <melvyn@g7onh.fsnet.co.uk>
Message-ID: <bp1g1bpnu1@news8.svr.pol.co.uk>
Source record: 31086

Try 220 Micro Henry's :-)
RED/RED/BLACK

zindazenda wrote:

> need to id an inductor..its marked up 220..
>
> i should know this but my minds gone blank...how does the coding go??
> obviously first 2 digits are the value and last multiplyer so to speak..so
> 22 what..nh?uh? etc
>
> thanks..
>
>

3470. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 03:21:29 UTC
From: RP Jones <rparsley@verizon.NOSPAMnet>
Message-ID: <ZSXsb.25949$bQ3.2854@nwrdny03.gnilink.net>
Source record: 31087
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

I don't know I wasn't stupid enough to even think about calling GTE.
Actually "now that I remember"
I had called Tek to enquire about a 465 B faceplate, this guy totally "lost his wig" before I even got to speak about owning a 2232.
$^% 465 !! jokingly told me "THIS ISN'T SANFORD AND SON"

I have since sold the 2232 and baught 465B and a little NLS battery operated (NLS are VERY very nice people, they sent me a manual, alignment/service procedure and schematic free!!)
I also have a 545 on a cart to I use in the basement (winter) people love looking at it :)

-RP

"private" <private@private.com> wrote in message news:3FB145DC.5428C551@private.com...
> Did they actually pull off that deal with GTE for service.
> I was there training some of those fuckers.
>
>
>
> RP Jones wrote:
>
> > Could it be they don't want to do anymore service, perhaps it cheaper just
> > to replace those new off seas plastic cheap ones one under warrantee.
> > I called them about a Tek 2232 and someone on the other end got all pissed
> > off, said call GTE for service ?
> >
> > "Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
> > news:qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com...
> > > Tektronix is trying to manipulate the oscilloscope market. Today I learned
> > from
> > > my local dealership that they are required by contract to destroy every
> > scope
> > > which is traded in for a new Tektronix scope, regardless of age or
> > condition. So
> > > if you decide to trade in that old scope for a Tektronix, know ahead of
> > time
> > > that it is NOT going to end up in the hands of a ham, or of some kid

> > learning
> > > and experimenting in electronics on a tight budget like I was thir...
er,
> > twenty
> > > years ago. No, Tektronix needs to raise their profits by destroying
every
> > used
> > > scope they can get their greedy little hands on, regardless of who
feels
> > the
> > > pinch!
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> > >
> > > -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> > > http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> > > -----== Over 100,000 Newsgroups - 19 Different Servers! =-----
>

3471. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 03:40:43 UTC
From: averyfineman@aol.com
Message-ID: <20031113224043.07346.00001718@mb-m26.aol.com>
Source record: 31088

In article <vr7v1i2v7uoqb8@corp.supernews.com>, "David Forsyth"
<foda01@ncx.com> writes:

>Would it be possible, though not necessarily practical, to make a reciever
>for the modern FM broadcast band, using only pre-WWII tube technology? I
>know they had FM on a lower frequency band at that time. What sorts of
>tubes could one use from the 1930's to make a reciever that could tune in
>the modern FM band? I'm sure I wont actually attempt such a thing,
>especially any time soon, but just wondered how difficult it might be. Are
>there any schematics or construction articles from the late 30's about
>making FM radios that might be adapted over to the new FM band?

I doubt you will find much in amateur radio periodicals. They do
exist in various corporate libraries, though, since the VHF and up
radios were being pioneered in the late 1930s, some of the first being
police mobile radios. Those would evolve into the SCR-300 backpack
"walkie-talkie" of WW2 Army use and those shiny chrome button
channel select "tank radios" used mobile back then. The AN/TRC-1
through TRC-4 of WW2 times was low VHF (70 to 90 MHz) using
octal base tubes, PM with lots of multiplier stages following a MF
crystal oscillator.

Of course there are lead length problems with big bases as well as
the electrode connecting leads within bigger tube envelopes. What
most folks don't consider is the electron transit time within the tube
structure. That is slower than the speed of light (don't have an exact
value handy) and will cause a significant phase change between
grid input and plate output at VHF and above. The "lighthouse" triode
structure (ultimate may be the 2C39) has terribly short tube electrode
spacings allowing operation on up to 2.5 GHz...very quick electron
transit time internally.

Note: Klystrons and magnetrons go much higher in frequency. In the
case of the klystron, an integral tuned cavity structure is an absolute
requirement for operation. The magnetron depends upon both the
diode spacing (it is only a diode) and the magnetic field and the voltage
and the output tuned cavity structure to oscillate at X-band.

Anyone can play games with old, big tubes used at low-VHF and
arrange all kinds of neat tuned circuits to work with long leads and the
long electron transit time. Problem is, the amount of extra components
isn't really worth it. Whenever a tube has to be replaced (happened
often due to filament technology still lagging) then you would need to
do a humongous amount of retuning. About the only thing workable
for the oldie tubes is the distributed amplifier wherein LOTS of tubes
were arranged along tapped delay lines for grid inputs and plate

outputs. [the Tektronix 54x series of oscilloscopes uses such an arrangment as the final CRT voltage driver for vertical deflection plates] Very good as a space heater for a residence in winter...

The electron transit time thing is akin to a low f_sub_t in transistors. Such low f_sub_t bipolars might be okay on low HF but their characteristics don't allow good amplification or easy oscillation at VHF and higher. Some of the newer SiGe bipolars have f_sub_ts in the tens of GHz range.

Electron transit time depends on filament-cathode temperature, tube geometry (and element spacings), and accelerating potential (screen and plate quiescent voltage). There's no precise value that fits all tubes. To view what did work at 70-90 MHz, find an old AN/TRC-1 Technical Manual and see which octal base tubes were used there. The transmitter box final amplifier was an 829, good for about 50 W, but not an octal base tube.

Len Anderson
retired (from regular hours) electronic engineer person
[and caretaker of TRC-1s and TRC-8s a half century ago, among other tube-based radios]

3472. Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 04:26:08 UTC
From: John_S_Sandin@Tosca.state.mo.us
Message-ID: <3fb4559a.1620557@news.kcnet.com>
Source record: 31089

It's me again. To refresh your memory, I'm building the "Dourg DeMaw classic" transmitter as shown in the June 1967 QST. Details are at:

http://www.kcnet.com/~oyster/transmitter/transmitter.html

Things are working much better. I'm nearly ready to go back on the air with it for real. I did a test, separating transmitter and receiver by several miles, with identical dipoles at each end, and my helper said that she received a nice strong signal at the fundamental (7125 kHz). The problem is, she also heard a signal about half as strong at a subharmonic (3562 kHz). Does anybody out there know what might typically cause this to happen with a transmitter like mine? It didn't occur to me to try a random wire at the receiving end as a comparison. My receiver is an Icom R71A.

My homebrew lowpass filter is working. It's in its own box with SO-232 connectors. I've verified that it prevents TVI, and also silences any emissions at 2x, 3x, and 4x the fundamental. Without it, I get a lot of TVI on a TV at home.

But I want to get rid of that 3562 kHz signal, which is right in the 80 meter band. I've had success so far by just experimenting with rerouting ground connections and making the layout more efficient, so I feel that the answer might be in that direction. Any advice would be welcome. Please have a look at my website. Thanks!

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

3473. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 09:01:15 UTC
From: Dieter Mayr <d.mayr@aon.at>
Message-ID: <3fb499de$0$33274$91cee783@newsreader01.highway.telekom.at>
Source record: 31090

Hi all

But red/red/black should be 22 micro Henry's , shouldn't it ?

73
Dieter, OE2CDM

"Melvyn T Phillips" <melvyn@g7onh.fsnet.co.uk> schrieb im Newsbeitrag
news:bp1g1bpnu1@news8.svr.pol.co.uk...
> Try 220 Micro Henry's :-)
> RED/RED/BLACK
>
> zindazenda wrote:
>
> > need to id an inductor..its marked up 220..
> >
> > i should know this but my minds gone blank...how does the coding
go??
> > obviously first 2 digits are the value and last multiplyer so to
speak..so
> > 22 what..nh?uh? etc
> >
> > thanks..
> >
> >
>

3474. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 12:27:36 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <0ch9rvgr9qj6sr4oscuabbfpmom3pv201n@4ax.com>
Source record: 31091

On 13 Nov 2003 23:49:49 GMT, jgboyles@aol.com (JGBOYLES) wrote:

>>need to id an inductor..its marked up 220..
>>
>
>22 pico-henries?

Flippin' 'eck! 22pH is probably less than the stray inductance of the
device itself!
Actually, I can never rememeber these codings either. I believe it's
22uH but if someone more knowledgable can post the key to the inductor
multipliers here it would be very helpful!
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3475. Re: Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 12:27:37 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <chh9rvgf113g0jmcu2rscbltrt1dlf6nio@4ax.com>
Source record: 31092

On Fri, 14 Nov 2003 04:26:08 GMT, John_S_Sandin@Tosca.state.mo.us
(John Sandin) wrote:

>It's me again. To refresh your memory, I'm building the "Dourg DeMaw
>classic" transmitter as shown in the June 1967 QST. Details are at:
>
>http://www.kcnet.com/~oyster/transmitter/transmitter.html
>
>Things are working much better. I'm nearly ready to go back on the
>air with it for real. I did a test, separating transmitter and
>receiver by several miles, with identical dipoles at each end, and my
>helper said that she received a nice strong signal at the fundamental
>(7125 kHz). The problem is, she also heard a signal about half as
>strong at a subharmonic (3562 kHz). Does anybody out there know what
>might typically cause this to happen with a transmitter like mine? It
>didn't occur to me to try a random wire at the receiving end as a
>comparison. My receiver is an Icom R71A.
>
>My homebrew lowpass filter is working. It's in its own box with
>SO-232 connectors. I've verified that it prevents TVI, and also
>silences any emissions at 2x, 3x, and 4x the fundamental. Without
>it, I get a lot of TVI on a TV at home.
>
>But I want to get rid of that 3562 kHz signal, which is right in the
>80 meter band. I've had success so far by just experimenting with
>rerouting ground connections and making the layout more efficient, so
>I feel that the answer might be in that direction. Any advice would
>be welcome. Please have a look at my website. Thanks!

This tx of yours is fixed frequency, right? If so, why not just
knock-up a simple notch filter for 3562? Or even a high pass? I know
it's not establishing the cause of the sproggie, but at least it's a
quick expedient to stop you confusing the chaps on 80m!
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3476. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 12:44:18 UTC
From: "George R. Gonzalez" <grg2.Elide-This.Part@And-This-comcast.net>
Message-ID: <C64tb.148192$275.451612@attbi_s53>
Source record: 31093
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

You're going to have a bit of trouble with the older tubes. They had long skinny leads leading down to those high-capacitance octal bases.

Hams were able to get things going up around 140Mc/s, but it was mainly super-regen receivers.

If you want to try it, I'd find the smallest dual-triodes of that era, say 6SN7's, and make up at least one maybe two cascode Rf amplifier stages, then another triode mixer, then maybe another cascode first IF amp. By then you should have enough signal to start using old pentodes as IF amplifiers. If localts are allowed, the 7F7 IIRC is probably a much lower capacitance dual-triode.

I do recall one post-war Sparton FM set that used a 6AC7 as the RF amplifier, a 7Q7 (loctal 6SA7) as the osc/mixer, then three 6SJ7's for IF amplifiers and limiters. Worked surprisingly well.

>

3477. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 14:24:39 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311140624.561dd5ab@posting.google.com>
Source record: 31094
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"RP Jones" <rparsley@verizon.NOSPAMnet> wrote in message
news:<ZSXsb.25949$bQ3.2854@nwrdny03.gnilink.net>...
> I don't know I wasn't stupid enough to even think about calling GTE.
> Actually "now that I remember"
> I had called Tek to enquire about a 465 B faceplate, this guy totally "lost
> his wig" before I even got to speak about owning a 2232.
> $^% 465 !! jokingly told me "THIS ISN'T SANFORD AND SON"
>
> I have since sold the 2232 and baught 465B and a little NLS battery operated
> (NLS are VERY very nice people, they sent me a manual, alignment/service
> procedure and schematic free!!)
> I also have a 545 on a cart to I use in the basement (winter) people love
> looking at it :)
>
> -RP
>
>
> "private" <private@private.com> wrote in message
> news:3FB145DC.5428C551@private.com...
> > Did they actually pull off that deal with GTE for service.
> > I was there training some of those fuckers.
> >
> >
> >
> > RP Jones wrote:
> >
> > > Could it be they don't want to do anymore service, perhaps it cheaper
> just
> > > to replace those new off seas plastic cheap ones one under warrantee.
> > > I called them about a Tek 2232 and someone on the other end got all
> pissed
> > > off, said call GTE for service ?
> > >
> > > "Frank Gilliland" <sparky@NOSPAMaimcomm.net> wrote in message
> > > news:qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com...
> > > > Tektronix is trying to manipulate the oscilloscope market. Today I
> learned
> from
> > > > my local dealership that they are required by contract to destroy
> every
> scope
> > > > which is traded in for a new Tektronix scope, regardless of age or
> condition. So

> > > > if you decide to trade in that old scope for a Tektronix, know ahead
> of
> time
> > > > that it is NOT going to end up in the hands of a ham, or of some kid
> learning
> > > > and experimenting in electronics on a tight budget like I was thir...
> er,
> twenty
> > > > years ago. No, Tektronix needs to raise their profits by destroying
> every
> used
> > > > scope they can get their greedy little hands on, regardless of who
> feels
> the
> > > > pinch!
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> > > >
> > > > -----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
> > > > http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
> > > > -----== Over 100,000 Newsgroups - 19 Different Servers! =-----
> >

isn't it true that the older stuff is built like a battleship and
isn't as proprietary and can be repaired with user obtainable parts?
I always heard tek for scopes and hp for analyzers. Any thoughts on
that?

3478. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 14:40:19 UTC
From: mikea@mikea.ath.cx
Message-ID: <bp2pgjnhf6@puck.litech.org>
Source record: 31095

Dave Platt <dplatt@radagast.org> wrote:
> >> As a homebrewer and a homebrewer, I think that's what I'll
> >name my next batch!

> >I'm a homebrewer and a homebrewer, too.
> >
> >I predict a batch of "Firebottle" beer coming up. Maybe something with
> >Haba?ero peppers?

> I suppose you could brew up some "BPL" (boiled-pepper lager), but
> what's the sense in making a beer which drowns out all the flavors in
> your food and makes it impossible for you to talk?

Not for _me_, Dave! _Not_ for _me_.

--
I was thinking of the legendary British Weather, with the four seasons
of winter, mud, rain, and damp.
-- Rev. Peter da Silva

3479. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 14:48:01 UTC
From: mikea@mikea.ath.cx
Message-ID: <bp2pv1nhf7@puck.litech.org>
Source record: 31096
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

In <235a74db.0311140624.561dd5ab@posting.google.com> (rec.radio.amateur.homebrew), gw wrote:

> isn't it true that the older stuff is built like a battleship and
> isn't as proprietary and can be repaired with user obtainable parts?
> I always heard tek for scopes and hp for analyzers. Any thoughts on
> that?

My experience is that HP scopes are OK-to-great, while Tek scopes
are excellent-to-superb. Similarly, HP generators and analyzers are
excellent-to-superb, while OK-to-great.

There are other manufacturers that make excellent-to-superb hardware,
such as Fluke.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin

3480. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 15:18:05 UTC
From: kludge@panix.com
Message-ID: <bp2rnd$3be$1@panix2.panix.com>
Source record: 30997
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

RP Jones <rparsley@verizon.NOSPAMnet> wrote:
>I don't know I wasn't stupid enough to even think about calling GTE.
>Actually "now that I remember"
>I had called Tek to enquire about a 465 B faceplate, this guy totally "lost
>his wig" before I even got to speak about owning a 2232.
> $^% 465 !! jokingly told me "THIS ISN'T SANFORD AND SON"

The repair depot in Washington DC has one old guy who likes working on the
older gear, and has some limited parts supply for them. Last year he spent
an awful lot of time getting the 100V supply on my 610 video monitor working
reliably, and I can strongly recommend the DC folks.
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

3481. Re: Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 15:20:05 UTC
From: ON5MJ <"on5mj_no_more _spam_in_stock_sorry_"@skynet.be>
Message-ID: <3fb4f2b7$0$10323$ba620e4c@reader0.news.skynet.be>
Source record: 30998

Could this bird come from the kind of crystal used ? I guess a better pass band filter would solve the problem at the oscillator.

73 de ON5MJ _ Jacques.

3482. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 16:06:40 UTC
From: RP Jones <rparsley@verizon.NOSPAMnet>
Message-ID: <k47tb.36560$y95.24288@nwrdny01.gnilink.net>
Source record: 30999
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

With out doubt, most new hardware looks like its built to be thrown away
and crushed.
"Built in absolesance" Its a dam shame !
Id agree on Tek for scopes and HP for analyzers, if you look on Ebay HP
"as is" scopes with problems must out number the Tek's 10-1.
(Many developed push button/switchpad related problems)

"gw" <gw@webhideout.com> wrote in message > isn't it true that the older
stuff is built like a battleship and
> isn't as proprietary and can be repaired with user obtainable parts?
> I always heard tek for scopes and hp for analyzers. Any thoughts on
> that?

3483. Re: Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 16:36:36 UTC
From: Bob <balbert@access1.net>
Message-ID: <1pudnR3QWewimSiiU-KYhg@ecrii.com>
Source record: 31000

I don't think filtering the spur is a good answer; it's sort of brute force. Better to find the cause and eliminate it.

If the oscillator is on 40 meters it would be strange to find a subharmonic. On the other hand, if it's on 80 and there is a doubler, that could explain it. (I haven't looked at the diagram.)

Assuming the oscillator is on 40, the 80 meter spur might occur because the oscillator is squegging, or cutting out, on alternate cycles. Or, if it's a crystal, the crystal might be fractured.

If the oscillator is on 80, reduce its amplitude and investigate the Q of the succeeding circuits.

An excellent approach would be to look at the waveforms with an oscilloscope to see just what's going on there.

73, Bob K6DDX

3484. Re: All MFR's SUCK!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 16:46:28 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bp30t6$2i1$1@bob.news.rcn.net>
Source record: 31001
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

The saddest problems I have found with the HP gear is purely their own fault. When they made the horizontal timing knobs for their 80's vintage scopes, they made them out of plastic, and carved large slots in the space between the outer part you turn with your fingers and the inner part that turns the knob. This left very little plastic to take the torque of turning the knob. Once they break there is no easy way of repairing them.

The other big problem is their use of delrin gears with aluminum hubs just about everywhere. And after 15 years, they are all broken. The HP8640B is built like a tank, but everyone I have ever had came with several gears that had split due to shrinkage.

-Chuck

RP Jones wrote:
> With out doubt, most new hardware looks like its built to be thrown away
> and crushed.
> "Built in absolesance" Its a dam shame !
> Id agree on Tek for scopes and HP for analyzers, if you look on Ebay HP
> "as is" scopes with problems must out number the Tek's 10-1.
> (Many developed push button/switchpad related problems)
>
> "gw" <gw@webhideout.com> wrote in message > isn't it true that the older
> stuff is built like a battleship and
>
>>isn't as proprietary and can be repaired with user obtainable parts?
>>I always heard tek for scopes and hp for analyzers. Any thoughts on
>>that?
>
>
>

3485. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 21:58:52 UTC
From: jakdedert <jdedert@bellsouth.net>
Message-ID: <gcctb.10131$oo.7326@bignews4.bellsouth.net>
Source record: 31002
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Looked like English to me. What part of it did you not understand?

jak

"Bill Turner" <noway@nohow.com> wrote in message
news:74earv0qu5kkn9bo5n575ot0f9f8vtons8@4ax.com...
> On Fri, 14 Nov 2003 03:21:29 GMT, "RP Jones"
> <rparsley@verizon.NOSPAMnet> wrote:
>
> >I had called Tek to enquire about a 465 B faceplate, this guy totally
"lost
> >his wig" before I even got to speak about owning a 2232.
> > $^% 465 !! jokingly told me "THIS ISN'T SANFORD AND SON"
>
> ____
>
> I've read the above several times and can't quite figure out what you're
> complaining about. Try it again in English.
>
> --
> Bill, W6WRT
>

3486. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 22:24:23 UTC
From: Jack Smith <Jack.Smith@cox.net>
Message-ID: <b6karv41ier57fvq3r0gv8e5srfsetqntr@4ax.com>
Source record: 31003
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

On Thu, 13 Nov 2003 17:33:19 -0800, Roy Lewallen <w7el@eznec.com>
wrote:

>As I recall, Armstrong invented and patented the FM radio before WWII.
>If I'm correct, his patent should show a schematic of the circuit he
>used. It's probably still available from the patent office.
>
>Roy Lewallen, W7EL

Roy-

Armstrong's classic paper "A Method of Reducing Disturbances in Radio Signaling by a System of Frequency Modulation" was published in 1936 in the November Proc. IRE. (The paper was presented in a demonstration at the Nov 1935 IRE New York meeting.)

His field work started 1934, at 44 MHz, with a 2KW 44 MHz transmitter on the Empire State Building shortly thereafter (the article is a bit vague on the timing of this part of his operation). (Also, the frequency was changed to 41 MHz at some point during the trials.)

Armstrong also notes the problem with receiver RF amplifiers at this frequency and thanks RCA for its provision of experimental VHF receiving tubes.

His detector circuit looks like a conventional discriminator to me; two detectors each coupled to a tuned circuit with the outputs summed. One detector gives + and the other a - output. One tuned circuit resonates on the high side of the IF passband the the other on the low side. Each detector fed by an independent buffer amplifier. The receiver was a double conversion, with the first IF at 6 MHz and the second IF (and detection) at 400 KHz and a passband of 150 KHz.

Jack K8ZOA

3487. Re: All MFR's SUCK!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 23:16:19 UTC
From: Roger Halstead <newsgroup@rogerhalstead.com>
Message-ID: <78oarv4ek3e55fqth74qftv20d0cp8bkrv@4ax.com>
Source record: 31009
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

On Fri, 14 Nov 2003 11:46:28 -0500, Chuck Harris <cfharris@erols.com>
wrote:

>The saddest problems I have found with the HP gear is purely their own
>fault. When they made the horizontal timing knobs for their 80's
>vintage scopes, they made them out of plastic, and carved large slots in
>the space between the outer part you turn with your fingers and the
>inner part that turns the knob. This left very little plastic to take
>the torque of turning the knob. Once they break there is no easy way
>of repairing them.
That sounds just like the knobs used in the HT 32, 33, and SX101
series. They have a very thin flange, or lip around the front that is
very fragile. I saw one on e-bay a couple days ago that was described
as excellent, yet it had at least two sections of that lip missing.

>
>The other big problem is their use of delrin gears with aluminum hubs
>just about everywhere. And after 15 years, they are all broken. The
>HP8640B is built like a tank, but everyone I have ever had came with
>several gears that had split due to shrinkage.

But Delrin is very easy to machine.
Also unless the gears are of a very odd size (most are spur gears or a
pair of 45 degree bevel gears) that can be replaced with something
more modern and durable.

I do like a lot of the new, lighter weight gear as I have a bad back.
(Probably from man handling that old stuff that takes two good size
men to load it into a trailer)

Roger Halstead (K8RI EN73 & ARRL Life Member)
www.rogerhalstead.com
N833R World's oldest Debonair? (S# CD-2)
>
>-Chuck
>
>RP Jones wrote:
>> With out doubt, most new hardware looks like its built to be thrown away
>> and crushed.
>> "Built in absolesance" Its a dam shame !
>> Id agree on Tek for scopes and HP for analyzers, if you look on Ebay HP
>> "as is" scopes with problems must out number the Tek's 10-1.
>> (Many developed push button/switchpad related problems)
>>
>> "gw" <gw@webhideout.com> wrote in message > isn't it true that the older

>> stuff is built like a battleship and
>>
>>>isn't as proprietary and can be repaired with user obtainable parts?
>>>I always heard tek for scopes and hp for analyzers. Any thoughts on
>>>that?
>>
>>
>>

3488. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 23:19:33 UTC
From: Steven Dinius <10kc@fmtc.com>
Message-ID: <vraoolejk69r0b@corp.supernews.com>
Source record: 31004
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Now waitaminnit! We have TWO Bill Turners in this mess. Do we have to play
To Tell The Truth?

"Bill Turner" <noway@nohow.com> wrote in message
news:8oearvo2om2d4fmptj5as44djjtm5vt72m@4ax.com...
> On Fri, 14 Nov 2003 02:41:36 GMT, Robert Casey <wa2ise@ix.netcom.com>
> wrote:
>
> >Today hams have a
> >small 10 meter sub-band for FM somewhere around 29MHz.
>
> --
>
> That's for WIDE band FM. Narrow band FM is permitted anywhere phone is
> allowed, although rarely used.
>
> --
> Bill, W6WRT
>

3489. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 23:37:38 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311141537.6c630400@posting.google.com>
Source record: 31005
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"RP Jones" <rparsley@verizon.NOSPAMnet> wrote in message
news:<k47tb.36560$y95.24288@nwrdny01.gnilink.net>...
> With out doubt, most new hardware looks like its built to be thrown away
> and crushed.
> "Built in absolesance" Its a dam shame !
> Id agree on Tek for scopes and HP for analyzers, if you look on Ebay HP
> "as is" scopes with problems must out number the Tek's 10-1.
> (Many developed push button/switchpad related problems)
>
> "gw" <gw@webhideout.com> wrote in message > isn't it true that the older
> stuff is built like a battleship and
> > isn't as proprietary and can be repaired with user obtainable parts?
> > I always heard tek for scopes and hp for analyzers. Any thoughts on
> > that?

what is a good spectrum analyzer to have for a home shop in your
opinion, and also what is a good scope to have and do you have to
break the bank on this stuff? thanks.

3490. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 23:56:07 UTC
From: johnm <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>
Source record: 31006
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

> what is a good spectrum analyzer to have for a home shop in your
> opinion, and also what is a good scope to have and do you have to
> break the bank on this stuff? thanks.

What specs do you want, and how much do you want to spend? The HP 141T series is great for technically-inclined hams. Very maintainable, very reliable once you understand its quirks, very competitive performance... and very big and heavy. Typically $1K or less on eBay for a working outfit.

Tek's 492-497 series are also excellent analyzers. Newer and much more portable than the 141T series, but still easily maintainable (via parts units and aftermarket suppliers, not through Tek). Quite a bit more expensive in most cases. $2K - $7K depending on model and options.

HP 8560-series analyzers are also very nice; I have no personal experience with these, though. Stay away from the cheaper (8557/8/9) HP units. Tek's older 491 is probably also best avoided in favor of the 141T line (this is probably where the saying "HP for analyzers" came from.)

Tek analyzers from the 2780 series should also be avoided by most users. They are still extremely expensive ($7K and up), and like the older 490/2750 analyzers no parts or manuals can be ordered from Tek anymore. However, unlike the 490/2750 units, they can be calibrated only with special PC-based configurations connected to specific test sources via GPIB and running obsolete software. Worse, Tek supported them only via module exchange, never releasing any component-level schematics. These are very powerful instruments, but keeping a 2782 or 2784 running nowadays would be a serious, ongoing research project in itself. These were symptomatic of the "bean-counter" generation at Tek, where customer needs were considered secondary to high-priced, proprietary product support and finite market lifetime.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

3491. Re: All MFR's SUCK!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-14 23:59:05 UTC
From: johnm <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a1f0c18c2b4d42898968d@news-central.giganews.com>
Source record: 31007
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

In article <bp30t6$2i1$1@bob.news.rcn.net>, cfharris@erols.com says...
> The saddest problems I have found with the HP gear is purely their own
> fault. When they made the horizontal timing knobs for their 80's
> vintage scopes, they made them out of plastic, and carved large slots in
> the space between the outer part you turn with your fingers and the
> inner part that turns the knob. This left very little plastic to take
> the torque of turning the knob. Once they break there is no easy way
> of repairing them.
>
> The other big problem is their use of delrin gears with aluminum hubs
> just about everywhere. And after 15 years, they are all broken. The
> HP8640B is built like a tank, but everyone I have ever had came with
> several gears that had split due to shrinkage.
>

I heard someone on the test-equipment reflector (http://www.qth.net) was
going to fabricate some replacement 8640B gears out of metal. You might
check with that list to see if it ever happened.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

3492. Re: Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 00:02:58 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311141602.16c3276d@posting.google.com>
Source record: 31008

John_S_Sandin@Tosca.state.mo.us (John Sandin) wrote in message news:<3fb4559a.1620557@news.kcnet.com>...

> The problem is, she also heard a signal about half as
> strong at a subharmonic (3562 kHz). Does anybody out there know what
> might typically cause this to happen with a transmitter like mine? It
> didn't occur to me to try a random wire at the receiving end as a
> comparison. My receiver is an Icom R71A.
>

if she has received the signal across the town, then you are putting out a pretty strong sub-harmonic. a couple of things have to be checked up:

1) are u sure that the signal is actually due to the crystal? it might be that the oscillator is freely running on its own. to check that, test that the signal is stable, if u move ur hand around the coils or touch them, the signal should not shift its frequency. if it does that, then the crystal is not really a part of the oscillation.

2) if you have figured out that the crystal is oscillating properly, next, you might have mistuned your PA to 3.5MHz instead of 7MHz. Try retuning the PA, disconnect the antenna from the receiver attach a foot of wire to the output of the tx and tune the tx for maximum output on 7MHz. Then switch the rx to 3.5MHz and see if you can 'tune out' the 3.5MHz trace.

these are quick fixes. the larger problem that you are faced with really is that you don't exactly know what is going on. the above two solutions are based on diagnosing the problem emperically.

what you really need is a wavemeter. If you have another variable cap lying around, it might be a good idea to hook one up. It will serve you for years. It takes about 4 components to wire it up. You can caliberate it easily using a regular TX for 3.5 and 7. Now you can couple the wavemeter to each of your TX coils and tune it to the correct frequency.

if we are to assume that the crystal is actually 7MHz, i see no way that it can give sub-harmonics in a proper design. the only culprit could be the tuned circuits.

- farhan

3493. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 00:36:55 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb5691c.11205856@news.online.no>
Source record: 31010

On Fri, 14 Nov 2003 10:01:15 +0100, "Dieter Mayr" <d.mayr@aon.at>
wrote:

>Hi all
>
>But red/red/black should be 22 micro Henry's , shouldn't it ?
>
>73
> Dieter, OE2CDM
>
220 is red-red-brown, usually, but you never know which standard they
follow, or perhaps they have their own standard, so even when they
write figures 220 could mean 22 or 220 µH, and pF if it was a
capacitor....

see the comments from W6WRT, too

73, LA8AK
http://home.online.no/~la8ak/
--
remove ,xnd to reply (Spam precaution!)

3494. Clean VHF tx schematics needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 01:20:19 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311141720.581d0e2b@posting.google.com>
Source record: 31011

I recently brewed up a small portable NBFM tranceiver for the local ham group. Smallness and low cost were a requirement. My initial design which is working well is based on an 18MHz crystal that i multiply in balanced doublers three times over to 144MHz (using two transistors in push-pull at each stage) followed by a 500mW 2N3866 PA. I have found that without a high bandwidth oscilloscope (I used a tek 465) it is impossible to correctly align the tx. I am now considering switching to a scheme where i can run a VCO at 144MHz directly and lock it to a lower fundamental crystal. i can do this by:
a) injection locking the VCO with the a crystal oscillator. I have seen almost no use of this method (EMRFD just mentions it in one line) in amateur literature. my last post on this topic went unanswered last week.
b) using a simple first order PLL. is there a way to simplify this? the cost of a PLL IC or even an SBL mixer would be too high.
c) use an overtone directly on 144MHz (9th overtone in a butler config) and phase modulate its output. Any pointers to a phase modulator operating at VHF?

- farhan

3495. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 01:28:06 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1068859747.417084@smtp-1.griffin.com>
Source record: 31012

i know there is a code (japanese) that most/all the manufactors use, but i
just dont remember it!!!its the multiplier i cant remember!!
its not colour coded as i know that and thats always the same ie 22uh would
be red red black..2.2uh red red gold.
220nh red red silver.....

so i reccon its 22uh... taking the 0 as black. 220uh would be 221? 2.2mh 222
????

g0zen
"Bill Turner" <noway@nohow.com> wrote in message
news:lsearvgeg725qjamq75eukrdtjlbbmf3m1@4ax.com...
> On Thu, 13 Nov 2003 23:34:50 -0000, "zindazenda" <zen@lineisp.co.uk>
> wrote:
>
> >need to id an inductor..its marked up 220..
> >
> >i should know this but my minds gone blank...how does the coding go??
> >obviously first 2 digits are the value and last multiplyer so to
speak..so
> >22 what..nh?uh? etc
> >
> >thanks..
> >
>
> ____
>
> Unless you know the manufacturer and know their system, you must
> measure. There are too many differences between makers. "Standards"
> have long since gone by the wayside. Sorry.
>
> --
> Bill, W6WRT
>

3496. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 02:37:51 UTC
From: brianburke@juno.com
Message-ID: <f45722ac.0311141837.77cb8994@posting.google.com>
Source record: 31013

Mike Coslo <mcoslo@adelphia.net> wrote in message
news:<p7Wsb.792$m84.613115@news1.news.adelphia.net>...
> GTS wrote:
>
> > Sorry about that, a case of mistaken identity.
> >
> > Fortunately, I like radio. :-)
> >
> >
> > Alex Flinsch wrote:
> > > On <nospam@unknown.org> wrote:
> > >
> > >>Wrong group dude.
> > >>
> > >>But thanks, we like beer ;-)
> > >>
> > >
> > >
> > > perhaps they sell 807's
>
> As a homebrewer and a homebrewer, I think that's what I'll name my next
> batch!
>
> - Mike KB3EIA -

Mike, we need to get together at Dayton04 and bring some samples. My
smallest sample size is a 3 gallon corny keg.

Brian

3497. Re: holiday brew

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 02:40:23 UTC
From: brianburke@juno.com
Message-ID: <f45722ac.0311141840.5893245b@posting.google.com>
Source record: 31014

Mike Coslo <mcoslo@adelphia.net> wrote in message
news:<3OVsb.783$m84.610029@news1.news.adelphia.net>...
> Brian wrote:
>
> > lara.louder@usu.edu wrote in message news:<vpt1BpzCC5aR@cc.usu.edu>...
> >
> >>Does anyone have a good recipe for holiday brew with low carbs?
> >
> >
> > Lara, please forgive some of the other respondents - they're not well
> > rounded in the art of "homebrewing." After all, this is amateur radio
> > homebrewing.
> >
> > OK, on to the ale.
> >
> > Get malt with a high conversion ratio - that is, you want malt that
> > will ferment to dryness without much residiual sugar left behind.
> > Left behind sugars can also mean flavor, so your brew will lack a big,
> > malty flavor, but that's OK for a holiday brew style.
> >
> > Are you using all-grain or extract? Munton & Fison extract usually
> > does well in this area. If you are using all-grain watch your mash
> > temp and get the best extraction that you can. Leave out all or most
> > of the specialty grains, and keep the SG reasonable. You can even sub
> > some cane sugar for some malt to reduce the unfermentables. Remember,
> > though, lots of alcohol is lots of carbs.
> >
> > Next, what do you plan to add to make it "holiday?" Most folks like
> > orange zest and strange spices. I'll leave that up to you as even my
> > Belgians are sans the strange stuff.
> >
> > Next is the yeast. Get a Belgian yeast with high attenuation, that is
> > it will ferment out all the malt sugars (or at least most of them). I
> > like White LAbs yeast in vials - no need to "smack" or any of that
> > nonsense.
> >
> > http://www.whitelabs.com/craft_belgianyeast.html
> >
> > To recap, get good extraction so that unfermentable sugars are low,
> > keep the SG reasonable (most Belgian beers are not so reasonable), and
> > get a high attenuation yeast to ferment the brew to dryness.
> >
> > Finally, start real soon or it won't ready.
> >

> > I think I'll go pop the top on a kwak-clone that I made last spring.
>
> Hey Brian, have you ever tried adding Beano to the wort? Sounds crazy,
> but apparently it is similar to what the Japanese use to make their
> "dry" beers. the enzymes ferment out things that would otherwise not.. I
> don't know if the Beano would fulfill it's original purpose or not! 8^)
>
>
>
> - Mike KB3EIA -

Sort of. Amylase enzyme during mash, temp not to excede 140F. Half hour rest.

3498. dummy load plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 02:48:46 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1068864683.336271@smtp-1.griffin.com>
Source record: 31015

plans wanted for high power dummyload.needs to beable to take 300w
continious (up to 6hrs) at up to 144mhz. based in UK so source of high
power resistor required also..
thanks g0zen

i keep setting my heathkit cantenna on fire!!!

3499. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 03:17:07 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311141917.7fbd1f5b@posting.google.com>
Source record: 31016
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

johnm <jmiles@pop.removethistomailme.net> wrote in message
news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
> > what is a good spectrum analyzer to have for a home shop in your
> > opinion, and also what is a good scope to have and do you have to
> > break the bank on this stuff? thanks.
>
> What specs do you want, and how much do you want to spend? The HP 141T
> series is great for technically-inclined hams. Very maintainable, very
> reliable once you understand its quirks, very competitive performance...
> and very big and heavy. Typically $1K or less on eBay for a working
> outfit.
>
> Tek's 492-497 series are also excellent analyzers. Newer and much more
> portable than the 141T series, but still easily maintainable (via parts
> units and aftermarket suppliers, not through Tek). Quite a bit more
> expensive in most cases. $2K - $7K depending on model and options.
>
> HP 8560-series analyzers are also very nice; I have no personal
> experience with these, though. Stay away from the cheaper (8557/8/9) HP
> units. Tek's older 491 is probably also best avoided in favor of the
> 141T line (this is probably where the saying "HP for analyzers" came
> from.)
>
> Tek analyzers from the 2780 series should also be avoided by most users.
> They are still extremely expensive ($7K and up), and like the older
> 490/2750 analyzers no parts or manuals can be ordered from Tek anymore.
> However, unlike the 490/2750 units, they can be calibrated only with
> special PC-based configurations connected to specific test sources via
> GPIB and running obsolete software. Worse, Tek supported them only via
> module exchange, never releasing any component-level schematics. These
> are very powerful instruments, but keeping a 2782 or 2784 running
> nowadays would be a serious, ongoing research project in itself. These
> were symptomatic of the "bean-counter" generation at Tek, where customer
> needs were considered secondary to high-priced, proprietary product
> support and finite market lifetime.
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --

how about a 8569b ? some guy has one on ebay now for about $3,000.00......i might pull the trigger on that one.....I would be using it for hf work. I was considering a 141t from tucker . it cost more but at least you know it works. i was going to get the 8552b and 8553b plugins with it. then you have to round up the connecting cables and manuals for them. comments? oh by the way i have read good things about the hp 8569b's. if they work.

3500. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 03:46:40 UTC
From: Dave VanHorn <dvanhorn@cedar.net>
Message-ID: <vtudnajD2dwIPCiiRVn-gw@comcast.com>
Source record: 31017
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

> what is a good spectrum analyzer to have for a home shop in your
> opinion, and also what is a good scope to have and do you have to
> break the bank on this stuff? thanks.

A tek 7000 mainframe is my spectrum analyzer, and backup scope.
I have a 7L5 plugin for 0-5MHz, and 7L13 for 0.1 to 1800 MHz
I also have the companion tracking generator.

This stuff was all aquired piecemeal at hamfests, and in total, probably set me back <$1k.
I've had it for (eek!) 13 years!

The 7000 series is getting long in the tooth, but there's a ton of plugins out there cheap, and they are very nice instruments.

Generally, get the best scope you can afford, and "give till it hurts". :)
My current scope is a TDS-420 4 channel DSO. It wasn't cheap, except in relative terms, but it's my main tool for earning a living, and I wouldn't want to work with less.

Depending on what you want to do with it, you might be ok with a 100 or even 60 MHz non-storage analog scope. You want the bandwidth to be >> the frequency you'll be working at. Assuming 11M applications, I'd say 60 would be marginal, 100 definitely better.

Also, GET GOOD PROBES! I just re-probed at Dayton this year, I think I spent $800 or so on probes. I got two sets of very nice probes (8 probes total) plus a set of lesser quality "everyday" probes that I use when I'm not really pushing the limits. Save the good ones for when it matters.

Some old BNC cable with clipleads will work at audio, but you wouldn't want to debug a switching power supply with it!

3501. Wire dispensing ideas wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 05:20:06 UTC
From: paule@sfu.ca
Message-ID: <bp4d26$7rl$1@morgoth.sfu.ca>
Source record: 31018

I am in the process of building a new workshop/workbench for
electronic work. I have a number of spools of wire that I
would like to organize in a way that will allow easy access
to the various types, and control the rate of feed so that
the problem of runoff is minimized.

Thanks in advance.

cheers, Paul - VA7NT - email: paule@sfu.ca

3502. Re: Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 06:54:28 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FB5CD8A.D7EFCC6B@bellatlantic.net>
Source record: 31019

John Sandin wrote:
>
> It's me again. To refresh your memory, I'm building the "Dourg DeMaw
> classic" transmitter as shown in the June 1967 QST. Details are at:
>
> http://www.kcnet.com/~oyster/transmitter/transmitter.html
>
> Things are working much better. I'm nearly ready to go back on the
> air with it for real. I did a test, separating transmitter and
> receiver by several miles, with identical dipoles at each end, and my
> helper said that she received a nice strong signal at the fundamental
> (7125 kHz). The problem is, she also heard a signal about half as
> strong at a subharmonic (3562 kHz). Does anybody out there know what
> might typically cause this to happen with a transmitter like mine? It
> didn't occur to me to try a random wire at the receiving end as a
> comparison. My receiver is an Icom R71A.
>
> My homebrew lowpass filter is working. It's in its own box with
> SO-232 connectors. I've verified that it prevents TVI, and also
> silences any emissions at 2x, 3x, and 4x the fundamental. Without
> it, I get a lot of TVI on a TV at home.
>
> But I want to get rid of that 3562 kHz signal, which is right in the
> 80 meter band. I've had success so far by just experimenting with
> rerouting ground connections and making the layout more efficient, so
> I feel that the answer might be in that direction. Any advice would
> be welcome. Please have a look at my website. Thanks!
>
> -John Sandin KC0QWE
>
> Remove the "T" to respond by e-mail
> John_S_Sandin@Tosca.state.mo.us

First off, beautiful job!

Can you put a dummy load across L2, leaving the amp out
of the circuit, and still hear the 3562? If you don't,
but can hear the 7125, the trouble would be in the amp.
I should think you can try that using the R71A and won't
need the miles of separation.

But - I think the problem may be RF getting into the power
supply. If you can power it from a 12 volt battery and
it doesn't create that 3562, that proves it.

Either way, you do need to change the design. The old classic ran off a battery. You're using a power supply, and there is a direct path for the RF to enter the supply. Add a choke between pin 1 of the power supply connector and the junction of the key and the tune/operate switch. That way, RF can't flow into the supply. A 1000uH choke would have 2*pi*3.562*1000 (~223K) ohms reactance at 3.562. If there is not enough room in the rig for a 1000uH of sufficient current, you could still get over 70 K ohms reactance from a 330 uH at about half the physical size. You could also add a .1 uf to gnd across the junction of the choke and pin 1. Those values aren't critical - you could use a larger choke for even greater isolation, and a .01 if you don't have a .1 You do want a choke that will carry the current. A 500 mA choke would be more than enough for that. Your transmitter probably draws around 300 mA. You can get a 1000uH, 800 mA choke from Mouser for 85 cents or a smaller 330 uH 500 mA for 80 cents.

3503. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 07:02:18 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com>
Source record: 31020
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
gw@webhideout.com says...
> johnm <jmiles@pop.removethistomailme.net> wrote in message
news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
> > > what is a good spectrum analyzer to have for a home shop in your
> > > opinion, and also what is a good scope to have and do you have to
> > > break the bank on this stuff? thanks.
> >
> > What specs do you want, and how much do you want to spend? The HP 141T
> > series is great for technically-inclined hams. Very maintainable, very
> > reliable once you understand its quirks, very competitive performance...
> > and very big and heavy. Typically $1K or less on eBay for a working
> > outfit.
> >
> > Tek's 492-497 series are also excellent analyzers. Newer and much more
> > portable than the 141T series, but still easily maintainable (via parts
> > units and aftermarket suppliers, not through Tek). Quite a bit more
> > expensive in most cases. $2K - $7K depending on model and options.
> >
> > HP 8560-series analyzers are also very nice; I have no personal
> > experience with these, though. Stay away from the cheaper (8557/8/9) HP
> > units. Tek's older 491 is probably also best avoided in favor of the
> > 141T line (this is probably where the saying "HP for analyzers" came
> > from.)
> >
> > Tek analyzers from the 2780 series should also be avoided by most users.
> > They are still extremely expensive ($7K and up), and like the older
> > 490/2750 analyzers no parts or manuals can be ordered from Tek anymore.
> > However, unlike the 490/2750 units, they can be calibrated only with
> > special PC-based configurations connected to specific test sources via
> > GPIB and running obsolete software. Worse, Tek supported them only via
> > module exchange, never releasing any component-level schematics. These
> > are very powerful instruments, but keeping a 2782 or 2784 running
> > nowadays would be a serious, ongoing research project in itself. These
> > were symptomatic of the "bean-counter" generation at Tek, where customer
> > needs were considered secondary to high-priced, proprietary product
> > support and finite market lifetime.
> >
> > -- jm
> >
> > --
> > http://www.qsl.net/ke5fx
> > Note: My E-mail address has been altered to avoid spam

> > --
>
>
> how about a 8569b ? some guy has one on ebay now for about
> $3,000.00......i might pull the trigger on that one.....I would be
> using it for hf work. I was considering a 141t from tucker . it cost
> more but at least you know it works. i was going to get the 8552b and
> 8553b plugins with it. then you have to round up the connecting cables
> and manuals for them. comments? oh by the way i have read good things
> about the hp 8569b's. if they work.

My guess is that the 8569b would be a very passable unit. Its specs seem competitive with an optioned-out Tek 492 in most respects, except that it only goes down to 10 MHz (perhaps there's an underrange capability that lets it see lower frequencies?) That might be a concern if you're going to be using it mostly for HF work.

I see that there's some modern GPIB software for it at www.febo.com, which is VERY good to have. (I've written my own for the Tek 49x analyzers, but it's never been tested on the HP jobs.)

But since I've never actually played with an 8560-series model, I can't speak with any authority. Maybe someone who owns one will pipe up.

The 141Ts at Tucker seem like a pretty good deal. I believe they all come with new CRTs. I personally like to buy broken models on eBay and fix them up. It's cheaper, you get really familiar with the gear inside and out, and you always have spare parts on hand. But that strategy isn't for everybody.

-- jm

----
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

3504. Re: Wire dispensing ideas wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 08:05:07 UTC
From: Leon Heller <aqzf13@dsl.pipex.com>
Message-ID: <3fb5de2e$0$2382$cc9e4d1f@news.dial.pipex.com>
Source record: 31021

Paul Erickson wrote:
> I am in the process of building a new workshop/workbench for
> electronic work. I have a number of spools of wire that I
> would like to organize in a way that will allow easy access
> to the various types, and control the rate of feed so that
> the problem of runoff is minimized.

How about putting all the spools on a rod mounted at the back of the bench, with two pieces of foam mounted on two pieces of wood so as to grip the free ends? You could also use foam to act as a brake on the spools.

Leon

3505. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 09:17:38 UTC
From: Steven Dinius <10kc@fmtc.com>
Message-ID: <vrbrq3gsjc1ffb@corp.supernews.com>
Source record: 31022
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

The other one is WA0ABI, I believe.

"Bill Turner" <noway@nohow.com> wrote in message
news:nlmbrvcnqrdvq72o1cj9h7bolvrlddtp0s@4ax.com...
> On Fri, 14 Nov 2003 16:19:33 -0700, "Steven Dinius" <10kc@fmtc.com>
> wrote:
>
> >Now waitaminnit! We have TWO Bill Turners in this mess. Do we have to
play
> >To Tell The Truth?
>
> ____
>
> Mom would never lie to me... would she?
>
> --
> Bill, W6WRT
>

3506. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 09:29:36 UTC
From: Steven Dinius <10kc@fmtc.com>
Message-ID: <vrbsgh5mc4vubf@corp.supernews.com>
Source record: 31023
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Yep, he's W6 William R Turner. Congrats on snagging your vanity call.

"Steven Dinius" <10kc@fmtc.com> wrote in message
news:vrbrq3gsjc1ffb@corp.supernews.com...
> The other one is WA0ABI, I believe.
>
> "Bill Turner" <noway@nohow.com> wrote in message
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> >
> > Mom would never lie to me... would she?
> >
> > --
> > Bill, W6WRT
> >
>
>

3507. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 10:01:06 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <tPmtb.4837$cX1.463@fed1read02>
Source record: 31024
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"John Miles" <jmiles@pop.removethistomailme.net> wrote in message
news:MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com...
> In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
> gw@webhideout.com says...
> > johnm <jmiles@pop.removethistomailme.net> wrote in message
news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
> > > > what is a good spectrum analyzer to have for a home shop in your
> > > > opinion, and also what is a good scope to have and do you have to
> > > > break the bank on this stuff? thanks.

SNIP

> > how about a 8569b ? some guy has one on ebay now for about
> > $3,000.00......i might pull the trigger on that one.....I would be
> > using it for hf work. I was considering a 141t from tucker . it cost
> > more but at least you know it works. i was going to get the 8552b and
> > 8553b plugins with it. then you have to round up the connecting cables
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> capability that lets it see lower frequencies?) That might be a concern
> if you're going to be using it mostly for HF work.

SNIP

> The 141Ts at Tucker seem like a pretty good deal. I believe they all
> come with new CRTs. I personally like to buy broken models on eBay and
> fix them up. It's cheaper, you get really familiar with the gear inside
> and out, and you always have spare parts on hand. But that strategy
> isn't for everybody.
>
> -- jm

As I have HP-141's, an HP-8569, an 8566B and an 8562A, let me drop a few
comments here.

The 141's are the best deal for a hobbyist. You can acquire the slightly
better 8552B IF section, and then get only the RF plug-in that suits your
needs (an 8556, with it's built-in tracking generator, for a few Hz to 300
kHz, or an 8555, for 10 MHz through umpteen GHz, assuming you also get the
external mixers). Unfortunately, by the time a hobbyist gets one of these,
it has been abused and neglected by its last commercial owner. CRT burns are

common, and the flood-gun analog memory may be very quirky. For an advanced hobbyist, either get an associated Polaroid scope camera, or build your own camera hood. You can capture a lot of transient things that way, and you can scan the pixs to input into your computer. Also, HP made a line of oscilloscope plug-ins that fit the 141 mainframe, so you can use the 141 as a multi-channel analog memory oscilloscope too. 141's are a pain in two ways; first, you have to externally store extra plug-ins, and secondly, the hard side handles make carrying one a painful experience beyond about 50 feet. Also, you tend to injure your fingertips sliding those bulky plug-ins in and out past the big metal front handles. The 141 may also be the last of the hobbyist repairable analyzers; newer analyzers use proprietary chips and are built too dense to let you get fingers and probes into them.

The 8562A is old (1987) but a superb analyzer, 1 kHz to 18 GHz, all digital and synthesized. This will do everything you want, except drive a parallel or RS-232 printer directly. If you're smart enough to talk to it by IEEE-488, then you can do everything through the computer. Other 856x series units have lesser capabilities, but are still great analyzers, and just might be priced low enough for a very serious hobbyist. Also, the HP-859x series are very good, although some have odd frequency, memory and IO capabilities. All 856x & 859x series units are one-man portables, until your knuckles turn white and numb.

The 8569 is, in my opinion, a transitional beast between the analog and digital worlds. It's not as stable and simple as the 8562A, although it's a leap above the 141. Since it's wide, it's also awkward to carry using it's handle. I'm not much of a fan of the 8569.

The 8566B is HP's top-of-the-line analyzer. They threw down the benchmark for everyone else to try to meet. Mine is customized a bit, covering 20 Hz to 22 GHz, and with an external tracking pre-selector, optional detectors, programmable attenuators, RF path switching and low-noise pre-amps. My company has a number of somewhat more plain-vanilla 8566B's and 8566A's. There isn't anything I need to do that these units fall short of (uhh, with the help of some external IEEE-488 linked computers). OTOH, these are now obsolete, non-supported by Agilent, and need two guys to carry one. Mine is in a 60" tall dedicated rack. Typical used price is around $20k.

Most companies will be better served with one of Agilent's newer EPA or SPA analyzers. Anritsu and Rohde & Schwartz are also making fine analyzers. IIRC, Leader makes an analyzer that a hobbyist may aspire to affording.

I would say that a 141 is still the best hobbyist choice. A company needs to be sure that they get a usable item for their money, so buying on eBay is a gamble. A company should buy from some place like Tucker, where they get a warranty backed by a reputable source. Yeah, it initially costs more. But it's a lot safer than having to try to repair an analyzer when you need that analyzer to do the real work of your company. A hobbyist can afford to spend 50 to 100 hours to get something going; in a business environment, where the clock is always ticking, that's unacceptable.

Ed
wb6wsn

3508. gsm front-end

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 10:08:27 UTC
From: flavio.flaviano@jumpy.it
Message-ID: <18e47d0d.0311150208.7064a3a1@posting.google.com>
Source record: 31025
Cross-posted to: rec.radio.cb,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am looking for a gsm front-end, from antenna to I/Q demodulator output.
I need schematic, pcb layout and eventual prototype behind reasonable remuneration.

flavio

3509. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 10:50:37 UTC
From: Eamon Skelton <Xnospam@oceanfree.net>
Message-ID: <pan.2003.11.15.10.50.37.919548@oceanfree.net>
Source record: 31026

On Thu, 13 Nov 2003 23:34:50 +0000, zindazenda wrote:

> need to id an inductor..its marked up 220..
>
> i should know this but my minds gone blank...how does the coding go??
> obviously first 2 digits are the value and last multiplyer so to speak..so
> 22 what..nh?uh? etc
>
> thanks..

Most likely 22 micro Henries or possibly 220 micro Henries.

73,

Ed. EI9GQ.

--

Remove 'X' to reply by e-mail
http://homepage.eircom.net/~ei9gq
Linux 2.4.22

3510. Re: Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 12:50:05 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <7g4crv0t3hl73llem3r94gl5bg4mjj17ij@4ax.com>
Source record: 31027

On Fri, 14 Nov 2003 08:36:36 -0800, "Bob" <balbert@access1.net> wrote:

>An excellent approach would be to look at the waveforms with an oscilloscope
>to see just what's going on there.

What would a 7Mhz waveform look like with a 3.5 sub-harmonic say 6 db
down? Does it display as two seperate, distinct waveforms or one
distorted one?

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3511. Re: Wire dispensing ideas wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 13:41:00 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <r2bcrv8lsi9eprsrh6ped2aflev6dncrs3@4ax.com>
Source record: 31028

On Sat, 15 Nov 2003 05:20:06 +0000 (UTC), paule@sfu.ca (Paul Erickson)
wrote:

>I am in the process of building a new workshop/workbench for
>electronic work. I have a number of spools of wire that I
>would like to organize in a way that will allow easy access
>to the various types, and control the rate of feed so that
>the problem of runoff is minimized.
>
See the other suggestion.

Also, look at what professional electricians do, especially on
industrial jobs. They have a portable cart with the various wires
mounted.

There are commercial things available for this. Even if you make your
own, look at the premade ones first for ideas.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

3512. Re: Clean VHF tx schematics needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 14:01:22 UTC
From: Sparks <sparksw4eas@mindspring.com>
Message-ID: <3FB65BE0.5CCD@mindspring.com>
Source record: 31029

Gertch used injection lock for years on their frequency meters. Had several good papers on the operation. I used a 100 kc xtal to "Jam" lock the LO on FM tuners for years in My frequency measuring service. Back when stations subscribed to a service on a monthly basis. Basicly I have divided down to 10 kc then "Jam" locked LO's at the broadcast band also. Regards, Sparks Broadcast Consultant

3513. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 14:50:55 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311150650.4493b09f@posting.google.com>
Source record: 31031
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message news:<tPmtb.4837$cX1.463@fed1read02>...
> "John Miles" <jmiles@pop.removethistomailme.net> wrote in message
> news:MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com...
> > In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
> > gw@webhideout.com says...
> > > johnm <jmiles@pop.removethistomailme.net> wrote in message
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> the help of some external IEEE-488 linked computers). OTOH, these are now
> obsolete, non-supported by Agilent, and need two guys to carry one. Mine is
> in a 60" tall dedicated rack. Typical used price is around $20k.
>
> Most companies will be better served with one of Agilent's newer EPA or SPA
> analyzers. Anritsu and Rohde & Schwartz are also making fine analyzers.
> IIRC, Leader makes an analyzer that a hobbyist may aspire to affording.
>
> I would say that a 141 is still the best hobbyist choice. A company needs to
> be sure that they get a usable item for their money, so buying on eBay is a
> gamble. A company should buy from some place like Tucker, where they get a
> warranty backed by a reputable source. Yeah, it initially costs more. But

> it's a lot safer than having to try to repair an analyzer when you need that
> analyzer to do the real work of your company. A hobbyist can afford to spend
> 50 to 100 hours to get something going; in a business environment, where the
> clock is always ticking, that's unacceptable.
>
> Ed
> wb6wsn

didn't the 141t's come out in the late 60's? I believe I read somewhere that the hp 8566b came out in 1995 and cost around $75,000 new, and like you stated I have read that it is the best spectrum analyzer ever built. I see them for about $10,000.00 to $12,000.00 starting on ebay but I would have some serious problems laying out that kind of money for a item on ebay. Thanks for the info. For all I know the 141t might serve my purposes just fine. I will look and see if tucker has one of those 8562a's though.

3514. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 15:06:05 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311150706.f34d5a9@posting.google.com>
Source record: 31032
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message news:<tPmtb.4837$cX1.463@fed1read02>...
> "John Miles" <jmiles@pop.removethistomailme.net> wrote in message
> news:MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com...
> > In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
> > gw@webhideout.com says...
> > > johnm <jmiles@pop.removethistomailme.net> wrote in message
> news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
> > > > > what is a good spectrum analyzer to have for a home shop in your
> > > > > opinion, and also what is a good scope to have and do you have to
> > > > > break the bank on this stuff? thanks.
>
> SNIP
>
> > > how about a 8569b ? some guy has one on ebay now for about
> > > $3,000.00......i might pull the trigger on that one.....I would be
> > > using it for hf work. I was considering a 141t from tucker . it cost
> > > more but at least you know it works. i was going to get the 8552b and
> > > 8553b plugins with it. then you have to round up the connecting cables
> > > and manuals for them. comments? oh by the way i have read good things
> > > about the hp 8569b's. if they work.
> >
> > My guess is that the 8569b would be a very passable unit. Its specs
> > seem competitive with an optioned-out Tek 492 in most respects, except
> > that it only goes down to 10 MHz (perhaps there's an underrange
> > capability that lets it see lower frequencies?) That might be a concern
> > if you're going to be using it mostly for HF work.
>
> SNIP
>
> > The 141Ts at Tucker seem like a pretty good deal. I believe they all
> > come with new CRTs. I personally like to buy broken models on eBay and
> > fix them up. It's cheaper, you get really familiar with the gear inside
> > and out, and you always have spare parts on hand. But that strategy
> > isn't for everybody.
> >
> > -- jm
>
>
> As I have HP-141's, an HP-8569, an 8566B and an 8562A, let me drop a few
> comments here.
>
> The 141's are the best deal for a hobbyist. You can acquire the slightly
> better 8552B IF section, and then get only the RF plug-in that suits your

> needs (an 8556, with it's built-in tracking generator, for a few Hz to 300
> kHz, or an 8555, for 10 MHz through umpteen GHz, assuming you also get the
> external mixers). Unfortunately, by the time a hobbyist gets one of these,
> it has been abused and neglected by its last commercial owner. CRT burns are
> common, and the flood-gun analog memory may be very quirky. For an advanced
> hobbyist, either get an associated Polaroid scope camera, or build your own
> camera hood. You can capture a lot of transient things that way, and you can
> scan the pixs to input into your computer. Also, HP made a line of
> oscilloscope plug-ins that fit the 141 mainframe, so you can use the 141 as
> a multi-channel analog memory oscilloscope too. 141's are a pain in two
> ways; first, you have to externally store extra plug-ins, and secondly, the
> hard side handles make carrying one a painful experience beyond about 50
> feet. Also, you tend to injure your fingertips sliding those bulky plug-ins
> in and out past the big metal front handles. The 141 may also be the last of
> the hobbyist repairable analyzers; newer analyzers use proprietary chips and
> are built too dense to let you get fingers and probes into them.
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> The 8562A is old (1987) but a superb analyzer, 1 kHz to 18 GHz, all digital
> and synthesized. This will do everything you want, except drive a parallel
> or RS-232 printer directly. If you're smart enough to talk to it by
> IEEE-488, then you can do everything through the computer. Other 856x series
> units have lesser capabilities, but are still great analyzers, and just
> might be priced low enough for a very serious hobbyist. Also, the HP-859x
> series are very good, although some have odd frequency, memory and IO
> capabilities. All 856x & 859x series units are one-man portables, until your
> knuckles turn white and numb.
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> The 8569 is, in my opinion, a transitional beast between the analog and
> digital worlds. It's not as stable and simple as the 8562A, although it's a
> leap above the 141. Since it's wide, it's also awkward to carry using it's
> handle. I'm not much of a fan of the 8569.
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> The 8566B is HP's top-of-the-line analyzer. They threw down the benchmark
> for everyone else to try to meet. Mine is customized a bit, covering 20 Hz
> to 22 GHz, and with an external tracking pre-selector, optional detectors,
> programmable attenuators, RF path switching and low-noise pre-amps. My
> company has a number of somewhat more plain-vanilla 8566B's and 8566A's.
> There isn't anything I need to do that these units fall short of (uhh, with
> the help of some external IEEE-488 linked computers). OTOH, these are now
> obsolete, non-supported by Agilent, and need two guys to carry one. Mine is
> in a 60" tall dedicated rack. Typical used price is around $20k.
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> Most companies will be better served with one of Agilent's newer EPA or SPA
> analyzers. Anritsu and Rohde & Schwartz are also making fine analyzers.
> IIRC, Leader makes an analyzer that a hobbyist may aspire to affording.
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> I would say that a 141 is still the best hobbyist choice. A company needs to
> be sure that they get a usable item for their money, so buying on eBay is a
> gamble. A company should buy from some place like Tucker, where they get a
> warranty backed by a reputable source. Yeah, it initially costs more. But

> it's a lot safer than having to try to repair an analyzer when you need that
> analyzer to do the real work of your company. A hobbyist can afford to spend
> 50 to 100 hours to get something going; in a business environment, where the
> clock is always ticking, that's unacceptable.
>
> Ed
> wb6wsn

wow! I just looked at the tucker catalogue and the 8562a's are going
for $17,000.00. Looks like they don't want to give that one away
either. Seems like if you want a nice analyzer for your home shop you
had better go out and get yourself a home equity loan because you are
going to need it...

do you know anything about the hp 180t series mainframes with assorted
plugins? They have some of those also.

3515. Re: Wire dispensing ideas wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 15:14:14 UTC
From: paule@sfu.ca
Message-ID: <bp5fs6$jt6$1@morgoth.sfu.ca>
Source record: 31034

Leon Heller <aqzf13@dsl.pipex.com> writes:
Thanks, good idea.

cheers, Paul

>Paul Erickson wrote:
>> I am in the process of building a new workshop/workbench for
>> electronic work. I have a number of spools of wire that I
>> would like to organize in a way that will allow easy access
>> to the various types, and control the rate of feed so that
>> the problem of runoff is minimized.

>How about putting all the spools on a rod mounted at the back of the
>bench, with two pieces of foam mounted on two pieces of wood so as to
>grip the free ends? You could also use foam to act as a brake on the spools.

>Leon

3516. Re: Wire dispensing ideas wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 15:15:21 UTC
From: paule@sfu.ca
Message-ID: <bp5fu9jtm1@morgoth.sfu.ca>
Source record: 31033

Gary S. <Idontwantspam@net> writes:

>On Sat, 15 Nov 2003 05:20:06 +0000 (UTC), paule@sfu.ca (Paul Erickson)
>wrote:

>>I am in the process of building a new workshop/workbench for
>>electronic work. I have a number of spools of wire that I
>>would like to organize in a way that will allow easy access
>>to the various types, and control the rate of feed so that
>>the problem of runoff is minimized.
>>
>See the other suggestion.

>Also, look at what professional electricians do, especially on
>industrial jobs. They have a portable cart with the various wires
>mounted.

>There are commercial things available for this. Even if you make your
>own, look at the premade ones first for ideas.

>Happy trails,
>Gary (net.yogi.bear)
>---
>at the 51st percentile of ursine intelligence

>Gary D. Schwartz, Needham, MA, USA

Thanks, will do.

cheers, Paul

3517. Re: dummy load plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 15:24:28 UTC
From: Tweetldee <dgmason99@att99.net>
Message-ID: <Myrtb.262981$0v4.17460365@bgtnsc04-news.ops.worldnet.att.net>
Source record: 31035

"zindazenda" <zen@lineisp.co.uk> wrote in message
news:1068864683.336271@smtp-1.griffin.com...
> plans wanted for high power dummyload.needs to beable to take 300w
> continious (up to 6hrs) at up to 144mhz. based in UK so source of high
> power resistor required also..
> thanks g0zen
>
> i keep setting my heathkit cantenna on fire!!!

You might think about some additional cooling for the cantenna. What I'm thinking is to get a heat exchanger, pump the coolant from the cantenna through it with a small circulating pump, and back into the cantenna. You can probably use an automobile heater core for the heat exchanger, and an automobile blower to cool the heater core. You should be able to find those at good junkyard. You should find circulating pumps from many surplus dealers on the net, such as http://www.surplussales.com, http://www.herbach.com, http://www.surpluscenter.com and others.
ISTR that the cantenna is rated for 100W, but don't remember if it's continuous or not. But the additional cooling should certainly boost the power dissipation capabilities significantly.
--
Tweetldee
Tweetldee at att dot net (Just subsitute the appropriate characters in the address)

Never take a laxative and a sleeping pill at the same time!!

3518. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 16:35:46 UTC
From: alazos@in.gr
Message-ID: <347b6e9c.0311150835.e4139de@posting.google.com>
Source record: 31036

"zindazenda" <zen@lineisp.co.uk> wrote in message
news:<1068766532.187629@smtp-1.griffin.com>...
> need to id an inductor..its marked up 220..
>
> i should know this but my minds gone blank...how does the coding go??
> obviously first 2 digits are the value and last multiplyer so to speak..so
> 22 what..nh?uh? etc
>
> thanks..

It is 22uh

Look it as if it was a resistor but instead of ohms you express it in microhenrys

Red red black is 22ohms so your inductor is 22uh

The multipliers are
Brown 10
Black 1
Gold 0.1
Silver 0.01

So if the colors was red red gold then it would be 2.2uh and so on

It took me weeks to realize that I was reading an 22uh inductor as 220uh

Thanasis

3519. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 18:00:04 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3fb668a9.1817205349@news.freeserve.net>
Source record: 31037

On Fri, 14 Nov 2003 12:33:36 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Thu, 13 Nov 2003 23:34:50 -0000, "zindazenda" <zen@lineisp.co.uk>
>wrote:
>
>>need to id an inductor..its marked up 220..
>>
>>i should know this but my minds gone blank...how does the coding go??
>>obviously first 2 digits are the value and last multiplyer so to speak..so
>>22 what..nh?uh? etc
>>
ISTR a simple LC oscillator that, when coupled to a frequency counter,
enabled unknown/dubious inductors to be classified when oscillating
with a known Capacitor. Where did I see it?.

3520. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 18:32:13 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <Ciutb.6139$cX1.146@fed1read02>
Source record: 31038
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"gw" <gw@webhideout.com> wrote in message
news:235a74db.0311150706.f34d5a9@posting.google.com...
> "Ed Price" <edprice@cox.net> wrote in message
news:<tPmtb.4837$cX1.463@fed1read02>...
> > "John Miles" <jmiles@pop.removethistomailme.net> wrote in message
> > news:MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com...
> > > In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
> > > gw@webhideout.com says...
> > > > johnm <jmiles@pop.removethistomailme.net> wrote in message
> > news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
> > > > > > what is a good spectrum analyzer to have for a home shop in your

SNIP

> wow! I just looked at the tucker catalogue and the 8562a's are going
> for $17,000.00. Looks like they don't want to give that one away
> either. Seems like if you want a nice analyzer for your home shop you
> had better go out and get yourself a home equity loan because you are
> going to need it...
>
> do you know anything about the hp 180t series mainframes with assorted
> plugins? They have some of those also.

IIRC, the 180 mainframe was a different form-factor than the 141. The 180
stacked up a bit more like a big oscilloscope.

Ed
wb6wsn

3521. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 18:37:14 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vrcsisqq3c5200@corp.supernews.com>
Source record: 31039

"Mike W" <mike@corn2.freeserve.co.uk> wrote in message
news:3fb668a9.1817205349@news.freeserve.net...
> ISTR a simple LC oscillator that, when coupled to a frequency counter,
> enabled unknown/dubious inductors to be classified when oscillating
> with a known Capacitor. Where did I see it?.

One thing I've used ... if you simply put the inductor in series with a resistor, and then put RF across it, you can then measure the voltage drops across the resistor and the inductor with your RF probe and from there calculate the inductance ... or capacitance for that matter.

The oscillator idea sounds a little more convenient, once you built up the oscillator, with a few capacitance choices to get the resonance on the right planet.

..

..

3522. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 18:40:29 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <nqutb.6159$cX1.4086@fed1read02>
Source record: 31040
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"gw" <gw@webhideout.com> wrote in message
news:235a74db.0311150650.4493b09f@posting.google.com...
> "Ed Price" <edprice@cox.net> wrote in message
news:<tPmtb.4837$cX1.463@fed1read02>...
> > "John Miles" <jmiles@pop.removethistomailme.net> wrote in message
> > news:MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com...
> > > In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
> > > gw@webhideout.com says...
> > > > johnm <jmiles@pop.removethistomailme.net> wrote in message
> > news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
> > > > > > what is a good spectrum analyzer to have for a home shop in your
> > > > > > opinion, and also what is a good scope to have and do you have
to
> > > > > > break the bank on this stuff? thanks.
> > >

SNIP

> > > The 141Ts at Tucker seem like a pretty good deal. I believe they all
> > > come with new CRTs. I personally like to buy broken models on eBay
and
> > > fix them up. It's cheaper, you get really familiar with the gear
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> > > and out, and you always have spare parts on hand. But that strategy
> > > isn't for everybody.
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> >
> > As I have HP-141's, an HP-8569, an 8566B and an 8562A, let me drop a few
> > comments here.
> >
> > The 141's are the best deal for a hobbyist. You can acquire the slightly
> > better 8552B IF section, and then get only the RF plug-in that suits
your
> > needs (an 8556, with it's built-in tracking generator, for a few Hz to
300
> > kHz, or an 8555, for 10 MHz through umpteen GHz, assuming you also get
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> > external mixers). Unfortunately, by the time a hobbyist gets one of
these,
> > it has been abused and neglected by its last commercial owner. CRT burns
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> > common, and the flood-gun analog memory may be very quirky. For an

advanced
> > hobbyist, either get an associated Polaroid scope camera, or build your
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> > camera hood. You can capture a lot of transient things that way, and you
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> > scan the pixs to input into your computer. Also, HP made a line of
> > oscilloscope plug-ins that fit the 141 mainframe, so you can use the 141
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> > a multi-channel analog memory oscilloscope too. 141's are a pain in two
> > ways; first, you have to externally store extra plug-ins, and secondly,
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> > hard side handles make carrying one a painful experience beyond about 50
> > feet. Also, you tend to injure your fingertips sliding those bulky
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> > in and out past the big metal front handles. The 141 may also be the
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> > the hobbyist repairable analyzers; newer analyzers use proprietary chips
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> > are built too dense to let you get fingers and probes into them.
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> > The 8562A is old (1987) but a superb analyzer, 1 kHz to 18 GHz, all
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> > and synthesized. This will do everything you want, except drive a
parallel
> > or RS-232 printer directly. If you're smart enough to talk to it by
> > IEEE-488, then you can do everything through the computer. Other 856x
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> > units have lesser capabilities, but are still great analyzers, and just
> > might be priced low enough for a very serious hobbyist. Also, the
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> > series are very good, although some have odd frequency, memory and IO
> > capabilities. All 856x & 859x series units are one-man portables, until
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> > knuckles turn white and numb.
> >
> > The 8569 is, in my opinion, a transitional beast between the analog and
> > digital worlds. It's not as stable and simple as the 8562A, although
it's a
> > leap above the 141. Since it's wide, it's also awkward to carry using
it's
> > handle. I'm not much of a fan of the 8569.
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> > The 8566B is HP's top-of-the-line analyzer. They threw down the
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> > for everyone else to try to meet. Mine is customized a bit, covering 20
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> > to 22 GHz, and with an external tracking pre-selector, optional
detectors,
> > programmable attenuators, RF path switching and low-noise pre-amps. My
> > company has a number of somewhat more plain-vanilla 8566B's and 8566A's.

> > There isn't anything I need to do that these units fall short of (uhh,
with
> > the help of some external IEEE-488 linked computers). OTOH, these are
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> > obsolete, non-supported by Agilent, and need two guys to carry one. Mine
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> > in a 60" tall dedicated rack. Typical used price is around $20k.
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> > IIRC, Leader makes an analyzer that a hobbyist may aspire to affording.
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But
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> > analyzer to do the real work of your company. A hobbyist can afford to
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> > 50 to 100 hours to get something going; in a business environment, where
the
> > clock is always ticking, that's unacceptable.
> >
> > Ed
> > wb6wsn
>
>
> didn't the 141t's come out in the late 60's? I believe I read
> somewhere that the hp 8566b came out in 1995 and cost around $75,000
> new, and like you stated I have read that it is the best spectrum
> analyzer ever built. I see them for about $10,000.00 to $12,000.00
> starting on ebay but I would have some serious problems laying out
> that kind of money for a item on ebay. Thanks for the info. For all I
> know the 141t might serve my purposes just fine. I will look and see
> if tucker has one of those 8562a's though.

A 140 series, with a round face CRT came out in the early 70's. The 141,
with a rectangular face, hit around 1975. The 8566 was around 1991, IIRC.

Unless you get extraordinarily lucky (and when does that ever happen), all
but the 141 series is priced beyond the hobbyist. Maybe some of those 8562's
or 859x's will be still working in 5 years or so when they hit the surplus
market. Till then, hobbyists are still pretty much in the analog SA world.

Ed
wb6wsn

I wouldn't buy an 8566B on eBay; I can't cross my fingers that hard.

3523. Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 18:56:05 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <32tcrvksvcdvd65qifm8hlusik69io1mt4@4ax.com>
Source record: 31041

Hi gang,

I've never had a lot of luck with GDMs for some reason. Even with a decent meter, it seems such a drag tuning across such a vast range looking for a tiny, easily-missed dip which you have to screw out of the meter by forcing the sensing coil so far into the circuit concerned you practically break the circuit board. Am I alone in finding this potentially invaluable device practically useless in practice? Is there a more viable alternative?

p.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3524. Re: dummy load plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 18:57:40 UTC
From: k9sqg@aol.com
Message-ID: <20031115135740.02133.00000249@mb-m16.aol.com>
Source record: 31042

If a Heath Cantenna is overheating all that much that indicates that it is being used at well beyond its rated power. Added cooling is not necessarily a solution. The stress on the resistor comes from thermal sources as well as electrical sources. Even with "adequate" cooling, if you exceed the current handling capability of the non-inductive resistor it will shorten its life.

An alternative solution is not to use a Cantenna at all. Use an inductive resistor with an adequate rating and an antenna tuner to tune out the reactance. Another approach is to use a 40m antenna as a dummy load. Wait until evening, tune up on top of a foreign broadcast station, and use that for testing purposes.

73s

3525. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 21:33:38 UTC
From: kludge@panix.com
Message-ID: <bp663i$84j$1@panix2.panix.com>
Source record: 31043
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

In article <nqutb.6159$cX1.4086@fed1read02>, Ed Price <edprice@cox.net> wrote:
>
>A 140 series, with a round face CRT came out in the early 70's. The 141,
>with a rectangular face, hit around 1975. The 8566 was around 1991, IIRC.

The 141 weighs a ton, but it's rock solid stable, it sells for reasonable money at hamfests, and it's not that hard to get repaired.

Also, I think the Singer spectrum analyzers of that era are underrated and sell for very low sums considering how good they are. When I first used one, I was amazed at how birdie-free it was (although admittedly this was 30 years ago, and all of our standards for birdies are a bit higher).

>Unless you get extraordinarily lucky (and when does that ever happen), all
>but the 141 series is priced beyond the hobbyist. Maybe some of those 8562's
>or 859x's will be still working in 5 years or so when they hit the surplus
>market. Till then, hobbyists are still pretty much in the analog SA world.

You know, I like the analogue SA gear. I like analogue scopes too.

I see a lot of wideband hand-held receivers like the Icom R10, some of which have crude LCD panadaptor displays. Has anyone used any of these as cheap spectrum analyzers? If so, what is the one that will give me the best resolution possible? I don't much care about the front end sensitivity. I can live with some serious limitations in order to have something I can carry in my pocket.

It would be very nice to have a spectrum analyzer I can carry up to the top of the tower with me to poke around at the head amps before taking the whole thing down.
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

3526. Re: gsm front-end

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 21:39:43 UTC
From: Wim Ton <wimton@blueyonder.co.uk>
Message-ID: <C2xtb.755$P%3.732@news-binary.blueyonder.co.uk>
Source record: 31044
Cross-posted to: rec.radio.cb,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

> I am looking for a gsm front-end, from antenna to I/Q demodulator output.
> I need schematic, pcb layout and eventual prototype behind reasonable
remuneration.

Have a look at the manufacturers of GSM chipsets like Analog Devices,
Motorola, Texas Instruments, Siemens. They often have reference designs and
evaluation boards.

Wim

3527. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 21:43:17 UTC
From: ddwyer <dd@ddwyer.demon.co.uk>
Message-ID: <k0C51XA13pt$EwbG@ddwyer.demon.co.uk>
Source record: 31045
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

In article <qm20rvs80uqe4m407hc9m141b2u5m7duo9@4ax.com>, Frank Gilliland
<sparky@NOSPAMaimcomm.net> writes
>Tektronix is trying to manipulate the oscilloscope market. Today I learned from
>my local dealership that they are required by contract to destroy every scope
>which is traded in for a new Tektronix scope, regardless of age or condition. So
>if you decide to trade in that old scope for a Tektronix, know ahead of time
>that it is NOT going to end up in the hands of a ham, or of some kid learning
>and experimenting in electronics on a tight budget like I was thir... er, twenty
>years ago. No, Tektronix needs to raise their profits by destroying every used
>scope they can get their greedy little hands on, regardless of who feels the
>pinch!
>
>ironicbecause the current digital phosphor /scopes are inferior in many
major respects to the previous analog versions.

Translate the dynamic range ie noise to max signal for a fair analog
scope and represent it in bits ; translates to 24bits or so with 100+MHz
bw cant do that with digital only 12 bits or so!!

Ive re recently had access to all types and demonstrated that to see a
.1mV 200MHz parasitic oscillation on a 10V 10MHz sin wave cant be done
on a modern scope (have to use analog spectrum analyser) but easy on a
good analog scope .
Cheap Analog still available from Japan we are being forced in that
direction bt Tech and Agilent/HP

>
>
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>
>-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
>http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
>------== Over 100,000 Newsgroups - 19 Different Servers! =-----

--
ddwyer

3528. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 22:05:45 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <Zqxtb.60577$E9.8002@nwrddc01.gnilink.net>
Source record: 30947

"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
news:32tcrvksvcdvd65qifm8hlusik69io1mt4@4ax.com...
>
> Hi gang,
>
> I've never had a lot of luck with GDMs for some reason. Even with a
> decent meter, it seems such a drag tuning across such a vast range
> looking for a tiny, easily-missed dip which you have to screw out of
> the meter by forcing the sensing coil so far into the circuit
> concerned you practically break the circuit board. Am I alone in
> finding this potentially invaluable device practically useless in
> practice? Is there a more viable alternative?
>
> p.
> --
>
First rule is to get a good dip meter- the stuff made for the amateur community is very poor- the Eicos, Heath Millen etc. Pick up a Measurments model 59. With this meter you can take a 1/2 wave wire- say at 2M and hold the meter a couple inches from the center and see a huge dip. Other meters don't even respond when held to the wire. Dips on conventional L-C circuits can easily be full scale.

Dale W4OP

3529. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 22:06:34 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <3oxtb.3371$0K4.959@lakeread04>
Source record: 31046

"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
news:32tcrvksvcdvd65qifm8hlusik69io1mt4@4ax.com...
>
> Hi gang,
>
> I've never had a lot of luck with GDMs for some reason. Even with a
> decent meter, it seems such a drag tuning across such a vast range
> looking for a tiny, easily-missed dip which you have to screw out of
> the meter by forcing the sensing coil so far into the circuit
> concerned you practically break the circuit board. Am I alone in
> finding this potentially invaluable device practically useless in
> practice? Is there a more viable alternative?
>
> p.
> --

It is kind of hard to get the proper coupling on PCB style coils.
You may have to use a link coupling system (came with some
of the Millens); also solid state circuits can have fairly low Q
circuits, again making it hard to see the dip.

Those were intended for larger tube circuit designs, not PCB
based gear.

Pete

3530. Re: TS829 WARC mod

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 22:46:42 UTC
From: DAVE <dave@winslows-down.net>
Message-ID: <l5bdrv0hscm94qi33j14sdv009mjeop7dr@4ax.com>
Source record: 31030

THIS SHOULD OF COURSE READ TS820

On Tue, 11 Nov 2003 19:50:42 -0800, DAVE <dave@winslows-dowv.net>
wrote:

>if anyone has a copy of this info from QST feb 83 could they please
>email a copy to me
>Thanks
>Dave

3531. Re: gsm front-end

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 22:59:30 UTC
From: ON5MJ <"on5mj_no_more _spam_in_stock_sorry_"@skynet.be>
Message-ID: <3fb6b07b$0$14705$ba620e4c@reader1.news.skynet.be>
Source record: 30948
Cross-posted to: rec.radio.cb,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi,

I remember a friend who bought a Siemens one for prototyping some special applications.

73 de Jacques - ON5MJ

3532. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-15 23:23:50 UTC
From: dialcover@webtv.net
Message-ID: <20811-3FB6B586-45@storefull-2318.public.lawson.webtv.net>
Source record: 30949

THERE MUST HAVE BEEN SOMETHING WRONG WITH YOUR MILLEN. BILL T.

3533. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 01:15:09 UTC
From: jakdedert <jdedert@bellsouth.net>
Message-ID: <tbAtb.11435$oo.2455@bignews4.bellsouth.net>
Source record: 30950
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

No, there is no person so named. Would you prefer that he had used the sort of expletives that those symbols generally represent? Have you never seen profanity annotated that way (think: comic strip)? The 'Sanford & Son' reference was made by the service rep, apparently referring to the gall of the OP, for wasting the rep's valuable time asking for information about equipment that he (the rep) considered to be nothing but junk (you'll recall the TV series of that name was about a junk dealer).

Does that wrap it up for you...or--OP--did I get that right?

jak

"Bill Turner" <noway@nohow.com> wrote in message
news:g9mbrv49eekbrcv2iij6k14kbr7spnj9he@4ax.com...
> On Fri, 14 Nov 2003 15:58:52 -0600, "jakdedert" <jdedert@bellsouth.net>
> wrote:
>
> >Looked like English to me. What part of it did you not understand?
> >
> >jak
>
> --
>
> 1. The part about calling regarding a 465 faceplate and the guy losing
> his wig before he got to speak about the 2232. Can you say "non
> sequitur"?
>
> 2. Is there a person named "$^% 465 !!"? This person apparently makes
> jokes about Sanford and Son. What does this have to do with ordering
> parts from Tektronix?
>
> 3. If you *can* make sense out of his post, I worry about you. :-)
>
> --
> Bill, W6WRT
>

3534. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 01:40:18 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb6b354.16322967@news.online.no>
Source record: 30952

On Sat, 15 Nov 2003 17:06:34 -0500, " Uncle Peter"
<radioconnectionNO@cox.netSPAM> wrote:

>It is kind of hard to get the proper coupling on PCB style coils.
>You may have to use a link coupling system (came with some
>of the Millens); also solid state circuits can have fairly low Q
>circuits, again making it hard to see the dip.
>
>Those were intended for larger tube circuit designs, not PCB
>based gear.
>
Item 2.4 described on http://home.online.no/~la8ak/5c.htm
is the solution for dipping pcb coils, and you don't need a
griddipmeter, at all. Another problem with the pcb coil is low
Q-value, and if the coil is loaded too much it won't dip with any
arrangement tried.
also described some GDMs on http://home.online.no/~la8ak/5a.htm -
haven't got the time to re-edit these pages

Jan-Martin
LA8AK
--
remove ,xnd to reply (Spam precaution!)

3535. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 01:45:03 UTC
From: Tracy Fort <tracyebay@nospam.cox.net>
Message-ID: <vjldrv43r8ms52uai5gknuedgaqkidm46b@4ax.com>
Source record: 30951

Yep...He probably bought it from you.

Tracy

On Sat, 15 Nov 2003 17:23:50 -0600 (CST), dialcover@webtv.net (Bill Turner) wrote:

>THERE MUST HAVE BEEN SOMETHING WRONG WITH YOUR MILLEN. BILL T.

3536. Re: dummy load plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 02:07:00 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1068948499.243172@smtp-1.griffin.com>
Source record: 30953

ok found plans for bigger dummy load..but need supplier of non inductive 50r resistor..needs to take full legal load for long as possible..intend to use ARRL suppy dummy load design..
"K9SQG" <k9sqg@aol.com> wrote in message news:20031115135740.02133.00000249@mb-m16.aol.com...
> If a Heath Cantenna is overheating all that much that indicates that it is
> being used at well beyond its rated power. Added cooling is not necessarily a
> solution. The stress on the resistor comes from thermal sources as well as
> electrical sources. Even with "adequate" cooling, if you exceed the current
> handling capability of the non-inductive resistor it will shorten its life.
>
> An alternative solution is not to use a Cantenna at all. Use an inductive
> resistor with an adequate rating and an antenna tuner to tune out the
> reactance. Another approach is to use a 40m antenna as a dummy load. Wait
> until evening, tune up on top of a foreign broadcast station, and use that for
> testing purposes.
>
> 73s

3537. wanted non inductive resistor supplier.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 02:09:28 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1068948646.596646@smtp-1.griffin.com>
Source record: 30954

RE dummy load.
ok found plans for bigger dummy load..but need supplier of non inductive 50r resistor..needs to take full legal load for long as possible..(or 300w continous)intend to use ARRL suppy dummy load design..
UK supplier would be nice but anywhere will do..

thanks g0zen

3538. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 02:42:50 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <4rBtb.3400$0K4.351@lakeread04>
Source record: 30955
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"David Forsyth" <foda01@ncx.com> wrote in message
news:vr7v1i2v7uoqb8@corp.supernews.com...
> Would it be possible, though not necessarily practical, to make a reciever
> for the modern FM broadcast band, using only pre-WWII tube technology? I
> know they had FM on a lower frequency band at that time. What sorts of
> tubes could one use from the 1930's to make a reciever that could tune in
> the modern FM band? I'm sure I wont actually attempt such a thing,
> especially any time soon, but just wondered how difficult it might be.
Are
> there any schematics or construction articles from the late 30's about
> making FM radios that might be adapted over to the new FM band?
>
> just curious,
>
> Dave
>
>
>
>

3539. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 02:45:48 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <StBtb.3401$0K4.2633@lakeread04>
Source record: 30956
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"David Forsyth" <foda01@ncx.com> wrote in message
news:vr7v1i2v7uoqb8@corp.supernews.com...
> Would it be possible, though not necessarily practical, to make a reciever
> for the modern FM broadcast band, using only pre-WWII tube technology? I
> know they had FM on a lower frequency band at that time. What sorts of
> tubes could one use from the 1930's to make a reciever that could tune in
> the modern FM band? I'm sure I wont actually attempt such a thing,
> especially any time soon, but just wondered how difficult it might be.
Are
> there any schematics or construction articles from the late 30's about
> making FM radios that might be adapted over to the new FM band?
>
> just curious,
>
> Dave
>

The RCA 10T tombstone used the new metal tubes, and had an
UltraShortwave band that reached to over 60 mc. Unfortunately,
most of the RCAs had serious problems with the LO dropping off
at about 50 mc orso, very few of the radios ever seemed to actually
tune that high! I think I've seen one example that worked across the
full tuning range without twiddling the circuitry to make it work.
Bu, in 1936, probably no one even noticed, or cared.

Pete

>
>
>

3540. Re: wanted non inductive resistor supplier.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 03:04:13 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb6e154.28100452@news.online.no>
Source record: 30957

On Sun, 16 Nov 2003 02:09:28 -0000, "zindazenda" <zen@lineisp.co.uk>
wrote:

>
>RE dummy load.
>ok found plans for bigger dummy load..but need supplier of non inductive 50r
>resistor..needs to take full legal load for long as possible..(or 300w
>continous)intend to use ARRL suppy dummy load design..
>UK supplier would be nice but anywhere will do..
>
>thanks g0zen
>
>
the desire for non-inductive resistors is more a theoretical thought,
your problem is capacitance in the sideplates as well as they are
inductive, while all those paralleled carbon type resistors has a
relatively small total inductance

I've shown some note about it on http://home.online.no/~la8ak/m3.htm ,
describing the result using certain carbon resistors which performs
well in a smaller dummy load - even on 23cm

Mounted 6 large 300 ohm 'non inductive' resistors which had been used
as RF terminations in RCA TSL-5 TV transmitters on 210MHz, but it
wasn't much good as 50 ohm dummy-load on 30MHz, just because of
capacitance problem with the mount

73
Jan-Martin
LA8AK
--
remove ,xnd to reply (Spam precaution!)

3541. Re: All MFR's SUCK!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 03:15:32 UTC
From: kludge@panix.com
Message-ID: <bp6q4kfol1@panix2.panix.com>
Source record: 30958
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

johnm <jmiles@pop.removethistomailme.net> wrote:
>
>I heard someone on the test-equipment reflector (http://www.qth.net) was
>going to fabricate some replacement 8640B gears out of metal. You might
>check with that list to see if it ever happened.

Dunno, but the guy at www.odometergears.com has been VERY happy to fabricate
plastic instrument gears for me, for fairly little money.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

3542. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 03:16:01 UTC
From: Alan Douglas <adouglasatgis.net>
Message-ID: <geqdrvkktsh493993vk0hvq0b1bm0nkj1m@4ax.com>
Source record: 30960
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Hi,
Dave asked:

>> Would it be possible, though not necessarily practical, to make a reciever
>> for the modern FM broadcast band, using only pre-WWII tube technology?

The Hallicrafters S-37 tunes 130 to 210 MHz and although it dates
from 1945, it uses 954 acorn tubes and could have been made with 1930s
technology. There's a front-panel selector for AM or FM (narrowband
most likely, but the manual doesn't say and I've never tried running
mine).

73, Alan

3543. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 03:28:24 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311151928.7a46e3a9@posting.google.com>
Source record: 30959

GDOs are sort of dated by now. i build one last year when i was just getting back into hamming. i found very little use for it over the last 3 months that i have actively been homebrewing. let me explain why ...

a gdo is primarily used to check for resonance of a tuned circuit. if you knew the inductance and the capacitance, you could easily compute the resonanating frequency youself.

as another poster mentioned, getting a dip is a fight. so, what i do use is a combination of three things: an rf probe with a high impedance voltmeter, a test oscillator and a frequency counter. all these things are in themselves pretty useful. but i seldom go wrong in getting properly tuned circuits.

i have a test oscillator (see the schematic http://farhan.net.co.nr/testosc.gif). i plug in a coil with a 330pf capcitance in series between the base of the vfo transistor and the ground. and measure the frequency on the counter. that gives me a pretty accurate (within 1%) measure of the coil's inductance. it involves a bit of calculating, but once i have cast the values, there is seldom need to change them. i tend to do simple maths in my head using 10MHz as starting value for resonance (100pf with 2.5uH). I can now scale up or down without resorting to a calculator.

As for peaking a circuit, it is best done by the ear or using an oscilloscope. peaking by the ear is probably the best, if u can manage it. now, i dont mean to be rude, but frankly very few people have the ear to be able to tune for best fidelity rather than loudness. it takes patience and care (i have very little of either). so, i depend upon a scope. it is a little like knowing morse. it is the best mode of communicating, but not all want to use it.

a poor man's alternative is using the RF probe. the RF probe will never show distortions. But it can show clear peaks while tuning up a circuit. be sure that you also terminate the output of the tuned stage properly! otherwise you maybe be tuning away from the sweet point.

i would rather that you invested into building a simple PIC based counter. It is pretty accurate, you will never need to caliberate it. (I never got around to caliberating mine, it is off by 1.5KHz at 10MHz). That with the test oscillator, you would be completely informed about your coils. An RF probe is a 10 minute project and if you already have a good VOM, you might not need a High impedance voltmeter. I brewed my own voltmeter to keep things completely homebrewed.

the counter can always be used with all your projects as a standard read out. The rf probe will the most useful tool in tuning up any transmitter. The voltmeter is indispensable.

- farhan

3544. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 04:50:07 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bp6vkqofk1@bob.news.rcn.net>
Source record: 30961
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"Alan Douglas" <adouglasatgis.net> wrote in message
news:geqdrvkktsh493993vk0hvq0b1bm0nkj1m@4ax.com...
> Hi,
> Dave asked:
>
> >> Would it be possible, though not necessarily practical, to make a
reciever
> >> for the modern FM broadcast band, using only pre-WWII tube technology?
>
> The Hallicrafters S-37 tunes 130 to 210 MHz and although it dates
> from 1945, it uses 954 acorn tubes and could have been made with 1930s
> technology. There's a front-panel selector for AM or FM (narrowband
> most likely, but the manual doesn't say and I've never tried running
> mine).

Wideband. I suspect that the S-37 and S-36 differed only in tuning range. The S-36 had an IF bandwidth suitable for FM broadcast. The wouldn't have been any narrow FM in that frequency range in 1945. Certainly no land mobile, and wasn't land mobile about 20-30 kHz wide until post-WW2? Crystal frequency stability didn't get good enough for NBFM at high VHF until the hermetic holders like the HC-6, which are post-WW2, aren't they.

Even HC-6 and snap-action thermostat ovens could be pretty awful. Collins built very special 400 MHz radios for an Air Force project I was on in the early 1950s. Listening to their output frequency with BFO on you heard a kHz or more of drift, with the fractional-minute cycling of the thermostat/oven. Our digital modulation was 180-degree-shift PSK of the 400 MHz carrier, and couldn't stand all that short-term drift. The solution was to disconnect the oven's heater. We could stand slow drift.

3545. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 06:08:53 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <2e4ervg74kmnrogfre09c7eb2btu8omjdi@4ax.com>
Source record: 30962

On Sat, 15 Nov 2003 22:05:45 GMT, "Dale Parfitt"
<par@parelectronics.com> wrote:

|
|"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
|news:32tcrvksvcdvd65qifm8hlusik69io1mt4@4ax.com...
|>
|> Hi gang,
|>
|> I've never had a lot of luck with GDMs for some reason. Even with a
|> decent meter, it seems such a drag tuning across such a vast range
|> looking for a tiny, easily-missed dip which you have to screw out of
|> the meter by forcing the sensing coil so far into the circuit
|> concerned you practically break the circuit board. Am I alone in
|> finding this potentially invaluable device practically useless in
|> practice? Is there a more viable alternative?
|>
|> p.
|> --
|>
| First rule is to get a good dip meter- the stuff made for the amateur
|community is very poor- the Eicos, Heath Millen etc. Pick up a Measurments
|model 59. With this meter you can take a 1/2 wave wire- say at 2M and hold
|the meter a couple inches from the center and see a huge dip. Other meters
|don't even respond when held to the wire. Dips on conventional L-C circuits
|can easily be full scale.

Yep. I have two 59s and they are great. I got rid of two Millens.
They are better than anything else but the 59.

As to usefulness, a short war story. Another engineer and I were
working on an AGC problem in the early Phoenix missile i-f amplifier.
Phoenix being a monopulse radar had a three channel receiver with very
tight agc tracking requirments (both gain and phase). The agc voltage
was fed to each of the three channels via feedthru caps in the walls
of a very well shielded and gasketed chassis. Nevertheless, there was
obvious crosstalk.

The other guy said to me, "Wes, do you have a GDO?"

I said, "Sure."

A couple of younger engineers who were watching this asked, "What's a
GDO?"

So we poke the coil of the Model 59 into the chassis and find a nice resonance at the i-f in the agc wiring. The feedthru capacitance and wiring inductance were resonating at i-f. We had millions of dollars worth of test equipment in our lab and I doubt that we could have devised a test for this without heroic efforts.

The only problem was keeping the GDO hidden from the metrology guys since they couldn't "calibrate" and service them so they wanted them gone.

Wes N7WS

3546. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 06:26:19 UTC
From: Radiobuff <nospam.nail3inch@yahoo.com>
Message-ID: <j26erv0pkrk5gi50cttdrugne20p0l7sj1@4ax.com>
Source record: 30963
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Motorola does all the time with there radios that are traded in

On Mon, 10 Nov 2003 14:03:06 -0800, Frank Gilliland
<sparky@NOSPAMaimcomm.net> wrote:

>Tektronix is trying to manipulate the oscilloscope market. Today I learned from
>my local dealership that they are required by contract to destroy every scope
>which is traded in for a new Tektronix scope, regardless of age or condition. So
>if you decide to trade in that old scope for a Tektronix, know ahead of time
>that it is NOT going to end up in the hands of a ham, or of some kid learning
>and experimenting in electronics on a tight budget like I was thir... er, twenty
>years ago. No, Tektronix needs to raise their profits by destroying every used
>scope they can get their greedy little hands on, regardless of who feels the
>pinch!
>
>
>
>
>
>
>
>
>
>
>-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
>http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
>-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

3547. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 07:45:34 UTC
From: Frank Dresser <analogdial@worldnet.att.net>
Message-ID: <yWFtb.68268$Ec1.3836392@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30964
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

"R J Carpenter" <rcarpen@erols.com> wrote in message
news:bp6vkqofk1@bob.news.rcn.net...
>
>
> Wideband. I suspect that the S-37 and S-36 differed only in tuning
range.
> The S-36 had an IF bandwidth suitable for FM broadcast. The wouldn't
have
> been any narrow FM in that frequency range in 1945. Certainly no land
> mobile, and wasn't land mobile about 20-30 kHz wide until post-WW2?
Crystal
> frequency stability didn't get good enough for NBFM at high VHF until
the
> hermetic holders like the HC-6, which are post-WW2, aren't they.

My S-36 has two selectivity settings, sharp and broad. The broad
position is fine for FM broadcast. I don't know how sharp the sharp
position is.

>
[snip]

Frank Dresser

3548. Re: Newbie qrp homebrew transmitter; another question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 08:07:10 UTC
From: John_S_Sandin@Tosca.state.mo.us
Message-ID: <3fb72ad1.1629995@news.kcnet.com>
Source record: 30965

Farhan, I took your advice about tuning out the subharmonic, although I used a dummy load instead of a 12" wire. I did find a tuning point at which the subharmonic went away. The article says to tune it so that there is a minimum of illumination at the PA indicator lamp, and a maximum of illumination at the RF indicator lamp. I found a point where there is NO illumination at the PA indicator lamp, while the RF lamp glows brightly. Prior to this test, I always tried to have at least some illumination at the PA indicator lamp. Perhaps no illumination is best for this particular incarnation of this rig, given that it still has some problems. I have no scope and no wavemeter (yet) and not a lot of knowledge, so I rely a lot on trial and error, probably too much.

The tuning point described above is also the point where any self-oscillation stops, the subharmonic is silent, and the output is the greatest as measured via a voltmeter across the dummy load, rectified with a diode and capacitor as suggested by KC6WDK. I'm now getting 12 v there.

Now I'll continue to try to find the source of the subharmonic, and also the chirp, which is still a little troublesome. I am also going to try some suggestions made by others who responded.

I realize that I'm rather handicapped, having a 1-watt rig that uses crystals, and having only a "Technician with Morse Code" license. I missed passing the General exam by one question. :(

Thanks to all.

On 14 Nov 2003 16:02:58 -0800, farhan@hotfoon.com (Ashhar Farhan) wrote:

>John_S_Sandin@Tosca.state.mo.us (John Sandin) wrote in message news:<3fb4559a.1620557@news.kcnet.com>...
>
>> The problem is, she also heard a signal about half as
>> strong at a subharmonic (3562 kHz). Does anybody out there know what
>> might typically cause this to happen with a transmitter like mine? It
>> didn't occur to me to try a random wire at the receiving end as a
>> comparison. My receiver is an Icom R71A.
>>
>
>if she has received the signal across the town, then you are putting
>out a pretty strong sub-harmonic. a couple of things have to be
>checked up:
>

>1) are u sure that the signal is actually due to the crystal? it might
>be that the oscillator is freely running on its own. to check that,
>test that the signal is stable, if u move ur hand around the coils or
>touch them, the signal should not shift its frequency. if it does
>that, then the crystal is not really a part of the oscillation.
>
>2) if you have figured out that the crystal is oscillating properly,
>next, you might have mistuned your PA to 3.5MHz instead of 7MHz. Try
>retuning the PA, disconnect the antenna from the receiver attach a
>foot of wire to the output of the tx and tune the tx for maximum
>output on 7MHz. Then switch the rx to 3.5MHz and see if you can 'tune
>out' the 3.5MHz trace.
>
>these are quick fixes. the larger problem that you are faced with
>really is that you don't exactly know what is going on. the above two
>solutions are based on diagnosing the problem emperically.
>
>what you really need is a wavemeter. If you have another variable cap
>lying around, it might be a good idea to hook one up. It will serve
>you for years. It takes about 4 components to wire it up. You can
>caliberate it easily using a regular TX for 3.5 and 7. Now you can
>couple the wavemeter to each of your TX coils and tune it to the
>correct frequency.
>
>if we are to assume that the crystal is actually 7MHz, i see no way
>that it can give sub-harmonics in a proper design. the only culprit
>could be the tuned circuits.
>
>- farhan

-John Sandin KC0QWE

Remove the "T" to respond by e-mail
John_S_Sandin@Tosca.state.mo.us

3549. Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 10:10:02 UTC
From: G8YWL <graham@cfcuk.org>
Message-ID: <bp7idq$1ei$1@sparta.btinternet.com>
Source record: 30966

Does anyone know how I can convert the output from a speaker/headphones jack from a Laptop into a suitable input to the Mic socket of a TS430S? It's for running SSTV

I have not been able to find anything on the net - probably 'cos I'm asking the wrong question.

Thanks

3550. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 10:17:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vrejlohricpj0a@corp.supernews.com>
Source record: 30967
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Thanks to Ed for the good advice.

I've got an HP 140T. As far as I know, the only difference between it and the 141T is that the CRT in mine is a conventional one with long-persistence phosphor rather than a storage tube. It uses the same plug-in units as the 141T. I find it to be very usable, and don't really miss storage capability at all. I think the tube is a lot more trouble-free than a storage type unit.

So I recommend that you don't turn down a 140T if you come across one -- and you might even have a better chance of getting a unit with a working display than with a 141T.

Roy Lewallen, W7EL

Ed Price wrote:

[Lots of good advice]

3551. manual tristar 511 graymark

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 11:30:01 UTC
From: theo <t.rovers@home.nl>
Message-ID: <bp7n3siod1@news4.tilbu1.nb.home.nl>
Source record: 30968

i am searching for a picture from the manual of the tristar 511 from graymark thanks al lot theo

3552. Re: inductor identification..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 12:41:51 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <VeLtb.1675$cY6.520082@newsfep1-win.server.ntli.net>
Source record: 30970

> ISTR a simple LC oscillator that, when coupled to a frequency counter,
> enabled unknown/dubious inductors to be classified when oscillating
> with a known Capacitor. Where did I see it?.
==========
Realising that not every ham has a MFJ 259B or similar analyser , this is a really useful instrument and well worth considering ,not only for antenna matching.
The 259B has among its facilities a capacitance and inductance measuring capability.

When mesasuring inductances and capacitances it is very revealing that the measured values do change dramatically at higher frequencies ,especially useful to know when using components in HF and VHF circuits.

BTW I also use an inductance & capacitance meter with LCD readout ,operating with an internal 1000 Hz oscillator , which measures the inductance / capacitance ,obviously at that frequency and is fine for up to the lower HF frequencies.

Frank GM0CSZ / KN6WH

3553. Re: wanted non inductive resistor supplier.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 13:18:09 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <VeLtb.1676$cY6.520082@newsfep1-win.server.ntli.net>
Source record: 30971

> RE dummy load.
> ok found plans for bigger dummy load..but need supplier of non inductive
50r
> resistor..needs to take full legal load for long as possible..(or 300w
> continous)intend to use ARRL suppy dummy load design..
> UK supplier would be nice but anywhere will do..
==========
Suggest you check with Mainline Electroniscs - Leicester.
They probably still have T0220 packaged non-inductive resistors of
25 -50 -100 Ohms.
You might have to use a number to make up a package of 50 Ohms which can
absorb 300 Watts.
These resistors are fine well up to 300 MHz.
You obviously need a substantial heatsink to get rid of the heat.

A US manufacturer of these resistors is Caddock (their UK agent is/was
Rhopoint Ltd -Oxted , Surrey ,tel: 01883-717988)

Their Cooltab TO220 power film resistors ,model MP820 -20 Watts come in a
range of 1 Ohm to 10 kOhms .

Good Luck

Frank GM0CSZ / KN6WH

3554. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 13:27:49 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <1lrervgoild9qo71eqaogstbjqm4r2bvl1@4ax.com>
Source record: 30969

On Sat, 15 Nov 2003 17:23:50 -0600 (CST), dialcover@webtv.net (Bill Turner) wrote:

>THERE MUST HAVE BEEN SOMETHING WRONG WITH YOUR MILLEN. BILL T.

I'm not using a Millen and this post isn't a troll as someone else suggested. The meter I use started out life as a Tradiper (Japanese) but because it was hopelessly outdated and used old germanium trannies with enough lead inductance to tune a VoA transmitter, I decided to rip its guts out and rebuild from scratch.The actual chassis/meter/facia etc was quite high quality, so it made sense. I got this nice circuit from the UK equivalent of the ARRL Handbook and set about building it. It used 2 SK88 FETs and the output of this oscillator could be adjusted to keep its impedence as high as poss for each test, thereby giving really good dips when even quite heavily loaded low Q circuits were tested *provided* they were physically big enough to shove the sense coil into. The sense coils are about 3/4" in diameter, which although fine for large, out-of-circuit component measurements, is *hopeless* for getting in close on a circuit board with subminature components a fraction of the size. That's the main problem I face with all GDMs, though: they all seem to have relatively huge sense coils relative to today's component sizes :-(

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3555. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 13:47:03 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <WeLtb.1677$cY6.520082@newsfep1-win.server.ntli.net>
Source record: 30972

> Does anyone know how I can convert the output from a speaker/headphones
jack
> from a Laptop into a suitable input to the Mic socket of a TS430S? It's
for
> running SSTV
>
> I have not been able to find anything on the net - probably 'cos I'm
asking
> the wrong question.
==========
The best way to roughly match the 2 impedances is to use any small
transformer which can pass SSTV audio tones.
It is not a critical matching

I don't know the microphone input circuit of the TS430S ,but you can check
that by looking at the microphone itself.
Suppose that impedance is somewhere between 500 and 1000 Ohms and the
audio output of your Laptop 8 Ohms .

It means the impedance ratio is in the order of 800 to 8 is 100 ,so the
winding ratio of the transformer should be in the order of sqrt 100 is in
the order of 10 to 1. So you would have to find any (small)tansformer with
that winding ratio (meaning voltage ratio)

But again the ratio is NOT critical

If the TS430S would have a high impedance microphone in the order of 50
kOhms , assuming a low impedance output from the laptop of say 10 Ohms the
transformer ratio would have to be in the order of sqrt 50000/10 = sqrt
5000 = approx 70.

If you can't find an audio transformer for this application , just try a
small power supply transformer ,since these will pass the low freq audio sig
used for SSTV.

Good luck

Frank GM0CSZ / KN6WH

3556. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 14:14:04 UTC
From: oh2baw <oh2@hotmail.com>
Message-ID: <pELtb.75$ce.60@reader1.news.jippii.net>
Source record: 30973

i use my GD-meter when building antennas and tuning
antennas and traps to frequency. Although
the calibration is quite inexact, it's always possible
to listen to the GD-meters frequency on the
receiver.

"Paul Burridge"
> On Sat, 15 Nov 2003 17:23:50 -0600 (CST),
> Turner) wrote:
> >THERE MUST HAVE BEEN SOMETHING WRONG WITH YOUR
MILLEN. BILL T.
>
> I'm not using a Millen and this post isn't a troll as
someone else
> suggested. The meter I use started out life as a
Tradiper (Japanese)
> but because it was hopelessly outdated and used old
germanium trannies
> with enough lead inductance to tune a VoA transmitter,
I decided to
> rip its guts out and rebuild from scratch.The actual
> chassis/meter/facia etc was quite high quality, so it
made sense.
> I got this nice circuit from the UK equivalent of the
ARRL Handbook
> and set about building it. It used 2 SK88 FETs and the
output of this
> oscillator could be adjusted to keep its impedence as
high as poss for
> each test, thereby giving really good dips when even
quite heavily
> loaded low Q circuits were tested *provided* they were
physically big
> enough to shove the sense coil into. The sense coils
are about 3/4" in
> diameter, which although fine for large,
out-of-circuit component
> measurements, is *hopeless* for getting in close on a
circuit board
> with subminature components a fraction of the size.
That's the main
> problem I face with all GDMs, though: they all seem to
have relatively
> huge sense coils relative to today's component sizes

:-(

3557. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 14:45:47 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FB78D84.DF387BBB@earthlink.net>
Source record: 30975

Bill Turner wrote:
>
> On Sat, 15 Nov 2003 23:08:53 -0700, Wes Stewart <n7ws@_arrl.net> wrote:
> <snip>
> >The only problem was keeping the GDO hidden from the metrology guys
> >since they couldn't "calibrate" and service them so they wanted them
> >gone.
>
> ----------
>
> Great story, Wes. But why couldn't the metrology guys figure out a cal
> procedure? I suspect the Not Invented Here syndrome, right?
>
> --
> Bill, W6WRT

More likely the results of corporate policy. The last place I worked kept the records on the mainframe, rather than use dedicated software to track the ISO9001 data because, "ï¿½That's the way we've always done it!ï¿½".

That is like some test fixtures have elaborate setup and calibration instructions, wile others are labeled, "Calibration not required" I told the cal lab the label should read, "Calibration not possible". ;-)
--

Michael A. Terrell
Central Florida

3558. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 14:50:34 UTC
From: G8YWL <graham@cfcuk.org>
Message-ID: <bp82rqjsu1@hercules.btinternet.com>
Source record: 30976

Thanks Frank and Bill - I suspected that it was an impedance matching problem but could not be sure - now I'll find someon's olf tranny:)

Graham

"Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message news:WeLtb.1677$cY6.520082@newsfep1-win.server.ntli.net...
> > Does anyone know how I can convert the output from a speaker/headphones
> jack
> > from a Laptop into a suitable input to the Mic socket of a TS430S? It's
> for
> > running SSTV
> >
> > I have not been able to find anything on the net - probably 'cos I'm
> asking
> > the wrong question.
> ==========
> The best way to roughly match the 2 impedances is to use any small
> transformer which can pass SSTV audio tones.
> It is not a critical matching
>
> I don't know the microphone input circuit of the TS430S ,but you can check
> that by looking at the microphone itself.
> Suppose that impedance is somewhere between 500 and 1000 Ohms and the
> audio output of your Laptop 8 Ohms .
>
> It means the impedance ratio is in the order of 800 to 8 is 100 ,so
the
> winding ratio of the transformer should be in the order of sqrt 100 is in
> the order of 10 to 1. So you would have to find any (small)tansformer
with
> that winding ratio (meaning voltage ratio)
>
> But again the ratio is NOT critical
>
> If the TS430S would have a high impedance microphone in the order of 50
> kOhms , assuming a low impedance output from the laptop of say 10 Ohms
the
> transformer ratio would have to be in the order of sqrt 50000/10 = sqrt
> 5000 = approx 70.
>
> If you can't find an audio transformer for this application , just try a
> small power supply transformer ,since these will pass the low freq audio
sig
> used for SSTV.

>
> Good luck
>
> Frank GM0CSZ / KN6WH
>
>
>
>
>
>
>
>
>

3559. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 15:01:49 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <5k2frv8m612at8kqv09s1j19qpp932grto@4ax.com>
Source record: 30977

On Sun, 16 Nov 2003 05:09:01 -0800, Bill Turner <noway@nohow.com>
wrote:

|On Sat, 15 Nov 2003 23:08:53 -0700, Wes Stewart <n7ws@_arrl.net> wrote:
|<snip>
|>The only problem was keeping the GDO hidden from the metrology guys
|>since they couldn't "calibrate" and service them so they wanted them
|>gone.
|
|____
|
|Great story, Wes. But why couldn't the metrology guys figure out a cal
|procedure? I suspect the Not Invented Here syndrome, right?

The worst thing that could happen to our equipment was for it to go to
"Calibration." I had more than one piece of equipment "accidentally"
dropped and broken when they tired of maintaining it. If they did
this to an HP/Boonton 250 Rx meter what do you think would happen to a
Model 59?

The best we could do was get an "inactive" sticker put on the
equipment. This took it out of the cal cycle but theoretically meant
that we couldn't use it for anything. Also there were the everpresent
management directives to get rid of inactive equipment to reduce
inventory costs. Imagine how much expense could be written off if
Hughes Aircraft Co (now Raytheon) got rid of a Model 59 GDO <g>.

Might have been enough to reinstate my retiree medical benefit that
was promised to me for 33 years and then taken away. But that's
another story.

Wes

3560. Re: No Code General

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 15:02:26 UTC
From: Ronny Julian <k4rjj@comcast.net>
Message-ID: <N62dnTcgpLUvDCqiRVn-gg@comcast.com>
Source record: 30978
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.swap

That's the other Inferior spectrum user VERIZON

"Steveo" <moparholic@hotmail-nospam-.com> wrote in message
news:20031104185847.223$t1@newsreader.com...
> Mike Coslo <mjc5@psu.edu> wrote:
> > Alun Palmer wrote:
> > > Mike Coslo <mcoslo@adelphia.net> wrote in
> > > news:Z%kpb.2342$Bf7.1312644@news1.news.adelphia.net:
> > >
> > >
> > >>Alun Palmer wrote:
> > >>
> > >>
> > >>
> > >>>I will probably be dropped soon, but the FCC has to go through
> > >>>standard procedures with all the pending petitions. The international
> > >>>requirement was dropped on July 5th, so by next July it should
> > >>>probably be gone in the US.
> > >>
> > >> Hehhe. Alun, you should be on the welcoming committee for this
> > >> dude!
> > >>
> > >> - Mike KB3EIA -
> > >>
> > >>
> > >
> > >
> > > It's a difficult question. Do we applaud him for wanting to go legal?
> > > Or do we slam him for ever having operated illegally? I have known
> > > former pirate radio ooperators whose behaviour on the ham bands after
> > > they got a licence was exemplary.
> >
> > Then let us hope that he is a shining beacon of behavior for the
> > cause of those who do away for the code test!
> >
> > - Mike KB3EIA -
> >
> It will be like the Cingular commercial.."can you hear me now?" <g>

3561. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 15:14:25 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <OZudnSrUGeNXESqiU-KYlg@ctc.net>
Source record: 30974

> > Does anyone know how I can convert the output from a speaker/headphones
> jack
> > from a Laptop into a suitable input to the Mic socket of a TS430S? It's
> for
> > running SSTV
> >
> > I have not been able to find anything on the net - probably 'cos I'm
> asking
> > the wrong question.
> ==========
> The best way to roughly match the 2 impedances is to use any small
> transformer which can pass SSTV audio tones.
> It is not a critical matching
>
> I don't know the microphone input circuit of the TS430S ,but you can check
> that by looking at the microphone itself.
> Suppose that impedance is somewhere between 500 and 1000 Ohms and the
> audio output of your Laptop 8 Ohms .
>
> It means the impedance ratio is in the order of 800 to 8 is 100 ,so
the
> winding ratio of the transformer should be in the order of sqrt 100 is in
> the order of 10 to 1. So you would have to find any (small)tansformer
with
> that winding ratio (meaning voltage ratio)
>
> But again the ratio is NOT critical
>
> If the TS430S would have a high impedance microphone in the order of 50
> kOhms , assuming a low impedance output from the laptop of say 10 Ohms
the
> transformer ratio would have to be in the order of sqrt 50000/10 = sqrt
> 5000 = approx 70.
>

This is totally the wrong way to go. Part of the idea is fine but the main problem is cutting down the voltage level from the laptop to a very low level the sound card can use. By going to a stepup transformer you have just raised the voltage by your factor of 10 or 70.

As this type of audio frequency response is not that critical , a simple resistor network of about 100,000 ohms in series with the sound card output and a 1000 ohm reisitor across the input of the mic socket should be in the ball park.

For an inespensive interface, (about the cost of the cables) do a Google search for RASCAL. It is a Rigblaster type interface at almost no cost.

Any of the popular psk31 type audio interfaces should work as they all are just lowering the leverl of the sound card to the mic input.

3562. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 15:33:26 UTC
From: james <jimbo@nospamforme.com>
Message-ID: <3FB798C4.9010D51A@nospamforme.com>
Source record: 30979

Hi Paul,

ARRL QST had nice article on a modern GDO

May 2003 QST page 54 A Modern GDO--The "Gate" Dip Oscillator Bloom, Alan, N1AL

73 jimbo

Paul wrote:

>
>
> I'm not using a Millen and this post isn't a troll as someone else
> suggested. The meter I use started out life as a Tradiper (Japanese)
> but because it was hopelessly outdated and used old germanium trannies
> with enough lead inductance to tune a VoA transmitter, I decided to
> rip its guts out and rebuild from scratch.The actual
> chassis/meter/facia etc was quite high quality, so it made sense.
> I got this nice circuit from the UK equivalent of the ARRL Handbook
> and set about building it. It used 2 SK88 FETs and the output of this
> oscillator could be adjusted to keep its impedence as high as poss for
> each test, thereby giving really good dips when even quite heavily
> loaded low Q circuits were tested *provided* they were physically big
> enough to shove the sense coil into. The sense coils are about 3/4" in
> diameter, which although fine for large, out-of-circuit component
> measurements, is *hopeless* for getting in close on a circuit board
> with subminature components a fraction of the size. That's the main
> problem I face with all GDMs, though: they all seem to have relatively
> huge sense coils relative to today's component sizes :-(
>
> --
>
> "I expect history will be kind to me, since I intend to write it."
> - Winston Churchill

3563. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 16:42:32 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bp89do$4nc$1@freenet9.carleton.ca>
Source record: 30980

Bill Turner (noway@nohow.com) writes:

> Also, a GDO is likely to be much less expensive
> than the three separate items.
>
>
> Bill, W6WRT
>
That's always been some of its appeal. Throw one together, or buy one,
and you get a tool for finding the rough frequency of a coil. But you
also get that ability to figure out an unknown L or C, you get a signal
generator, you get a wavemeter (which also still has potential use),
you get a general purpose oscillator that you can connect a crystal to,
and you get likely some other uses that don't immediately come to mind.

They date from a time, late forties is when they started becoming popular
but I'm uncertain if the concept was there before, when the average ham
had little test equipment, and even labs and repair places might not
have all that much of it. It was a handy little unit, relatively easy
to build, that did give good returns.

Of course, a lot of recent equipment isn't conducive to as easy use
with a GDO, with self-shielding toroids and the rest shielded in cans.
Construction isn't nearly as wide open as in the days of tubes.

But whether it's worth having likely depends on a mindset. If someone
wants to load down on tons of test equipment, then a GDO is likely
redundant. But a GDO can have its uses, especially if one doesn't have
a wide-range signal generator.

Michael VE2BVW

3564. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 16:56:27 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bp8a7r$6kj$1@freenet9.carleton.ca>
Source record: 30981

james (jimbo@nospamforme.com) writes:
> Hi Paul,
>
> ARRL QST had nice article on a modern GDO
>
> May 2003 QST page 54 A Modern GDO--The "Gate" Dip Oscillator Bloom, Alan, N1AL
>
>
> 73 jimbo
>
> Paul wrote:
>
But is it really modern, or just a rehash of what's come before?

I haven't seen the article, but in thirty years of reading the magazines
(and I've seen plenty of back issues from before that), there has been
very little change. Most of the articles are a small variant on a previous
article, with any real change being about coil forms ("I didn't have what
the previous article used", or "I noticed these things that would make a GDO,
so I built one around them") or variable capacitor.

Admittedly, when solid state devices came along, there had to be some change
since people did want to make use of them. The original ones were likely
pretty bad, using bipolar transistors, and of course there was the Tunnel
diode one from Heathkit. Once FETs came along, the GDOs were back to
basically a tube circuit, albeit with low supply voltage.

There have been the occasional outrageous scheme, switchable coils,
or making use of an existing signal generator or building a whole GDO along
such lines, but they never really held. Next time a GDO article was
published, it was back to simplicity.

If I was building one, I'd make sure it had a good reduction drive. I'd
certainly put in a buffer for an output, as a signal generator or to feed
a frequency counter. The latter then means the dial doesn't require much
effort, and the readout will be much much better than any GDO from before.
Maybe I'd even build a plug-in that has switchable coils, but the whole
thing is shielded, for those times when you just wanted a signal generator.

But I'd also be looking at the circuitry of the Millen Solid-state GDO,
from the early seventies. It was a more extensive design, but of course
it costs virtually nothing for those extra active devices. They found they
had to put a variety of chokes in the thing to isolate the oscillator from
the B+ line, so there weren't false dips.

The Heathkit from the eighties seemed rather interesting. Again, it was a more complicated design. I can't remember what the extra circuitry amounted to. That design did generate some similar home made circuits at the time.

Michael VE2BVW

3565. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 17:16:04 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vrfc6lc4p00036@corp.supernews.com>
Source record: 30982

Graham

I don't think impedance matching is as much of an issue as the level. From what I can tell, Bill had it right. All it takes is a couple of resistors. You got to reduce the level A BUNCH. I don't know if Bill's 100:1 is right, I found the values for my Icom by experimentation, but it's pretty close.

Keep in mind that you want to run the computer's speaker volume pretty high to reduce quantization error. If you adjust the resistance and mike gain so that your power out is somewhat below max when you are generating SSTV, it should be pretty close.

Digipan suggests a 100K in series and a 1K in parallel ... seems like I had to get more extreme, but then I'm connecting up an Icom.

..

"G8YWL" <graham@cfcuk.org> wrote in message
news:bp82rqjsu1@hercules.btinternet.com...
> Thanks Frank and Bill - I suspected that it was an impedance matching
> problem but could not be sure - now I'll find someon's olf tranny:)
>
> Graham
>
> "Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
> news:WeLtb.1677$cY6.520082@newsfep1-win.server.ntli.net...
> > > Does anyone know how I can convert the output from a
speaker/headphones
> > jack
> > > from a Laptop into a suitable input to the Mic socket of a TS430S?
It's
> > for
> > > running SSTV
> > >
> > > I have not been able to find anything on the net - probably 'cos I'm
> > asking
> > > the wrong question.
> > ==========
> > The best way to roughly match the 2 impedances is to use any small
> > transformer which can pass SSTV audio tones.
> > It is not a critical matching
> >
> > I don't know the microphone input circuit of the TS430S ,but you can
check
> > that by looking at the microphone itself.
> > Suppose that impedance is somewhere between 500 and 1000 Ohms and the

> > audio output of your Laptop 8 Ohms .
> >
> > It means the impedance ratio is in the order of 800 to 8 is 100 ,so
> the
> > winding ratio of the transformer should be in the order of sqrt 100 is
in
> > the order of 10 to 1. So you would have to find any (small)tansformer
> with
> > that winding ratio (meaning voltage ratio)
> >
> > But again the ratio is NOT critical
> >
> > If the TS430S would have a high impedance microphone in the order of 50
> > kOhms , assuming a low impedance output from the laptop of say 10 Ohms
> the
> > transformer ratio would have to be in the order of sqrt 50000/10 =
sqrt
> > 5000 = approx 70.
> >
> > If you can't find an audio transformer for this application , just try
a
> > small power supply transformer ,since these will pass the low freq audio
> sig
> > used for SSTV.
> >
> > Good luck
> >
> > Frank GM0CSZ / KN6WH
> >
> >
> >
> >
> >
> >
> >
> >
> >
>
>

3566. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 17:34:06 UTC
From: averyfineman@aol.com
Message-ID: <20031116123406.22081.00001902@mb-m17.aol.com>
Source record: 30983

In article <b6karv41ier57fvq3r0gv8e5srfsetqntr@4ax.com>, Jack Smith
<Jack.Smith@cox.net> writes:

>On Thu, 13 Nov 2003 17:33:19 -0800, Roy Lewallen <w7el@eznec.com>
>wrote:
>
>>As I recall, Armstrong invented and patented the FM radio before WWII.
>>If I'm correct, his patent should show a schematic of the circuit he
>>used. It's probably still available from the patent office.
>>
>>Roy Lewallen, W7EL
>
>Roy-
>
>Armstrong's classic paper "A Method of Reducing Disturbances in Radio
>Signaling by a System of Frequency Modulation" was published in 1936
>in the November Proc. IRE. (The paper was presented in a demonstration
>at the Nov 1935 IRE New York meeting.)
>
>His field work started 1934, at 44 MHz, with a 2KW 44 MHz transmitter
>on the Empire State Building shortly thereafter (the article is a bit
>vague on the timing of this part of his operation). (Also, the
>frequency was changed to 41 MHz at some point during the trials.)
>
>Armstrong also notes the problem with receiver RF amplifiers at this
>frequency and thanks RCA for its provision of experimental VHF
>receiving tubes.
>
>His detector circuit looks like a conventional discriminator to me;
>two detectors each coupled to a tuned circuit with the outputs summed.
>One detector gives + and the other a - output. One tuned circuit
>resonates on the high side of the IF passband the the other on the low
>side. Each detector fed by an independent buffer amplifier. The
>receiver was a double conversion, with the first IF at 6 MHz and the
>second IF (and detection) at 400 KHz and a passband of 150 KHz.

It's not necessary to go back to just a few years after the first
audion. :-)

The Galvin/Motorola SCR-300/BC-1000 used 7-pin glass base
"miniature" tubes, battery type filaments, and was 40 to 48 MHz.
Tube types were 3A4, 1T4, 1R5 in the VHF range. It started into
full production in 1942 and about 50,000 were built. FM. Dan
Noble migrated to Chicago to work for Galvin in 1940...after finishing
a design for the first mobile police radios...pictures show those

tubes to be glass, octal-base. Noble is the chief architect of the SCR-300 walkie-talkie. Interesting little gem of a then-tiny transceiver.

The argument against that might be that 1942 was "after" the entry into WW2. But...those battery-filament (directly heated) tubes were in existance in late 1939. Galvin/Motorola used them in the SCR-536/BC-611, the HF-range "handie-talkie" which was started in design in 1940.

Perusing the MIT "Rad Lab" volumes ("Amplifiers" is the one I have) will show that 6AG5s were already around for radar set IF strips of 30 and 60 MHz. Another 7-pin all-glass "miniature" envelope but with an indirectly-heated cathode. See also the 6AK5. Both are the "short" version (physically short compared to the "All-American Five" types with 7-pin bases and all-glass).

One of the reasons one didn't see those (then) advanced tubes was that the consumer market products still went in for the cheaper octal base kind...sockets were also cheaper, many being made out of melamine-laminate stamp-outs riveted together to hold individual tube pin grabbers (first cousin to solderless joining gadgets). Most of the consumer radio equipment of the pre-1950 era were indeed low-quality "Model T" kind of things.

In pre-WW2 days, a 7-pin all-glass envelope for a tube cost more to produce than the older octal base with pins soldered to tube element leads. All metal envelope tubes cost more than glass envelope types. Once tube makers ramped up for the all-glass 7- and 9-pin little ones, they got cheaper and were used in post-war consumer radios.

EVERYTHING in radio was already in continuous change from the 1930s onward...even if it didn't show up in the consumer marketplace right away.

I suppose it is very interesting for antique boatanchor folks to play with those "stone-age" tubes. Ho hum, I say to self, broke into vacuum tubes using a 201A from an ancient radio. Phooey. :-)
My wife often uses a little AM-FM set with ear-bud listening things, the set about the size of a cosmetic compact case. Was a Give-Away sales promotion thing in the mail. Cost nothing. Obviously no tubes in it. Fine FM, including stereo sound.

Len Anderson
retired (from regular hours) electronic engineer person

3567. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 18:01:03 UTC
From: Alan Douglas <adouglasatgis.net>
Message-ID: <ilefrvos04m27b28ff6r8q4hamlh8rd3b2@4ax.com>
Source record: 30984
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew

Hi,
Thanks for the correction. The S-37 doesn't have any choice of
selectivity, unlike the 36 which had tertiary windings in the IFs.

73, Alan

3568. Re: FM from the stone age?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 19:17:37 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bp8if6$j5k$1@bob.news.rcn.net>
Source record: 30985

"Avery Fineman" <averyfineman@aol.com> wrote in message
news:20031116123406.22081.00001902@mb-m17.aol.com...
> It's not necessary to go back to just a few years after the first
> audion. :-)
>
> The Galvin/Motorola SCR-300/BC-1000 used 7-pin glass base
> "miniature" tubes, battery type filaments, and was 40 to 48 MHz.
> Tube types were 3A4, 1T4, 1R5 in the VHF range.

My Feb. 1942 "FM" magazine has an ad from REL selling FM mobiles for police use. I assume the ad was bought in 1941.

A young engineer who worked for my father at the US Patent Office had one of the MW (AM broadcast) RCA "camera-case" radios about 1940. It was based on the tubes mentioned above. Size was about 2x4x8 inches. Most of the space was taken up by the batteries. The A (filament) batteries lasted about 3 hours.

I estimate the date since this fellow went on active duty with the Navy _before_ Pearl Harbor. In fact, he phoned my father with details of the losses at Pearl the next day (Monday, Dec 8, 1941). Those details were kept VERY secret for at least 2 or 3 years. My father kept the secret, and I think complained to the Navy about the security breach. Apparently nothing happened to the fellow who spilt the beans.

3569. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 22:33:38 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb7e784.95230398@news.online.no>
Source record: 30986

On Sun, 16 Nov 2003 09:49:49 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Sun, 16 Nov 2003 14:45:47 GMT, "Michael A. Terrell"
><mike.terrell@earthlink.net> wrote:
>
>>I told
>>the cal lab the label should read, "Calibration not possible". ;-)
>>--
>
>____
>
>LOL!
>
>--
>Bill, W6WRT
>

A decade ago I had a struggle with those instruments idiots referring
to ISO 9000, had an old fully working 30 years old Wande&Goltermann
SPM-1 instrument for telex channels, with mark and space marked, but
they would give me a new digital possibly from HP, costing in the
region of $10000 - without the channel marks, but solid state. After a
dispute they agreed to check the calibration, and it was better than
they could measure, so they had to let it pass, but I damaged their
day!

I was told that if any tubes broke down it was forbidden to change
them, and it was a political decision to discard such old instruments

73
Jan-Martin
LA8AK
http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

3570. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 22:33:38 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb7e9a6.95776943@news.online.no>
Source record: 30987

On Sun, 16 Nov 2003 13:27:49 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>On Sat, 15 Nov 2003 17:23:50 -0600 (CST), dialcover@webtv.net (Bill
>Turner) wrote:
>
>>THERE MUST HAVE BEEN SOMETHING WRONG WITH YOUR MILLEN. BILL T.
>
>I'm not using a Millen and this post isn't a troll as someone else
>suggested. The meter I use started out life as a Tradiper (Japanese)
>but because it was hopelessly outdated and used old germanium trannies
>with enough lead inductance to tune a VoA transmitter, I decided to
>rip its guts out and rebuild from scratch.

sorry I don't really see your point. I bought my Tradipper in 67, and
it has been very useful since then, I may not use it so often now
because I've also got a Philips GM3121.
Mine operatet satisfactorily - as original - up to 140MHz, but the 2M
coil is no coil at all, only a short between to pins on the connector.
Have described how to improve on this on
http://home.online.no/~la8ak/m2.htm

The other modification is to use external +12V since the battery would
normally be flat when needed, but the original version had "positive-
ground", and some minor changes had to be done

LA3JA later bought the same model, but this had a very bad
intermittent contact in the tuning capacitor, so I couldn't repair it.

DL7QY described a dipmeter covering up to 1GHz, but I haven't really
felt I needed it because it is other ways to check ressonance than
using a GDM, and 1GHz is still not the highest frequency I need to
cover

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

3571. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 22:33:39 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb7ecb5.96560102@news.online.no>
Source record: 30988

On Sun, 16 Nov 2003 09:48:50 -0800, Bill Turner <noway@nohow.com>
wrote:

>On 16 Nov 2003 16:56:27 GMT, et472@FreeNet.Carleton.CA (Michael Black)
>wrote:
>
>>I'd
>>certainly put in a buffer for an output, as a signal generator or to feed
>>a frequency counter. The latter then means the dial doesn't require much
>>effort, and the readout will be much much better than any GDO from before.
>
>_____
>
>This would be a good way to go in the sense of not requiring a
>calibrated dial, but a GDO is necessarily a broadly tuned device simply
>because a single tank circuit is a broadly tuned device. A high degree
>of precision is neither needed nor even possible.
>
...because frequency it is pulled when dip occurs and when you adjust
excitation for best reading on the meter

>Still, I like the concept.
>
>--
>Bill, W6WRT
>

73
LA8AK
--
remove ,xnd to reply (Spam precaution!)

3572. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-16 23:42:25 UTC
From: ON5MJ <"on5mj_no_more _spam_in_stock_sorry_"@skynet.be>
Message-ID: <3fb82aea$0$10546$ba620e4c@reader3.news.skynet.be>
Source record: 30993

This double frequency could possibly come from the coupling of two tuned circuits (like in the good old IF). In this case two frequencies are natural. Am I ok ?
I wonder if the coupling between GDO and the measured circuit would be done with a closed loop.

73 de ON5MJ - Jacques.

3573. Re: wanted non inductive resistor supplier.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 00:17:46 UTC
From: aa988@chebucto.ns.ca
Message-ID: <bp943a$ru1$1@News.Dal.Ca>
Source record: 30920

Not quite the U.K. but they got what you need-

http://www.surplussales.com/SSIndex.html

zindazenda (zen@lineisp.co.uk) wrote:

: RE dummy load.
: ok found plans for bigger dummy load..but need supplier of non inductive 50r
: resistor..needs to take full legal load for long as possible..(or 300w
: continous)intend to use ARRL suppy dummy load design..
: UK supplier would be nice but anywhere will do..

: thanks g0zen

--
Howard Eisenhauer on ************************************
* *
Chebucto Community Network * Can't think of anything cute *
Halifax Nova Scotia * to put in here *
* *
aa988@chebucto.ns.ca ************************************

3574. Re: wanted non inductive resistor supplier.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 00:34:24 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1069029364.854914@smtp-1.griffin.com>
Source record: 30989

yes could try that method..i have some severe heatsinks!

having a look at mainlines page later..

simon

"Frank Dinger" <gm0csz.kn6wh@ntlworld.com> wrote in message
news:VeLtb.1676$cY6.520082@newsfep1-win.server.ntli.net...
> > RE dummy load.
> > ok found plans for bigger dummy load..but need supplier of non inductive
> 50r
> > resistor..needs to take full legal load for long as possible..(or 300w
> > continous)intend to use ARRL suppy dummy load design..
> > UK supplier would be nice but anywhere will do..
> ====================
> Suggest you check with Mainline Electroniscs - Leicester.
> They probably still have T0220 packaged non-inductive resistors of
> 25 -50 -100 Ohms.
> You might have to use a number to make up a package of 50 Ohms which can
> absorb 300 Watts.
> These resistors are fine well up to 300 MHz.
> You obviously need a substantial heatsink to get rid of the heat.
>
> A US manufacturer of these resistors is Caddock (their UK agent is/was
> Rhopoint Ltd -Oxted , Surrey ,tel: 01883-717988)
>
> Their Cooltab TO220 power film resistors ,model MP820 -20 Watts come in a
> range of 1 Ohm to 10 kOhms .
>
> Good Luck
>
> Frank GM0CSZ / KN6WH
>
>

3575. blue cap amstrad lnb's wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 00:58:35 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1069030815.992027@smtp-1.griffin.com>
Source record: 30990

looking for some amstradblue cap lnb's, the black bodied ones..wish to
convert them into low power packet / tv
transmitters..UK source required..got any in your junk boxes???

thanks

g0zen

3576. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 01:38:04 UTC
From: richcranus@yahoo.com
Message-ID: <c5ecbb69.0311161738.323e6585@posting.google.com>
Source record: 30991
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.swap,rec.radio.swap

Radiobuff <nospam.nail3inch@yahoo.com> wrote in message
news:<j26erv0pkrk5gi50cttdrugne20p0l7sj1@4ax.com>...
> Motorola does all the time with there radios that are traded in
>
>
>
>
>
>
>
>
>
> On Mon, 10 Nov 2003 14:03:06 -0800, Frank Gilliland
> <sparky@NOSPAMaimcomm.net> wrote:
>
> >Tektronix is trying to manipulate the oscilloscope market. Today I learned from
> >my local dealership that they are required by contract to destroy every scope
> >which is traded in for a new Tektronix scope, regardless of age or condition. So
> >if you decide to trade in that old scope for a Tektronix, know ahead of time
> >that it is NOT going to end up in the hands of a ham, or of some kid learning
> >and experimenting in electronics on a tight budget like I was thir... er, twenty
> >years ago. No, Tektronix needs to raise their profits by destroying every used
> >scope they can get their greedy little hands on, regardless of who feels the
> >pinch!

Just Frankie TROLLing as usual. Ignore the TROLL behind the curtain!

3577. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 01:45:53 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311161745.697ce90b@posting.google.com>
Source record: 30992
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Roy Lewallen <w7el@eznec.com> wrote in message news:<vrejlohricpj0a@corp.supernews.com>...
> Thanks to Ed for the good advice.
>
> I've got an HP 140T. As far as I know, the only difference between it
> and the 141T is that the CRT in mine is a conventional one with
> long-persistence phosphor rather than a storage tube. It uses the same
> plug-in units as the 141T. I find it to be very usable, and don't really
> miss storage capability at all. I think the tube is a lot more
> trouble-free than a storage type unit.
>
> So I recommend that you don't turn down a 140T if you come across one --
> and you might even have a better chance of getting a unit with a working
> display than with a 141T.
>
> Roy Lewallen, W7EL
>
> Ed Price wrote:
>
> [Lots of good advice]

well it is amazing i think how some of these units retain their resale value even though the companies that made them do not service them or back them......man who was the brainiac that thought about how to implement this scam?

incidentally some guy tried to sell a stolen hp unit he lifted over at his job at nasa.......on ebay.....the final price was i think about $3,000.00....for a 35,000 dollar unit i thing they said on the news......he got arrested and the guy who bought it on ebay needless to say didn't get the deal he was trying to get.....which makes me wonder how many stolen items are listed on ebay and are sold there?

3578. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 02:35:07 UTC
From: averyfineman@aol.com
Message-ID: <20031116213507.07578.00001670@mb-m25.aol.com>
Source record: 30994

In article <5k2frv8m612at8kqv09s1j19qpp932grto@4ax.com>, Wes Stewart
<n7ws@_arrl.net> writes:

>On Sun, 16 Nov 2003 05:09:01 -0800, Bill Turner <noway@nohow.com>
>wrote:
>
>|On Sat, 15 Nov 2003 23:08:53 -0700, Wes Stewart <n7ws@_arrl.net> wrote:
>|<snip>
>|>The only problem was keeping the GDO hidden from the metrology guys
>|>since they couldn't "calibrate" and service them so they wanted them
>|>gone.
>|
>|_____
>|
>|Great story, Wes. But why couldn't the metrology guys figure out a cal
>|procedure? I suspect the Not Invented Here syndrome, right?
>
>
>The worst thing that could happen to our equipment was for it to go to
>"Calibration." I had more than one piece of equipment "accidentally"
>dropped and broken when they tired of maintaining it. If they did
>this to an HP/Boonton 250 Rx meter what do you think would happen to a
>Model 59?
>
>The best we could do was get an "inactive" sticker put on the
>equipment. This took it out of the cal cycle but theoretically meant
>that we couldn't use it for anything. Also there were the everpresent
>management directives to get rid of inactive equipment to reduce
>inventory costs. Imagine how much expense could be written off if
>Hughes Aircraft Co (now Raytheon) got rid of a Model 59 GDO <g>.

Dunno why you guys want to pick on metrology departments.

It's up to CORPORATE to see that metrology departments do
their thing properly. Most of them do. I worked in one for a bit over
two years (Ramo-Wooldrige) and everything was done according to
factory information and procedures. RCA Corporation was done the
same way.

On the other hand, Electro-Optical Systems (a Xerox division) was
terribly lax that way and any department could tag something out of
service and have it stored. EOS Corporate put such loose controls
on it that anyone could go into the storage area and "requisition"
anything, no questions asked.

Len Anderson
retired (from regular hours) electronic engineer person

3579. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 04:30:36 UTC
From: james <jimbo@nospam.com>
Message-ID: <3FB84EE9.24C1508E@nospam.com>
Source record: 30995

hi

This gdo uses three fet and runs off two aa batteries, nice project.
The coils are built with bnc connectors.

jimbo

Michael wrote:

> james (jimbo@nospamforme.com) writes:
> > Hi Paul,
> >
> > ARRL QST had nice article on a modern GDO
> >
> > May 2003 QST page 54 A Modern GDO--The "Gate" Dip Oscillator Bloom, Alan, N1AL
> >
> >
> > 73 jimbo
> >
> > Paul wrote:
> >
> But is it really modern, or just a rehash of what's come before?
>
> I haven't seen the article, but in thirty years of reading the magazines
> (and I've seen plenty of back issues from before that), there has been
> very little change. Most of the articles are a small variant on a previous
> article, with any real change being about coil forms ("I didn't have what
> the previous article used", or "I noticed these things that would make a GDO,
> so I built one around them") or variable capacitor.
>
> Admittedly, when solid state devices came along, there had to be some change
> since people did want to make use of them. The original ones were likely
> pretty bad, using bipolar transistors, and of course there was the Tunnel
> diode one from Heathkit. Once FETs came along, the GDOs were back to
> basically a tube circuit, albeit with low supply voltage.
>
> There have been the occasional outrageous scheme, switchable coils,
> or making use of an existing signal generator or building a whole GDO along
> such lines, but they never really held. Next time a GDO article was
> published, it was back to simplicity.
>
> If I was building one, I'd make sure it had a good reduction drive. I'd
> certainly put in a buffer for an output, as a signal generator or to feed
> a frequency counter. The latter then means the dial doesn't require much
> effort, and the readout will be much much better than any GDO from before.

> Maybe I'd even build a plug-in that has switchable coils, but the whole
> thing is shielded, for those times when you just wanted a signal generator.
>
> But I'd also be looking at the circuitry of the Millen Solid-state GDO,
> from the early seventies. It was a more extensive design, but of course
> it costs virtually nothing for those extra active devices. They found they
> had to put a variety of chokes in the thing to isolate the oscillator from
> the B+ line, so there weren't false dips.
>
> The Heathkit from the eighties seemed rather interesting. Again, it
> was a more complicated design. I can't remember what the extra circuitry
> amounted to. That design did generate some similar home made circuits
> at the time.
>
> Michael VE2BVW

3580. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 07:30:40 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <nO_tb.9428$cX1.8536@fed1read02>
Source record: 30996
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"gw" <gw@webhideout.com> wrote in message
news:235a74db.0311161745.697ce90b@posting.google.com...
> Roy Lewallen <w7el@eznec.com> wrote in message
news:<vrejlohricpj0a@corp.supernews.com>...
> > Thanks to Ed for the good advice.
> >
> > I've got an HP 140T. As far as I know, the only difference between it
> > and the 141T is that the CRT in mine is a conventional one with
> > long-persistence phosphor rather than a storage tube. It uses the same
> > plug-in units as the 141T. I find it to be very usable, and don't really
> > miss storage capability at all. I think the tube is a lot more
> > trouble-free than a storage type unit.
> >
> > So I recommend that you don't turn down a 140T if you come across one --
> > and you might even have a better chance of getting a unit with a working
> > display than with a 141T.
> >
> > Roy Lewallen, W7EL
> >
> > Ed Price wrote:
> >
> > [Lots of good advice]
>
>
> well it is amazing i think how some of these units retain their resale
> value even though the companies that made them do not service them or
> back them......man who was the brainiac that thought about how to
> implement this scam?

Designing and building a product to provide many years of use, and then
capable of being repaired without access to unique components and/or exotic
service equipment, is a concept so rare as to be thought a scam.

Ed
wb6wsn

3581. any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 08:13:10 UTC
From: harshit <hsuri@usc.edu>
Message-ID: <bp9vuh$2bv$1@gist.usc.edu>
Source record: 30897

i am an electronics and commn engr looking to get into real world desing. i was wondering if someone could direct me to some good books for radio frequency design. which are the classics that the experienced members always suggest

3582. tubes & frequency multipliers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 09:23:42 UTC
From: Claude Frantz <claude@pc0312a.rz.unibw-muenchen.de>
Message-ID: <3FB8939E.F5DAAD80@pc0312a.rz.unibw-muenchen.de>
Source record: 30898
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Where can I find good information about the design of frequency
multipliers using vacuum tubes ?

Claude

3583. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 12:23:07 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <h53ub.4443$o97.1809627@newsfep2-win.server.ntli.net>
Source record: 30899

> i am an electronics and commn engr looking to get into real world desing.
i
> was wondering if someone could direct me to some good books for radio
> frequency design. which are the classics that the experienced members
always
> suggest
==========
An excellent book on 'hands-on' RF design is a rather recent ARRL
publication :

'Experimental Methods in RF Design ' by Wes Hayward , W7ZOI / Rick Campbell
, KK7B and Bob Larkin , W7PUA

It covers designs for a large part of the RF spectrum from HF to Microwave.

It is one of the most stimulating publications in this field I have seen for
a long time. It's a real gem !

Frank GM0CSZ / KN6WH

3584. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 12:23:35 UTC
From: Frank Dinger <gm0csz.kn6wh@ntlworld.com>
Message-ID: <i53ub.4444$o97.1809627@newsfep2-win.server.ntli.net>
Source record: 30900

> I don't think impedance matching is as much of an issue as the level.
From
> what I can tell, Bill had it right. All it takes is a couple of
resistors.
> You got to reduce the level A BUNCH. I don't know if Bill's 100:1 is
right,
> I found the values for my Icom by experimentation, but it's pretty close.
>
> Keep in mind that you want to run the computer's speaker volume pretty
high
> to reduce quantization error. If you adjust the resistance and mike gain
so
> that your power out is somewhat below max when you are generating SSTV, it
> should be pretty close.
>
> Digipan suggests a 100K in series and a 1K in parallel ... seems like I
had
> to get more extreme, but then I'm connecting up an Icom.
==========
Apart from (roughly) matching impedances ,a transformer ensures galvanic
separation between PC (laptop) and transceiver , hence avoiding any hassle
due to earth loops .
If the voltage level at the transceiver's microphone input poses a problem ,
a resistive voltage divider can always be added.

Frank GM0CSZ / KN6WH

3585. WTB: Collins xtal board

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 13:39:22 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <ec4ub.275599$0v4.17707017@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30901

Need Collins xtal board. Advise condition(used ok),price, and shipping to 65714. ws�e- Joe

3586. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 13:55:19 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <rdhhrvk3bmh1pjpjtr4l194q9bd9hc6885@4ax.com>
Source record: 30903

On Sun, 16 Nov 2003 22:33:38 GMT, la8ak.xnd@online.no (J M Noeding)
wrote:

>sorry I don't really see your point. I bought my Tradipper in 67, and
>it has been very useful since then, I may not use it so often now
>because I've also got a Philips GM3121.
>Mine operatet satisfactorily - as original - up to 140MHz, but the 2M
>coil is no coil at all, only a short between to pins on the connector.

Maybe you have a different model. Mine purports to cover up to 360Mhz,
but there is *no way* AFAICS that the thing would be capable of
anything remotely close to that upper range limit, on cursory
inspection of the internals. I'm glad I went for the wholesale
re-build but still find it hopelessly impractical to use on minature,
in-circuit components.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3587. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 14:32:55 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpam6oejv1@bob.news.rcn.net>
Source record: 30904
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Ed Price wrote:

> Designing and building a product to provide many years of use, and then
> capable of being repaired without access to unique components and/or exotic
> service equipment, is a concept so rare as to be thought a scam.
>
> Ed
> wb6wsn
>

Imagine your cell phone if it was designed to be repaired, and used only
common components. It would be the size of a briefcase. Do you think
cell phones would be popular if they had to be briefcase sized?

What about spectrum analyzers that needed to be contained in several
6 foot high rack cabinets?

Is the world better or worse now that a 100MHz oscilloscope can be made
the size of a paper back book?

-Chuck, WA3UQV

3588. Re: tubes & frequency multipliers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 14:43:31 UTC
From: Luhan Monat <shootspammers@random.com>
Message-ID: <wg4ub.10949$cX1.4693@fed1read02>
Source record: 30902
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Claude Frantz wrote:
> Where can I find good information about the design of frequency
> multipliers using vacuum tubes ?
>
> Claude

Why, using vacuum tubes?

--
Luhan Monat, "LuhanKnows" At 'Yahoo' dot 'Com'
http://members.cox.net/berniekm
"The future is not what it used to be."

3589. Crystal Oven Pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 14:57:42 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bpanl6$1llns1$1@ID-61331.news.uni-berlin.de>
Source record: 30905

I'm trying to find the pinout for an obsolete SEI crystal oven, which contains a HC6U sized crystal socket. SEI are now part of C-MAC, who were unable to provide me with any information.

The oven measures 26 x 23 x 49mm including 4 pins. Presumably 2 pins are for the crystal and the other 2 for the oven heater - but can anyone advise on the necessary supply voltage?

The label reads:

SEI
CRYSTAL OVEN
QC. 1500 A
TEMP. 75 C
SER. No. 077094
MADE IN ENGLAND

Tnx
Hans G0UPL
http://www.HansSummers.com

3590. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 15:55:27 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FB8EF57.C5E9D563@earthlink.net>
Source record: 30906
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Chuck Harris wrote:
>
> Ed Price wrote:
>
> > Designing and building a product to provide many years of use, and then
> > capable of being repaired without access to unique components and/or exotic
> > service equipment, is a concept so rare as to be thought a scam.
> >
> > Ed
> > wb6wsn
> >
>
> Imagine your cell phone if it was designed to be repaired, and used only
> common components. It would be the size of a briefcase. Do you think
> cell phones would be popular if they had to be briefcase sized?
>
> What about spectrum analyzers that needed to be contained in several
> 6 foot high rack cabinets?
>
> Is the world better or worse now that a 100MHz oscilloscope can be made
> the size of a paper back book?
>
> -Chuck, WA3UQV

Most of the chips in cell phones are off the shelf parts, and there
are places that do repair cell phones. RMS Communications in Ocala,
Florida rebuilds thousands of pagers and cell phones every week. I know
several techs who worked there, and they were telling me about the
equipment they had available at each work station.

One problem with new RF and test equipment is the firmware programmed
into chips isn't readily available to program replacement parts. Another
problem is the short production life for some parts. If you build a
product for over two years, you either do "Lifetime purchases", or
redesign boards to use the next round of parts. What is real fun is a
base product with up to 100 different sets of software, depending on the
customers specifications. Its hard enough to keep it straight on the
factory floor, let alone trying to do it in the field.
--

Michael A. Terrell
Central Florida

3591. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 15:55:46 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <7lrhrv4n8ir3s6u0muuhll15ne6o7pfo2k@4ax.com>
Source record: 30907

On Mon, 17 Nov 2003 12:23:07 -0000, "Frank Dinger"
<gm0csz.kn6wh@ntlworld.com> wrote:

|> i am an electronics and commn engr looking to get into real world desing.
|i
|> was wondering if someone could direct me to some good books for radio
|> frequency design. which are the classics that the experienced members
|always
|> suggest
|==========
|An excellent book on 'hands-on' RF design is a rather recent ARRL
|publication :
|
|'Experimental Methods in RF Design ' by Wes Hayward , W7ZOI / Rick Campbell
|, KK7B and Bob Larkin , W7PUA
|
|It covers designs for a large part of the RF spectrum from HF to Microwave.
|
|It is one of the most stimulating publications in this field I have seen for
|a long time. It's a real gem !

I don't have that one but the predecessor was "Introduction to Radio
Frequency Design" by Haywood.

Wes N7WS

3592. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 16:04:17 UTC
From: jakdedert <jdedert@bellsouth.net>
Message-ID: <5j6ub.21985$oo.9261@bignews4.bellsouth.net>
Source record: 30908
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Bill Turner" <noway@nohow.com> wrote in message
news:0qodrvola81pqnq6ouqai8evq34jg3dedr@4ax.com...
> On Sat, 15 Nov 2003 19:15:09 -0600, "jakdedert" <jdedert@bellsouth.net>
> wrote:
>
> >No, there is no person so named. Would you prefer that he had used the
sort
> >of expletives that those symbols generally represent? Have you never
seen
> >profanity annotated that way (think: comic strip)?
>
> I've never seen "465" included in symbolic profanity before. Remove
> that and the rest becomes recognizable.

Didn't notice that...finger must've slipped off the shift key.
>
>
> >The 'Sanford & Son'
> >reference was made by the service rep, apparently referring to the gall
of
> >the OP, for wasting the rep's valuable time asking for information about
> >equipment that he (the rep) considered to be nothing but junk (you'll
recall
> >the TV series of that name was about a junk dealer).
>
> Pretty obscure, but makes sense now.
> >
> >Does that wrap it up for you...or--OP--did I get that right?
>
> Got it all, thanks. Plain 'ol English beats speaking in tongues though.
> Actually, this was kind of fun. Maybe we should all start posting with
> obscure references and irregular grammar. Not.
>
Glad to be of service. Actually I think the obscure reference was actually
a paraphrased quotation of the service rep, which the OP repeated...probably
should have used quote marks there to clear it up.

jak
> --
> Bill, W6WRT
>

3593. Re: any good books? radio frequency design.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 16:27:39 UTC
From: KeyBoard In The Wilderness <KTW@zilch.com>
Message-ID: <0G6ub.4430$Ue4.3902@fed1read01>
Source record: 30909

Take a look at Communication Receivers By Rhode, Whitaker & Bucher

--
73 From The Keyboard In The Wilderness

"harshit" <hsuri@usc.edu> wrote in message news:bp9vuh$2bv$1@gist.usc.edu...
> i am an electronics and commn engr looking to get into real world desing.
i
> was wondering if someone could direct me to some good books for radio
> frequency design. which are the classics that the experienced members
always
> suggest
>
>

3594. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 16:29:54 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpat23$q8q$1@bob.news.rcn.net>
Source record: 30910
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Michael A. Terrell wrote:

>
> Most of the chips in cell phones are off the shelf parts, and there
> are places that do repair cell phones. RMS Communications in Ocala,
> Florida rebuilds thousands of pagers and cell phones every week. I know
> several techs who worked there, and they were telling me about the
> equipment they had available at each work station.
>
Most of the parts in a tek scope are off the shelf too, but like the
cell phone, there are one or two show stoppers. For the cell phone,
it is the microprocessor with its combination mask and flash
programming.

I know a guy that repairs pagers, but you cannot convince me that it
is a profitable business.... The way he moaned about the cost of my
fixing his RF signal generator gives me a clue.

> One problem with new RF and test equipment is the firmware programmed
> into chips isn't readily available to program replacement parts. Another
> problem is the short production life for some parts. If you build a
> product for over two years, you either do "Lifetime purchases", or
> redesign boards to use the next round of parts. What is real fun is a
> base product with up to 100 different sets of software, depending on the
> customers specifications. Its hard enough to keep it straight on the
> factory floor, let alone trying to do it in the field.

It is even worse in the space field, where by the time a part is
qualified, and a satellite is made, the part is stone cold obsolete.

-Chuck

3595. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 16:46:41 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <4ouhrvgfvo1o4nagbt0ja7v1r3u44br4sd@4ax.com>
Source record: 30911

On Mon, 17 Nov 2003 00:13:10 -0800, "harshit" <hsuri@usc.edu> wrote:

>i am an electronics and commn engr looking to get into real world desing. i
>was wondering if someone could direct me to some good books for radio
>frequency design. which are the classics that the experienced members always
>suggest

Get a copy of 'RF Circuit Design' by Chris Bowick (Newnes). It's a
mine of useful info on designing your own stuff; recievers and
transmitters. A remarkable reference work and not too expensive,
either!

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3596. Re: tubes & frequency multipliers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 17:00:06 UTC
From: Robert Baer <robertbaer@earthlink.net>
Message-ID: <3FB9A768.15C8FBDC@earthlink.net>
Source record: 30912
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Bill Turner wrote:
>
> On Mon, 17 Nov 2003 10:23:42 +0100, Claude Frantz
> <claude@pc0312a.rz.unibw-muenchen.de> wrote:
>
> >Where can I find good information about the design of frequency
> >multipliers using vacuum tubes ?
> >
> >Claude
>
> ____
>
> ARRL handbooks from the '50s had numerous articles and examples of
> frequency multipliers using tubes, since that was state of the art back
> then. Basically, you just overdrive the grid in order to create severe
> distortion, then tune the plate tank to the desired harmonic. It's
> normally done at a low power level because the process is relatively
> inefficient. If memory serves me right, getting efficiencies of 10-20%
> was considered pretty good when using the second or third harmonic.
> When higher harmonics were needed, two or more multiplier stages were
> commonly used.
>
> A typical six-meter rig of the '50s would use an 8.334 MHz crystal or
> VFO oscillator, tripling that to 25 MHz and then doubling that to 50
> MHz. Also common was to operate an 8.334 crystal on its third overtone
> of 25 MHz and then doubling that to 50 MHz.
>
> Ahhhh, the good 'ol days. :-)
>
> Once the PLL became inexpensive, frequency multipliers became a thing of
> the past. But they do get the job done.
>
> --
> Bill, W6WRT

And then there was the sub-harmonig generator with zero plate volts,
power going in to the plate and power out of the grid.
Not a joke; saw it done at Sylvania in the late 60s.
Used a tetrode, 2nd grid had about 30V on it to act as a plate in
Hartley oscillator configuration.
Set to not oscillate with zero signal, would "slowly" ring up on
application of RF; like someone sitting on a swing and then starting it
by mere pumping.

3597. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 17:37:53 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <sjvhrvoi762669aj99kjrtuv7800547il6@4ax.com>
Source record: 30913
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

On Sun, 16 Nov 2003 23:30:40 -0800, "Ed Price" <edprice@cox.net>
wrote:

>Designing and building a product to provide many years of use, and then
>capable of being repaired without access to unique components and/or exotic
>service equipment, is a concept so rare as to be thought a scam.

Can anyone recommend a decent commercial vector network analyser and
spectrum analyser that one can repair oneself if necessary and
hopefully keep them up and running for ever?
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3598. Re: Clean VHF tx schematics needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 20:35:17 UTC
From: Skipp <Emailmefromsonic@yahoo.com>
Message-ID: <bpbbe5huu1@woodrow.ucdavis.edu>
Source record: 30914

I don't know why you're having so many problems. I've aligned many the VHF Engineering and Hamtronics VHF (and UHF) Transmitters through the years using the volt meter alignment information.

I was at Kinkos (my office anywhere) making copies of the VHF Engineering 2 meter tx strip yesterday. If you are actually serious about building this type of transmitter, drop me a note through the http://sonic.ucdavis.edu web server Email icons and I'll send you copies or scans of the paperwork.

chow for now
skipp
http://sonic.ucdavis.edu

: Ashhar Farhan <farhan@hotfoon.com> wrote:
: I recently brewed up a small portable NBFM tranceiver for the local
: ham group. Smallness and low cost were a requirement. My initial
: design which is working well is based on an 18MHz crystal that i
: multiply in balanced doublers three times over to 144MHz (using two
: transistors in push-pull at each stage) followed by a 500mW 2N3866 PA.
: I have found that without a high bandwidth oscilloscope (I used a tek
: 465) it is impossible to correctly align the tx. I am now considering
: switching to a scheme where i can run a VCO at 144MHz directly and
: lock it to a lower fundamental crystal. i can do this by:
: a) injection locking the VCO with the a crystal oscillator. I have
: seen almost no use of this method (EMRFD just mentions it in one line)
: in amateur literature. my last post on this topic went unanswered last
: week.
: b) using a simple first order PLL. is there a way to simplify this?
: the cost of a PLL IC or even an SBL mixer would be too high.
: c) use an overtone directly on 144MHz (9th overtone in a butler
: config) and phase modulate its output. Any pointers to a phase
: modulator operating at VHF?

: - farhan

3599. Microwave prescalers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 20:57:43 UTC
From: Leif Holmgren <nobody@nowhere.com>
Message-ID: <3FB93647.5080103@nowhere.com>
Source record: 30915

Hello Group!

This summer I saw someone selling really nice small frequency counters for microwave (up to 10 or 18GHz) in the flea-market hall at the HAM-RADIO fair. He also had prescaler modules with SMA-connectors and loose prescaler chips.

All of these were out of budget then so I just noted in memory they existed. Now there is a need.

Does anyone know who I'm talking about? I have done some searching on the 'net but I find nothing that looks as good as this guys boxes and modules.

73 de SM4RPQ/Leif

3600. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 21:49:29 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0311171349.2af8c204@posting.google.com>
Source record: 30916

Wes Stewart <n7ws@_arrl.net> wrote in message
news:<7lrhrv4n8ir3s6u0muuhll15ne6o7pfo2k@4ax.com>...

> I don't have that one but the predecessor was "Introduction to Radio
> Frequency Design" by Haywood.

Uh, no. EMRFD was positioned as the successor to
Solid State Design for the Radio Amateur.

Introduction to RF Design is an excellent book. But
it's not related to EMRFD.

My list of books I've found interesting and/or
informative (not all electronics-related) is at
<http://www.qsl.net/ve7ldh/reading.html>

Laura Halliday VE7LDH "Que les nuages soient notre
Grid: CN89mg pied a terre..."
ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

3601. Perfect data decoder for SWL?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 21:52:52 UTC
From: Sholto Fisher <nospam@nospam.com>
Message-ID: <Uqbub.4937$n56.2405@newsread1.news.pas.earthlink.net>
Source record: 30917

Hello all,

This might seem a strange request but I am in the process of building a data-decoder for reception of various modes (started as a project for myself) and am now thinking of making it available as a low cost kit for sale. I would like some input from SWL's as to what they would like to see in a 'perfect data decoder'

Some of the features it currently has are:-

1) uP 'smart design' (ie, decoding is done in the unit and output is done via RS232 to PC, this should make it able to run on any system with a terminal emulator program)
2) Selectable band-pass filters on the input to improve s/n
3) Die-cast case/RS232 connector & shielded cables to minimize PC noise.
4) LED tuning bar-graph
5) Switchable (unfiltered/filtered) head-phone out jack with separate volume control.
6) Modes currently supported: CW, RTTY(45,50,75,100,110), TOR, FEC - any other modes you would like to see? doesn't necessarily have to be HF specific modes.
7) Upgradable 'firmware' via RS232.

Any ideas anyone?

Do you think anyone might buy something like this?

Answers on a postcard please.....

sholto AT mfire DOT com

3602. Re: tubes & frequency multipliers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 21:55:05 UTC
From: bigcat@meeow.co.uk
Message-ID: <a7076635.0311171355.223fe018@posting.google.com>
Source record: 30918
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Claude Frantz <claude@pc0312a.rz.unibw-muenchen.de> wrote in message news:<3FB8939E.F5DAAD80@pc0312a.rz.unibw-muenchen.de>...
> Where can I find good information about the design of frequency
> multipliers using vacuum tubes ?
>
> Claude

Old texts from a few used book shops, here on s.e.d., or maybe rec.antiques.radio+phono.

Regards, NT

3603. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 22:02:07 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311171402.7db5c437@posting.google.com>
Source record: 30919
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Chuck Harris <cfharris@erols.com> wrote in message news:<bpat23$q8q$1@bob.news.rcn.net>...
> Michael A. Terrell wrote:
>
> >
> > Most of the chips in cell phones are off the shelf parts, and there
> > are places that do repair cell phones. RMS Communications in Ocala,
> > Florida rebuilds thousands of pagers and cell phones every week. I know
> > several techs who worked there, and they were telling me about the
> > equipment they had available at each work station.
> >
> Most of the parts in a tek scope are off the shelf too, but like the
> cell phone, there are one or two show stoppers. For the cell phone,
> it is the microprocessor with its combination mask and flash
> programming.
>
> I know a guy that repairs pagers, but you cannot convince me that it
> is a profitable business.... The way he moaned about the cost of my
> fixing his RF signal generator gives me a clue.
>
> > One problem with new RF and test equipment is the firmware programmed
> > into chips isn't readily available to program replacement parts. Another
> > problem is the short production life for some parts. If you build a
> > product for over two years, you either do "Lifetime purchases", or
> > redesign boards to use the next round of parts. What is real fun is a
> > base product with up to 100 different sets of software, depending on the
> > customers specifications. Its hard enough to keep it straight on the
> > factory floor, let alone trying to do it in the field.
>
> It is even worse in the space field, where by the time a part is
> qualified, and a satellite is made, the part is stone cold obsolete.
>
> -Chuck

hmm, kind of like buying a computer ...in a few mounths it is
obsolete...on the tektroix and hp stuff.......you would think that
they would be feeling the heat from asia like everyone else.....just
how much profit is there in a unit that sells new for $75,000.00? and
why may i ask after 10 to 15 years it still sells for heavy cash....

3604. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 22:11:16 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311171411.269ea0bc@posting.google.com>
Source record: 30921
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message news:<nO_tb.9428$cX1.8536@fed1read02>...
> "gw" <gw@webhideout.com> wrote in message
> news:235a74db.0311161745.697ce90b@posting.google.com...
> > Roy Lewallen <w7el@eznec.com> wrote in message
> news:<vrejlohricpj0a@corp.supernews.com>...
> > > Thanks to Ed for the good advice.
> > >
> > > I've got an HP 140T. As far as I know, the only difference between it
> > > and the 141T is that the CRT in mine is a conventional one with
> > > long-persistence phosphor rather than a storage tube. It uses the same
> > > plug-in units as the 141T. I find it to be very usable, and don't really
> > > miss storage capability at all. I think the tube is a lot more
> > > trouble-free than a storage type unit.
> > >
> > > So I recommend that you don't turn down a 140T if you come across one --
> > > and you might even have a better chance of getting a unit with a working
> > > display than with a 141T.
> > >
> > > Roy Lewallen, W7EL
> > >
> > > Ed Price wrote:
> > >
> > > [Lots of good advice]
> > >
> >
> > well it is amazing i think how some of these units retain their resale
> > value even though the companies that made them do not service them or
> > back them......man who was the brainiac that thought about how to
> > implement this scam?
>
> Designing and building a product to provide many years of use, and then
> capable of being repaired without access to unique components and/or exotic
> service equipment, is a concept so rare as to be thought a scam.
>
> Ed
> wb6wsn

well ed what are your thoughts on a hp 8590? bueno o no bueno?

3605. Re: Clean VHF tx schematics needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 22:34:04 UTC
From: Ghost writer <Spamfree@Spamfree.com>
Message-ID: <w1cub.38361$A%3.505518@ord-read.news.verio.net>
Source record: 30922

I have had success as well using an RF probe and voltmeter. Tuning for peak and once you start into the multiplier stages, the wattmeter should start to get a tickle and then climb as you go through them as well into the final stages. When you get this far, a freq counter near by should show some freq. Then go back and touch it up if need be. G.W.

"Skipp" <Emailmefromsonic@yahoo.com> wrote in message news:bpbbe5huu1@woodrow.ucdavis.edu...
> I don't know why you're having so many problems. I've aligned many the VHF
> Engineering and Hamtronics VHF (and UHF) Transmitters through the years
> using the volt meter alignment information.
>
> I was at Kinkos (my office anywhere) making copies of the VHF Engineering
> 2 meter tx strip yesterday. If you are actually serious about building
> this type of transmitter, drop me a note through the
> http://sonic.ucdavis.edu web server Email icons and I'll send you copies
> or scans of the paperwork.
>
> chow for now
> skipp
> http://sonic.ucdavis.edu
>
> : Ashhar Farhan <farhan@hotfoon.com> wrote:
> : I recently brewed up a small portable NBFM tranceiver for the local
> : ham group. Smallness and low cost were a requirement. My initial
> : design which is working well is based on an 18MHz crystal that i
> : multiply in balanced doublers three times over to 144MHz (using two
> : transistors in push-pull at each stage) followed by a 500mW 2N3866 PA.
> : I have found that without a high bandwidth oscilloscope (I used a tek
> : 465) it is impossible to correctly align the tx. I am now considering
> : switching to a scheme where i can run a VCO at 144MHz directly and
> : lock it to a lower fundamental crystal. i can do this by:
> : a) injection locking the VCO with the a crystal oscillator. I have
> : seen almost no use of this method (EMRFD just mentions it in one line)
> : in amateur literature. my last post on this topic went unanswered last
> : week.
> : b) using a simple first order PLL. is there a way to simplify this?
> : the cost of a PLL IC or even an SBL mixer would be too high.
> : c) use an overtone directly on 144MHz (9th overtone in a butler
> : config) and phase modulate its output. Any pointers to a phase
> : modulator operating at VHF?
>
> : - farhan

3606. Electrolytic coupling capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 22:49:46 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0311171449.7693ad86@posting.google.com>
Source record: 30923

As you know, coupling capacitors are used to minimize ripple in batteries/power supplies. This is important, because even the slightest ripple can cause an IC to behave incorrectly.

I understand the role of ceramic capacitors. Ceramic capacitors are used to couple RF ripple and thus minimize RF interference. .1uF seems to be a popular value. At 1.8MHz, the capacitive reactance of a .1uF capacitor is .884 ohms, and the ESR is usually a small fraction of an ohm and not significant.

I have also seen circuits that use smaller value capacitors. What's the point of .01uF and .001uF coupling capacitors? Is the stray inductance THAT much lower? I have 1uF 50V monolithic ceramic capacitors (JIM-PAK MD1), and they're actually smaller than my .1uF 50V ceramic disc capacitors (DC.1). Why doesn't everyone just use 1uF ceramic capacitors for power supply coupling? At 1.8MHz, capacitive reactance of a 1uF capacitor is only .0884 ohms.

What's the point of relatively low value electrolytic capacitors? Their ESR values are usually on the order of 10-100 ohms. At 60Hz, a 1uF capacitor has 2650 ohms of capacitive reactance. A 10uF capacitor has a capacitive reactance of 265 ohms, and a 100uF capacitor has a capacitive reactance of 26.5 ohms. Given this, shouldn't all electrolytic capacitors be at least 100uF? Is there any point to a 1uF electrolytic capacitor when there are 1uF ceramic capacitors that have the advantages of lower ESR and nonpolarity? (Connecting an electrolytic capacitor the wrong way will cause its internal material to boil out and make a big mess. Connecting a tantalum capacitor the wrong way will start a fire!)

Jason Hsu, AG4DG
usenet AAAAAATTTTTT jasonhsu.com

3607. Re: Electrolytic coupling capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 23:09:58 UTC
From: dplatt@radagast.org
Message-ID: <vrila6j9rsl555@corp.supernews.com>
Source record: 30924

>As you know, coupling capacitors are used to minimize ripple in
>batteries/power supplies.

"Coupling" is usually used as a term for capacitors which are actually in the signal path - they're used to pass signal and block DC.

Power supply caps are usually referred to as "filter" or "bypass" caps.

>I have also seen circuits that use smaller value capacitors. What's
>the point of .01uF and .001uF coupling capacitors? Is the stray
>inductance THAT much lower? I have 1uF 50V monolithic ceramic
>capacitors (JIM-PAK MD1), and they're actually smaller than my .1uF
>50V ceramic disc capacitors (DC.1). Why doesn't everyone just use 1uF
>ceramic capacitors for power supply coupling? At 1.8MHz, capacitive
>reactance of a 1uF capacitor is only .0884 ohms.
>
>What's the point of relatively low value electrolytic capacitors?
>Their ESR values are usually on the order of 10-100 ohms. At 60Hz, a
>1uF capacitor has 2650 ohms of capacitive reactance. A 10uF capacitor
>has a capacitive reactance of 265 ohms, and a 100uF capacitor has a
>capacitive reactance of 26.5 ohms. Given this, shouldn't all
>electrolytic capacitors be at least 100uF?

Not necessarily. There are several other issues to take a look at.

For one thing - examine the _actual_ ESR/impedance of electrolytic caps over a wide frequency range. You will observe that these caps tend to behave in a capacitive fashion only up to a certain (self-resonant) frequency... above that point, they behave much more like inductors. This is due to the inductive reactance of the spiral-wound foils (or metallizations on the plastic films).

The higher the capacitance, the more "turns" the foil/film takes inside the can, and the higher the inductive reactance. This can lead to the larger caps having a lower self-resonant frequency, and a reduction in circuit stability at high frequencies.

> Is there any point to a
>1uF electrolytic capacitor when there are 1uF ceramic capacitors that
>have the advantages of lower ESR and nonpolarity?

Yup.

Circuit stability can actually suffer if you try to do all of your power supply bypassing using low-ESR, high-Q capacitors. These capacitors can interact with the inductance of the wiring (or PC-board traces) to create high-Q resonant circuits. If your circuit's

operating behavior tends to excite one of these resonances, you can get some very severe "ringing" on the power supply lines.

An easy, and common way to prevent this from being a problem is to "swamp" the high-Q resonances, by including substantial amounts of lower-Q (higher-ESR) "bulk" capacitance on the power supply rails. A rule of thumb I've read is to include about 10 uF of aluminum electrolytic, or 1-2 uF of tantalum, for every half-dozen TTL ICs or op amps, and to have at least one such "bulk" cap every 4" or so on the board.

The interactions between wire and trace inductance, component lead inductance, capacitance, ESR, etc. are many and subtle.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

3608. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-17 23:19:12 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpbl1hdlq1@bob.news.rcn.net>
Source record: 30925
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

gw wrote:

> hmm, kind of like buying a computer ...in a few mounths it is
> obsolete...on the tektroix and hp stuff.......you would think that
> they would be feeling the heat from asia like everyone else.....just
> how much profit is there in a unit that sells new for $75,000.00? and
> why may i ask after 10 to 15 years it still sells for heavy cash....

When you look at the price of a $75,000 unit, consider this: First, the test equipment market is really rather small, nothing like the consumer electronics market, and second, bleeding edge technology test equipment requires some serious money to develop. Tektronix and HP have historically been positioned right in the front of the technology wave. So, a unit that sells for $75,000 may have cost $20 million to develop to where it could be manufactured. It probably only has a market life of 1000 units. Then the actual manufacture of the product costs something. A good round figure is the ratio of parts cost to sale price is 3x to 4x. Labor figures in at about equal to parts cost.

-20,000,000 to develop
-25,000 x 1000 units = -25,000,000 parts cost
-25,000 x 1000 units = -25,000,000 labor cost
75,000 x 1000 units = +75,000,000 sales price of instrument

Bottom line +$5,000,000

Take that $5 million, and subtract some for advertising, and service, and you haven't got much left.

Granted these numbers are just guesses, but I have been doing small quantity manufacture for a lot of years, and these kinds of ratios come up again and again.

As to why the Tektronix and HP stuff commands a high price in the used market, the reason is simple, the gear is high quality, has very high capabilities, and the price of a new replacement is also high.

-Chuck

3609. Re: Microwave prescalers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 00:37:57 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <FRdub.1508$bw2.222789814@hebe.telenet-ops.be>
Source record: 30927

Maybe this is what you want.

http://www.dg0ve.de/

Go to messtechnik.
There is a :10 prescaler for 88 euro's

3610. Re: Microwave prescalers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 00:39:09 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <NSdub.1730$H14.215471576@hestia.telenet-ops.be>
Source record: 30928

Maybe this is what you want.

http://www.dg0ve.de/

Go to messtechnik.
There is a :10 prescaler for 88 euro's

3611. Re: Microwave prescalers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 00:41:33 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <1Vdub.1733$Gl4.216775999@hestia.telenet-ops.be>
Source record: 30929

Maybe this is what you want.

http://www.dg0ve.de/

Go to messtechnik.
There is a :10 prescaler for 88 euro's

3612. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 00:41:36 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311171641.2c0230ad@posting.google.com>
Source record: 30926

"G8YWL" <graham@cfcuk.org> wrote in message news:<bp7idq$1ei$1@sparta.btinternet.com>...
> Does anyone know how I can convert the output from a speaker/headphones jack
> from a Laptop into a suitable input to the Mic socket of a TS430S? It's for
> running SSTV
>
> I have not been able to find anything on the net - probably 'cos I'm asking
> the wrong question.
>

have u actually tried connecting the output of your speaker directly
into the mic input? i bet you a 2n3904 that it would work. you can cut
down the audio output using the volume control applet.

even if you do horribly overdrive the transceiver, you dont have to
sweat because the SSB filter will clean out any out-of-passband
distortion. and sstv does not use any amplitude variations (i am not
aware of the newer SSTV modes) so clipped audio will not be very
different to the remote receiver.

as usual, i guess, you should simply plug in the sound card output
into your mic input to see what happens.

i have used my homebrew on PSK31 without any attenuation. it works
pretty well. infact, i got into PSK31 by hanging my PC's mic over the
speaker box and tuning the sigs using WinPSK. On a dare, I left my
transceiver mic on top of the PC's cambridge work speakers and started
working PSK31 dx right off. the next night i searched around for a
pair of cables and connected the rig and the PC together without any
other components.

i have used RTTY, SSTV as well as PSK31 without any electronics in
addition to ordinary cables.

- farhan

3613. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 00:50:52 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FB96CD3.FEEA16FC@earthlink.net>
Source record: 30930
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Chuck Harris wrote:
>
> I know a guy that repairs pagers, but you cannot convince me that it
> is a profitable business.... The way he moaned about the cost of my
> fixing his RF signal generator gives me a clue.
>
> -Chuck

Believe what you want, but the place has around 100 employees, and
was looking at buying the old L3-Com/Microdyne complex to expand into
its 120,000+ square feet of buildings and acres of land for parking.

They are bigger than Microdyne was when it closed the complex and
moved to Pennsylvania. If there is no money in repairing pager and cell
phones, why do they want to buy property which is priced at 1.6 million
dollars? Here is the listing for the complex:
http://www.foxfirerealty.com/showlisting.ap?listid=17779&id=2
--

Michael A. Terrell
Central Florida

3614. Re: Microwave prescalers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 01:08:51 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <Dieub.1749$0x5.221561911@hestia.telenet-ops.be>
Source record: 30931

Maybe this is what you want.

http://www.dg0ve.de/

Go to messtechnik.
There is a :10 prescaler for 88 euro's

3615. Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 01:27:56 UTC
From: la8ak.xnd@online.no
Message-ID: <3fb97355.196574478@news.online.no>
Source record: 30932

Hi

for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's (guaranteed over temperature range -20...+20°C), the problem is that the original XO is 1MHz with 7490 divider, and now I need a divide by 96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan out problem, but I am not aware what is the readily available divider to choose. The counter is mentioned on http://home.online.no/~la8ak/m21.htm , but it is Norwegian text

hpe 2 hr fm u

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/d.htm
--
remove ,xnd to reply (Spam precaution!)

3616. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 02:15:05 UTC
From: dplatt@radagast.org
Message-ID: <vrj059esn9lm42@corp.supernews.com>
Source record: 30933

>> Does anyone know how I can convert the output from a speaker/headphones jack
>> from a Laptop into a suitable input to the Mic socket of a TS430S? It's for
>> running SSTV
>>
>> I have not been able to find anything on the net - probably 'cos I'm asking
>> the wrong question.

>have u actually tried connecting the output of your speaker directly
>into the mic input? i bet you a 2n3904 that it would work. you can cut
>down the audio output using the volume control applet.

Getting proper, fine control of the volume level might be very
difficult with this approach.

>even if you do horribly overdrive the transceiver, you dont have to
>sweat because the SSB filter will clean out any out-of-passband
>distortion. and sstv does not use any amplitude variations (i am not
>aware of the newer SSTV modes) so clipped audio will not be very
>different to the remote receiver.

Hmmm. How about intermodulation issues? That might cause a fair big
of gunk even within the audio passband.

>as usual, i guess, you should simply plug in the sound card output
>into your mic input to see what happens.
>
>i have used my homebrew on PSK31 without any attenuation. it works
>pretty well.

How the the signal actually look (and measure) on the far end? How
were the IMD levels, and how far did the PSK31 signal's sidebands
extend?

Even if it "works pretty well", I'd be concerned about shoving audio
distortion products out well away from the signal. This might not be
too much of an issue for SSTV, which is using voice-grade bandwidth,
but I _really_ wouldn't want to do it when working PSK31. One of
PSK31's benefits is its extremely narrow spectrum width, when tuned
properly.

I've seen some really beautiful (narrow and clean) PSK31 signals on
the band. I've also seen 'em with sidebands blasting out in both
directions, across the full width of the spectrum/waterfall display,
as a result of people overdriving their audio inputs or forgetting to
turn off their compressor/processor or driving their RF finals up to
get the last little bit of power out of their TX. When this happens,
the narrow-bandwidth spectum-sharing benefit of PSK31 go right out the

window, and the signal can become harder to copy reliably.

As to the original poster's question: there are a number of commercial products designed for PC/rig interfacing, and numerous homebrew circuits as well. The simplest designs simply include a resistive attenuator (a fixed resistor pair, or an audio-taper potentiometer) to drop the speaker output level down to mic levels. More complex designs often include transformer isolation in both the TX and RX audio paths, to break ground loops and keep RF out of the audio path.

Any interface designed for PSK31 would probably work very well for SSTV as well. See http://www.qsl.net/wm2u/psk31.html for schematics of both resistive and transformer-isolated versions.

On the commercial side, the best-known are probably the RigBlaster (http://www.westmountainradio.com/) and the Rascal / GLX (http://www.buxcomm.com).

I've used a Rascal (pre-GLX version) quite successfully, to operate both PSK31 and VHF packet from my Dell laptop.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

3617. cambridge lnb's also wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 03:02:15 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1069124658.156838@smtp-1.griffin.com>
Source record: 30934

also looking for cambridge lnb's.. the one with 10.6ghz LO...(i know the 1 with yellow cap is good, but i expect there are others..)

thanks g0zen

3618. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 03:09:26 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FB98D4C.700179CE@earthlink.net>
Source record: 30935

J M Noeding wrote:
>
> Hi
>
> for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's
> (guaranteed over temperature range -20...+20ï¿½C), the problem is that
> the original XO is 1MHz with 7490 divider, and now I need a divide by
> 96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan
> out problem, but I am not aware what is the readily available divider
> to choose. The counter is mentioned on
> http://home.online.no/~la8ak/m21.htm , but it is Norwegian text
>
> hpe 2 hr fm u
>
> 73
> Jan-Martin, LA8AK
> http://home.online.no/~la8ak/d.htm
> --
> remove ,xnd to reply (Spam precaution!)

Search through Goggle groups in sci.electronics.design for a divide
by 3 counter, and follow it with five stages of divide by 2 counters.

96/3 = 32
32/2 = 16
16/2 = 8
8/2 = 4
4/2 = 2
2/2 = 1

You want the odd counter somewhere before the final stage to maintain a
50% duty cycle.
--

Michael A. Terrell
Central Florida

3619. Re: Clean VHF tx schematics needed

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 04:12:55 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311172012.7992812f@posting.google.com>
Source record: 30936

i guess, i didn't explain the nature of the problem clearly. i CAN tune my current transmitter easily. I just don't think that many will be able to do so as i am building this as a club project.

The reason is that .. it is easy to mistune your transmitter to another harmonic. this is especially true of VHF where the preset capacitors can swing a wide frequency range within their 22pf range.

i was thinking that, instead, it might be a better idea to depend upon generating the signal directly at 144MHz.

that said, as of now, i am continuing to use the a crystal at 18MHz fundamental and multiplying it through three balanced doublers to 144MHz. In my second version, i have replaced variable capacitors in the doubler outputs with fixed capacitors and tunable inductors. that way, i hope to be able to restrict the tuning range of each doubler output centered around the required second harmonic. it is tough work, but that is what differentiates homebrewing for yourself from homebrewing for a group project.

- farhan

3620. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 04:38:52 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpc7ou$2gr$1@bob.news.rcn.net>
Source record: 30937
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

I'm not trying to be difficult Michael. The reason I have trouble seeing how this is a money making venture is the low price of cell phones and pagers. When a Cell phone lists for $99, how much time can a technician really spend fixing it?

In the repair business, the maximum repair price you can charge a customer has to be less than 40% of the cost of new, or they will always walk away. If they walk away, and give you their phones for free, then perhaps you could make a little bit fixing it and selling it, but really, now, tracphone sells refurbished nokia 5185i's for $39. There is not much margine in that.

Who pays for the time necessary for the technician to open the phone, diagnose the problem, unsolder the offending module, test the phone, reassemble, and pack? You would have to pay your technicians less than $10 per hour!

-Chuck

Michael A. Terrell wrote:
> Chuck Harris wrote:
>
>>I know a guy that repairs pagers, but you cannot convince me that it
>>is a profitable business.... The way he moaned about the cost of my
>>fixing his RF signal generator gives me a clue.
>>
>>-Chuck
>
>
> Believe what you want, but the place has around 100 employees, and
> was looking at buying the old L3-Com/Microdyne complex to expand into
> its 120,000+ square feet of buildings and acres of land for parking.
>
> They are bigger than Microdyne was when it closed the complex and
> moved to Pennsylvania. If there is no money in repairing pager and cell
> phones, why do they want to buy property which is priced at 1.6 million
> dollars? Here is the listing for the complex:
> http://www.foxfirerealty.com/showlisting.ap?listid=17779&id=2

3621. Re: Microwave prescalers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 04:54:44 UTC
From: hello_nasty@hotmail.com
Message-ID: <7578ddcf.0311172054.646c4219@posting.google.com>
Source record: 30938

Leif Holmgren <nobody@nowhere.com> wrote in message news:<3FB93647.5080103@nowhere.com>...
> Hello Group!
>
> This summer I saw someone selling really nice small frequency counters
> for microwave (up to 10 or 18GHz) in the flea-market hall at the
> HAM-RADIO fair. He also had prescaler modules with SMA-connectors and
> loose prescaler chips.
>
> All of these were out of budget then so I just noted in memory they
> existed. Now there is a need.
>
> Does anyone know who I'm talking about? I have done some searching on
> the 'net but I find nothing that looks as good as this guys boxes and
> modules.
>
> 73 de SM4RPQ/Leif

They may have been similar to the Hittite Microwave prescalers and
evaluation boards.

Goto http://www.hittite.com and select "Dividers & Detectors".

Click the "Order" button next to the prescaler you need. You can then
choose to purchase complete evaluation boards (with SMA connectors).

3622. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 05:02:55 UTC
From: Alfred Lorona <w6wqc@dslextreme.com>
Message-ID: <bpc986$1ligoi$1@ID-49117.news.uni-berlin.de>
Source record: 30939

(snip)
> which are the classics that the experienced members always
> suggest

Microwave Transistor Amplifiers by Guillermo Gonzalez for small signal design and Radio Frequency Transistors by Norm Dye and Helge Granberg for power amplifier design. Don't know if the latter is still in print. Check Opamp Technical Books at 1-800-468-4322.

3623. Re: Crystal Oven Pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 05:27:12 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311172127.4566dfa2@posting.google.com>
Source record: 30941

Some reverse engineering, perhaps? Do the crystal socket pins connect directly to a pair of external pins? Is the oven control electronic or mechanical? If mechanical, find a voltage that has the oven on about 50% of the time or a bit less and you'll probably be very close to optimum. If electronic, be sure to get the polarity right, and run the voltage up slowly to see where the oven goes into control. I'd guess that about 50% more voltage than that (about twice that power available) would be reasonable. There might be a tantalum bypass cap on the power that would give you a clue: I'd expect max input V no more than 70% of the cap's rating. Or maybe you'll get lucky and someone will have actual specs for you.

Cheers,
Tom

"Hans Summers" <Hans.Summers@Tudor.Com> wrote in message
news:<bpanl6$1llns1$1@ID-61331.news.uni-berlin.de>...
> I'm trying to find the pinout for an obsolete SEI crystal oven, which
> contains a HC6U sized crystal socket. SEI are now part of C-MAC, who were
> unable to provide me with any information.
>
> The oven measures 26 x 23 x 49mm including 4 pins. Presumably 2 pins are for
> the crystal and the other 2 for the oven heater - but can anyone advise on
> the necessary supply voltage?
>
> The label reads:
>
> SEI
> CRYSTAL OVEN
> QC. 1500 A
> TEMP. 75 C
> SER. No. 077094
> MADE IN ENGLAND
>
> Tnx
> Hans G0UPL
> http://www.HansSummers.com

3624. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 05:27:14 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bpcai0adv1@bob.news.rcn.net>
Source record: 30940

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3fb97355.196574478@news.online.no...
>
> for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's
> (guaranteed over temperature range -20...+20�C), the problem is that
> the original XO is 1MHz with 7490 divider, and now I need a divide by
> 96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan
> out problem, but I am not aware what is the readily available divider
> to choose. The counter is mentioned on
> http://home.online.no/~la8ak/m21.htm , but it is Norwegian text

The 74HC4059 (or 74HCT4059) should do the trick. It may be a bit hard to find, but will divide by any number from 3 to 16384. It is logically the same as the RCA CD4059, but I don't think the old RCA part will work at your frequency. I can't find my data book right now.

73 de bob w3otc

3625. More Re: Readily available 10MHz divide by 96

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 05:30:12 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bpcani$aq3$1@bob.news.rcn.net>
Source record: 30942

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3fb97355.196574478@news.online.no...

> for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's
> (guaranteed over temperature range -20...+20�C), the problem is that
> the original XO is 1MHz with 7490 divider, and now I need a divide by
> 96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan
> out problem, but I am not aware what is the readily available divider
> to choose. The counter is mentioned on
> http://home.online.no/~la8ak/m21.htm , but it is Norwegian text

Oops, I may be wrong about the maximum division ratio of the 4059, but it is certainly as large as 4 decimal digits (not binary). Again, I can't find my data book right now.

73 de bob w3otc

3626. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 05:57:53 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <krajrvg3dmcpn64r58vfiql9vmdbu4ulta@4ax.com>
Source record: 30943

On Tue, 18 Nov 2003 01:27:56 GMT, la8ak.xnd@online.no (J M Noeding) wrote:

>for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's
>(guaranteed over temperature range -20...+20ï¿½C), the problem is that
>the original XO is 1MHz with 7490 divider, and now I need a divide by
>96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan
>out problem, but I am not aware what is the readily available divider
>to choose. The counter is mentioned on
>http://home.online.no/~la8ak/m21.htm , but it is Norwegian text

Isn't the 74(LS)92 divide by 12 counter available anymore ? With an addition of a 74(LS)93 divide by 16 counter (divide by 192 total), you can get the required divide by 96 ratio, if you skip the independent divide by 2 section from either the '92 or '93.

If you can not get the '92, get two '93 chips, let the first divide by 16 down to 600 kHz. Using only the divide by 8 part of the second '93, detect the "6" count with a two input AND/NAND gate and reset the counter. IIRC, the '93 contains a built in two input NAND gate in the reset circuit, so these inputs needs only be connected to the two most significant outputs of the divide by 8 counter. The required 100 kHz output can be taken from the most significant output (it has a 66:33 output ratio). If you need 50:50 ratio, first divide by 8 in the first '93, then by 6 in the second '93 and then by two in the independent section in the first '93.

Paul OH3LWR

3627. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 06:16:27 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FB9B920.B9FE6544@earthlink.net>
Source record: 30944
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Chuck Harris wrote:
>
> I'm not trying to be difficult Michael. The reason I have trouble
> seeing how this is a money making venture is the low price of
> cell phones and pagers. When a Cell phone lists for $99, how much
> time can a technician really spend fixing it?
>
> In the repair business, the maximum repair price you can charge a
> customer has to be less than 40% of the cost of new, or they will
> always walk away. If they walk away, and give you their phones for
> free, then perhaps you could make a little bit fixing it and selling
> it, but really, now, tracphone sells refurbished nokia 5185i's for
> $39. There is not much margine in that.
>
> Who pays for the time necessary for the technician to open the phone,
> diagnose the problem, unsolder the offending module, test the phone,
> reassemble, and pack? You would have to pay your technicians less
> than $10 per hour!
>
> -Chuck

It is run like a factory, not one up repairs. That makes a huge
difference. The techs don't disassemble the units. the production people
do a quick test, clean up the cases, and send the boards to be repaired.
A lot of repairs are new crystals, or reprogramming the synthesizer, or
replacing a bad LCD display which is done before a tech sees it.

Also, they do large runs of the same unit, then do a different model.
Also, some only need a few pieces of the case replaced, and the password
cracked so it can be reprogrammed in the field.

They have service contracts where someone ships a 1000 pagers or 100
cell phones and they repair what they can in a fixed time. They either
return the bad units, or replace them with their own stock of repaired
units, depending on the contract. they also repair a lot of older models
and sell them overseas.
--

Michael A. Terrell
Central Florida

3628. Re: Crystal Oven Pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 09:21:26 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bpcoan$1mjftd$1@ID-61331.news.uni-berlin.de>
Source record: 30945

Thanks but... further investigation revealed that neither of the crystal socket pins connect directly to any of the 4 external pins. Presumably this implies the oven contains integral oscillator. The oven control is electronic, and none of the circuit is accessible. The box is soldered (perhaps welded) together except for a lid in the opposite end to the 4 pins, and all that is visible inside the lid is the HC6U socket and a multi-turn preset temperature adjustment potentiometer. Not looking too hopeful as yet...
73
Hans

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0311172127.4566dfa2@posting.google.com...
> Some reverse engineering, perhaps? Do the crystal socket pins connect
> directly to a pair of external pins? Is the oven control electronic
> or mechanical? If mechanical, find a voltage that has the oven on
> about 50% of the time or a bit less and you'll probably be very close
> to optimum. If electronic, be sure to get the polarity right, and run
> the voltage up slowly to see where the oven goes into control. I'd
> guess that about 50% more voltage than that (about twice that power
> available) would be reasonable. There might be a tantalum bypass cap
> on the power that would give you a clue: I'd expect max input V no
> more than 70% of the cap's rating. Or maybe you'll get lucky and
> someone will have actual specs for you.
>
> Cheers,
> Tom
>
> "Hans Summers" <Hans.Summers@Tudor.Com> wrote in message
news:<bpanl6$1llns1$1@ID-61331.news.uni-berlin.de>...
> > I'm trying to find the pinout for an obsolete SEI crystal oven, which
> > contains a HC6U sized crystal socket. SEI are now part of C-MAC, who
were
> > unable to provide me with any information.
> >
> > The oven measures 26 x 23 x 49mm including 4 pins. Presumably 2 pins are
for
> > the crystal and the other 2 for the oven heater - but can anyone advise
on
> > the necessary supply voltage?
> >
> > The label reads:
> >
> > SEI

> > CRYSTAL OVEN
> > QC. 1500 A
> > TEMP. 75 C
> > SER. No. 077094
> > MADE IN ENGLAND
> >
> > Tnx
> > Hans G0UPL
> > http://www.HansSummers.com

3629. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 09:40:59 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000ee.00335728@btinternet.com>
Source record: 30946

Hi,

Have a look at the 74HCT40103 on the Philips site. Although
the output is asymmetric, it will divide by any number between 2
and 255.

Cheers - Joe

3630. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 12:46:05 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <hwoub.16632$cX1.976@fed1read02>
Source record: 30847
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Chuck Harris" <cfharris@erols.com> wrote in message
news:bpam6oejv1@bob.news.rcn.net...
> Ed Price wrote:
>
> > Designing and building a product to provide many years of use, and then
> > capable of being repaired without access to unique components and/or
exotic
> > service equipment, is a concept so rare as to be thought a scam.
> >
> > Ed
> > wb6wsn
> >
>
> Imagine your cell phone if it was designed to be repaired, and used only
> common components. It would be the size of a briefcase. Do you think
> cell phones would be popular if they had to be briefcase sized?
>
> What about spectrum analyzers that needed to be contained in several
> 6 foot high rack cabinets?
>
> Is the world better or worse now that a 100MHz oscilloscope can be made
> the size of a paper back book?
>
> -Chuck, WA3UQV
>

We were talking about repair and service equipment, not consumer items. A
consumer item is expected to have a short life-cycle, and repairability is
often not a concern.

I never saw "multi-six-foot-rack analyzers"; the oldest & biggest I can
recall were Singer FIM analyzers, which were about 24" wide by 30" tall and
deep, and took four guys to move them (and the plug-in RF heads were a
one-man lift!). OTOH, everything inside was reachable and easily repairable.

If that 100 MHz scope can be built to have a reasonable cost to lifetime
ratio, then it could be considered a consumer item, and a non-repairable
investment. But to me, if I have to pay $10k or more for a piece of test
equipment, it had better last quite a few years and allow me to do
re-calibration and even moderately severe repair.

Ed

3631. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 12:56:22 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <WFoub.16633$cX1.14167@fed1read02>
Source record: 30848
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"gw" <gw@webhideout.com> wrote in message
news:235a74db.0311171411.269ea0bc@posting.google.com...
> "Ed Price" <edprice@cox.net> wrote in message
news:<nO_tb.9428$cX1.8536@fed1read02>...
> > "gw" <gw@webhideout.com> wrote in message
> > news:235a74db.0311161745.697ce90b@posting.google.com...
> > > Roy Lewallen <w7el@eznec.com> wrote in message
> > news:<vrejlohricpj0a@corp.supernews.com>...
> > > > Thanks to Ed for the good advice.
> > > >
> > > > I've got an HP 140T. As far as I know, the only difference between
it
> > > > and the 141T is that the CRT in mine is a conventional one with
> > > > long-persistence phosphor rather than a storage tube. It uses the
same
> > > > plug-in units as the 141T. I find it to be very usable, and don't
really
> > > > miss storage capability at all. I think the tube is a lot more
> > > > trouble-free than a storage type unit.
> > > >
> > > > So I recommend that you don't turn down a 140T if you come across
one --
> > > > and you might even have a better chance of getting a unit with a
working
> > > > display than with a 141T.
> > > >
> > > > Roy Lewallen, W7EL
> > > >
> > > > Ed Price wrote:
> > > >
> > > > [Lots of good advice]
> > >
> > >
> > > well it is amazing i think how some of these units retain their resale
> > > value even though the companies that made them do not service them or
> > > back them......man who was the brainiac that thought about how to
> > > implement this scam?
> >
> > Designing and building a product to provide many years of use, and then
> > capable of being repaired without access to unique components and/or
exotic
> > service equipment, is a concept so rare as to be thought a scam.
> >

> > Ed
> > wb6wsn
>
> well ed what are your thoughts on a hp 8590? bueno o no bueno?

A very good analyzer series, but generally still priced out of the hobbyist market. Reasonably portable, and ruggedly built. Performance is generally a bit lower than the 856x series, but still very respectable. Much more useful than a hobbyist-affordable 141 analyzer, and easier and more versatile than an older 8569 analyzer. Unless your needs are exotic, the 859x series will be a good industrial choice.

Ed
wb6wsn

3632. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 13:01:57 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <9Loub.16634$cX1.10233@fed1read02>
Source record: 30849
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
news:sjvhrvoi762669aj99kjrtuv7800547il6@4ax.com...
> On Sun, 16 Nov 2003 23:30:40 -0800, "Ed Price" <edprice@cox.net>
> wrote:
>
> >Designing and building a product to provide many years of use, and then
> >capable of being repaired without access to unique components and/or
exotic
> >service equipment, is a concept so rare as to be thought a scam.
>
> Can anyone recommend a decent commercial vector network analyser and
> spectrum analyser that one can repair oneself if necessary and
> hopefully keep them up and running for ever?
> --
>
> "I expect history will be kind to me, since I intend to write it."
> -
Winston Churchill

For the spectrum analyzer part, the best a hobbyist can usually afford is an HP-141, with a few plug-ins (IIRC, they offered a total of 6, collect the whole set!). And you will need the HP manuals (some of which are available free from the US Army LOGSA site). And you will need some other basic and decent lab gear (scope, counter, DMM, sig gens) to do the job right.

Sorry, but I can't comment on any Network Analyzers.

Ed
wb6wsn

3633. Re: Electrolytic coupling capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 13:55:35 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-9A7A76.08553818112003@news.verizon.net>
Source record: 30850

In article <vrila6j9rsl555@corp.supernews.com>,
dplatt@radagast.org (Dave Platt) wrote:

> >As you know, coupling capacitors are used to minimize ripple in
> >batteries/power supplies.
>
> "Coupling" is usually used as a term for capacitors which are actually
> in the signal path - they're used to pass signal and block DC.
>
> Power supply caps are usually referred to as "filter" or "bypass" caps.
>
> >I have also seen circuits that use smaller value capacitors. What's
> >the point of .01uF and .001uF coupling capacitors? Is the stray
> >inductance THAT much lower? I have 1uF 50V monolithic ceramic
> >capacitors (JIM-PAK MD1), and they're actually smaller than my .1uF
> >50V ceramic disc capacitors (DC.1). Why doesn't everyone just use 1uF
> >ceramic capacitors for power supply coupling? At 1.8MHz, capacitive
> >reactance of a 1uF capacitor is only .0884 ohms.
> >
> >What's the point of relatively low value electrolytic capacitors?
> >Their ESR values are usually on the order of 10-100 ohms. At 60Hz, a
> >1uF capacitor has 2650 ohms of capacitive reactance. A 10uF capacitor
> >has a capacitive reactance of 265 ohms, and a 100uF capacitor has a
> >capacitive reactance of 26.5 ohms. Given this, shouldn't all
> >electrolytic capacitors be at least 100uF?
>
> Not necessarily. There are several other issues to take a look at.
>
> For one thing - examine the _actual_ ESR/impedance of electrolytic
> caps over a wide frequency range. You will observe that these caps
> tend to behave in a capacitive fashion only up to a certain
> (self-resonant) frequency... above that point, they behave much more
> like inductors. This is due to the inductive reactance of the
> spiral-wound foils (or metallizations on the plastic films).
>
> The higher the capacitance, the more "turns" the foil/film takes
> inside the can, and the higher the inductive reactance. This can lead
> to the larger caps having a lower self-resonant frequency, and a
> reduction in circuit stability at high frequencies.
>
> > Is there any point to a
> >1uF electrolytic capacitor when there are 1uF ceramic capacitors that
> >have the advantages of lower ESR and nonpolarity?
>

> Yup.
>
> Circuit stability can actually suffer if you try to do all of your
> power supply bypassing using low-ESR, high-Q capacitors. These
> capacitors can interact with the inductance of the wiring (or PC-board
> traces) to create high-Q resonant circuits. If your circuit's
> operating behavior tends to excite one of these resonances, you can
> get some very severe "ringing" on the power supply lines.
>
> An easy, and common way to prevent this from being a problem is to
> "swamp" the high-Q resonances, by including substantial amounts of
> lower-Q (higher-ESR) "bulk" capacitance on the power supply rails.
> A rule of thumb I've read is to include about 10 uF of aluminum
> electrolytic, or 1-2 uF of tantalum, for every half-dozen TTL ICs or
> op amps, and to have at least one such "bulk" cap every 4" or so on
> the board.
>
> The interactions between wire and trace inductance, component lead
> inductance, capacitance, ESR, etc. are many and subtle.

Don't forget "ground bounce." That is one reason why each IC had a 0.1 uF capacitor adjacent to it. The signal going into the IC might look clean, but if a large number of outputs switched simultaneously, the ground level in the IC would change and if a signal was at a threshold level, it might pass through it twice, giving a false extra pulse.

What devices would have all of the outputs go high or low at the same time? A ripple counter at one time or another would have all outputs go either high or low at the same time.

Al

--
There's never enough time to do it right the first time.....

3634. FA:866,7360,8458,16LU8,25HU5

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 14:06:45 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <VHpub.80238$Ec1.4100325@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30851

see at listing of heytubeguy:

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

3635. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 14:51:40 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpdblubpf1@bob.news.rcn.net>
Source record: 30852
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Ed Price wrote:

> We were talking about repair and service equipment, not consumer items. A
> consumer item is expected to have a short life-cycle, and repairability is
> often not a concern.

If you cannot see the relationship, then you need to stretch a bit.

Everything in electronics, test equipment especially has grown in complexity and performance, as it has been reduced in size. Some of the reductions are there to make it possible to fit more test equipment in a given space, and some are there because of necessities of the new technology (eg. microwave speeds and low power consumption are better done with tiny sized components.)

>
> I never saw "multi-six-foot-rack analyzers"; the oldest & biggest I can
> recall were Singer FIM analyzers, which were about 24" wide by 30" tall and
> deep, and took four guys to move them (and the plug-in RF heads were a
> one-man lift!). OTOH, everything inside was reachable and easily repairable.

Was your life, as a technician that is, made better or worse when that same 4 man lift SA was reduced to one that you could carry yourself with one hand, while carrying your 1G scope with the other?

How about performance? Did it help you to have the bandwidth limit of your old 4 man lift SA rise from 1GHz to 300GHz? How about your 30MHz scope that is now 1GHz? Did you notice that the prices went DOWN?

How about the heat generation? Have you ever worked in a lab that had no effective air conditioning, and also had a herd of Tek 500 series scopes whirring away?.. in the middle of the summer? I have, and I am quite happy not to do it anymore. We saw temperatures as high as 120F at times. No windows, one door, lots of fans. Turn off the equipment, and the AC did quite fine.

And finally, how about the space savings? Does it help you or hurt you to recapture that floor space the old SA, and scope, and signal generator used?

Tiny little custom component ridden hard to service test equipment made it possible to move away from that kind of scene.

>
> If that 100 MHz scope can be built to have a reasonable cost to lifetime
> ratio, then it could be considered a consumer item, and a non-repairable

> investment. But to me, if I have to pay $10k or more for a piece of test
> equipment, it had better last quite a few years and allow me to do
> re-calibration and even moderately severe repair.

All of the $10K+ stuff I have seen from HP or Tek would easily meet your needs. Calibration? You cannot be serious. Most of this stuff is so finely calibrated that it would be beyond the capabilities of anything but an expert calibration lab to accomplish the task. Just having the standards necessary takes a whole lab... and a whole budget. I know this because I tried to set up a NIST traceable cal lab for my business, and eventually concluded that for me to do that, cal would have to become my exclusive business. I still have all the standards and equipment, but no time to put them to use... No money to keep them in cert with NIST. It is FAR cheaper to send the stuff out and get it calibrated.

The "consumer grade" goodies in the test equipment market don't really need more than a simple calibration checking. I cannot tell you the last time my little Fluke DVM needed recalibration... Because it is 15 years old, and it has NEVER needed recalibration. Has something to do with the little fidgety custom components that are inside it. Same goes for my Tek 2465 scope.

-Chuck

3636. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 18:11:38 UTC
From: averyfineman@aol.com
Message-ID: <20031118131138.12300.00001716@mb-m20.aol.com>
Source record: 30853

In article <krajrvg3dmcpn64r58vfiql9vmdbu4ulta@4ax.com>, Paul Keinanen
<keinanen@sci.fi> writes:

>On Tue, 18 Nov 2003 01:27:56 GMT, la8ak.xnd@online.no (J M Noeding)
>wrote:
>
>>for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's
>>(guaranteed over temperature range -20...+20ï¿½C), the problem is that
>>the original XO is 1MHz with 7490 divider, and now I need a divide by
>>96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan
>>out problem, but I am not aware what is the readily available divider
>>to choose. The counter is mentioned on
>>http://home.online.no/~la8ak/m21.htm , but it is Norwegian text
>
>Isn't the 74(LS)92 divide by 12 counter available anymore ? With an
>addition of a 74(LS)93 divide by 16 counter (divide by 192 total), you
>can get the required divide by 96 ratio, if you skip the independent
>divide by 2 section from either the '92 or '93.
>
>If you can not get the '92, get two '93 chips, let the first divide by
>16 down to 600 kHz. Using only the divide by 8 part of the second '93,
>detect the "6" count with a two input AND/NAND gate and reset the
>counter. IIRC, the '93 contains a built in two input NAND gate in the
>reset circuit, so these inputs needs only be connected to the two most
>significant outputs of the divide by 8 counter. The required 100 kHz
>output can be taken from the most significant output (it has a 66:33
>output ratio). If you need 50:50 ratio, first divide by 8 in the first
>'93, then by 6 in the second '93 and then by two in the independent
>section in the first '93.

An alternate is to use a chain of presettable binary or decade
counters such as the 74HC160 or 74HC190 families. Or use
74F series to assure high speed...

Since you have a need to divide by 96, a 7-stage binary chain
that would normally divide by 128 can be preset to a state of 32
at the end of the count. The count chain then goes through 96
states before reaching the end of the count again...which can
initiate the preset. [all the other stages not preset would be
tied to ground] The 8th stage would simply be unused

Initiating the preset pulse can be a simple C-R coupling to get
about a 40 nanoSecond spike at the end of the count. If you
think you need it, you can use a spare inverter or a single bipolar
to couple the end-of-count transition spike into the Load pins.

With the 190 family you get a choice of Up or Down counting to ease your arithmetic...which can be adapted to the division control lines if there are a lot of different states selected.

I'd recommend synchronous counter ICs running at 9.6 MHz.

With the 190 series the input loading is only two gate inputs for parallel synchronism using two binary ICs. Same with the Parallel Load line. Internal chip buffering handles those. Only two 16-pin DIPs needed to do the job. Some of the older datasheets have example circuitry for preset counting. The 160 and 190 families have been around for a few decades, are still used in new designs and still available.

Len Anderson
retired (from regular hours) electronic engineer person

3637. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 18:43:20 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311181043.1ff92777@posting.google.com>
Source record: 30854
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message news:<WFoub.16633$cX1.14167@fed1read02>...
> "gw" <gw@webhideout.com> wrote in message
> news:235a74db.0311171411.269ea0bc@posting.google.com...
> > "Ed Price" <edprice@cox.net> wrote in message
> news:<nO_tb.9428$cX1.8536@fed1read02>...
> > > "gw" <gw@webhideout.com> wrote in message
> > > news:235a74db.0311161745.697ce90b@posting.google.com...
> > > > Roy Lewallen <w7el@eznec.com> wrote in message
> news:<vrejlohricpj0a@corp.supernews.com>...
> > > > > Thanks to Ed for the good advice.
> > > > >
> > > > > I've got an HP 140T. As far as I know, the only difference between
> it
> > > > > and the 141T is that the CRT in mine is a conventional one with
> > > > > long-persistence phosphor rather than a storage tube. It uses the
> same
> > > > > plug-in units as the 141T. I find it to be very usable, and don't
> really
> > > > > miss storage capability at all. I think the tube is a lot more
> > > > > trouble-free than a storage type unit.
> > > > >
> > > > > So I recommend that you don't turn down a 140T if you come across
> one --
> > > > > and you might even have a better chance of getting a unit with a
> working
> > > > > display than with a 141T.
> > > > >
> > > > > Roy Lewallen, W7EL
> > > > >
> > > > > Ed Price wrote:
> > > > >
> > > > > [Lots of good advice]
> > > >
> > > >
> > > > well it is amazing i think how some of these units retain their resale
> > > > value even though the companies that made them do not service them or
> > > > back them......man who was the brainiac that thought about how to
> > > > implement this scam?
> > >
> > > Designing and building a product to provide many years of use, and then
> > > capable of being repaired without access to unique components and/or
> exotic
> > > service equipment, is a concept so rare as to be thought a scam.

> > >
> > > Ed
> > > wb6wsn
> >
> > well ed what are your thoughts on a hp 8590? bueno o no bueno?
>
> A very good analyzer series, but generally still priced out of the hobbyist
> market. Reasonably portable, and ruggedly built. Performance is generally a
> bit lower than the 856x series, but still very respectable. Much more useful
> than a hobbyist-affordable 141 analyzer, and easier and more versatile than
> an older 8569 analyzer. Unless your needs are exotic, the 859x series will
> be a good industrial choice.
>
> Ed
> wb6wsn

well some guy who has a company that i guess is in the business of
buying refurbing and selling electronic equipment has one on ebay for
about $2100.00. should i cross my fingers and go for it? he takes
credit cards. he says it is working very well, it looks real good
according the pics he has of it and it has a fresh calibration.

3638. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 19:25:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vrksgr6iimbv64@corp.supernews.com>
Source record: 30855

A good source for out of print technical books, and used current books,
is Powell's, http://www.powells.com.

Roy Lewallen, W7EL

Alfred Lorona wrote:
> (snip)
>
>>which are the classics that the experienced members always
>>suggest
>
>
> Microwave Transistor Amplifiers by Guillermo Gonzalez for small signal
> design and Radio Frequency Transistors by Norm Dye and Helge Granberg for
> power amplifier design. Don't know if the latter is still in print. Check
> Opamp Technical Books at 1-800-468-4322.
>
>

3639. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 19:46:56 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <bpdt2e$7l7$1@newshost.mot.com>
Source record: 30857

Something strange going on here...
Steve k,9,d.c,i,

"Bill Turner" <noway@nohow.com> wrote in message
news:5cdfrvkn1l8c4ia9k8siku9ubtl2epb86k@4ax.com...
> On Sun, 16 Nov 2003 16:14:04 +0200, "oh2baw" <oh2@hotmail.com> wrote:
>
> >Although
> >the calibration is quite inexact, it's always possible
> >to listen to the GD-meters frequency on the
> >receiver.
>
> ____
>
> Here's another fun thing you can do while listening to your GDO on a
> receiver.
>
> Tune the receiver carefully when the GDO is at or near the dip. You
> will find it is oscillating on two separate (but close) frequencies.
> One from it's own tank circuit, one from the tank circuit under test.
> Probably the tank circuit under test isn't oscillating in the true sense
> of the word, but rather "ringing" due to the power induced into it.
>
> I would not have believed it if I hadn't heard it myself.
>
> --
> Bill, W6WRT
>

3640. Can't get a response

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 19:52:31 UTC
From: brokebob@aol.com
Message-ID: <20031118145231.17228.00000335@mb-m19.aol.com>
Source record: 30856

QRPp International Radio Club sells crystals for the popular QRP channels via the net. I ordered a crystal and paid for it via PayPal over two weeks ago.

This group sells but this is not to be confused with shipping or answering email.

Should I just chalk the $7.00 up to a bad experience?
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

3641. Re: Can't get a response

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 20:07:46 UTC
From: Ghost writer <Spamfree@Spamfree.com>
Message-ID: <m_uub.38384$A%3.506062@ord-read.news.verio.net>
Source record: 30858

IF they have to have them made, ie they are out of stock.... it can take 2-4 weeks to get them made. Anything less than that is considered by Crystal Manufacturing companies as "RUSH" and they charge out the ass for it. What you may get for $10 with a 4 week delivery could cost $50 for faster service - not to include shipping. They MAY just be out of stock. Did they say anything in fine print about delays, etc???? READ the fine print. Otherwise, they should send notice if they have a problem. I think Pay Pal has some sort of program included to prevent rip offs, perhaps e-mail them. IF you used a credit card, notify them as well. G.W.

Ask for our list of items on clearance!
"Brokebob" <brokebob@aol.com> wrote in message
news:20031118145231.17228.00000335@mb-m19.aol.com...
> QRPp International Radio Club sells crystals for the popular QRP channels
via
> the net. I ordered a crystal and paid for it via PayPal over two weeks
ago.
>
> This group sells but this is not to be confused with shipping or answering
> email.
>
> Should I just chalk the $7.00 up to a bad experience?
> brokebob@aol.com (broke=not working, retired=not working, retired=broke)

3642. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 20:14:47 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bpdui2$jq9$1@bob.news.rcn.net>
Source record: 30859

> >On Tue, 18 Nov 2003 01:27:56 GMT, la8ak.xnd@online.no (J M Noeding)
> >wrote:
> >
> >>for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's
> >>(guaranteed over temperature range -20...+20�C), the problem is that
> >>the original XO is 1MHz with 7490 divider, and now I need a divide by
> >>96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan
> >>out problem, but I am not aware what is the readily available divider
> >>to choose.

I really should have remembered the 74HC40103 presetable divider - I designed one into a circuit just a few years ago..... There is a fairly similar 40102.

My suggestion of the 74HC4059 was overkill by a hard-to-get part.

3643. Re: Can't get a response

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 20:58:38 UTC
From: swells8044@aol.com
Message-ID: <20031118155838.28460.00000486@mb-m14.aol.com>
Source record: 30860

Ive bought from them before no problems.
Steve

3644. Re: Can't get a response

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 21:07:39 UTC
From: brokebob@aol.com
Message-ID: <20031118160739.00715.00000517@mb-m28.aol.com>
Source record: 30861

Instructions say I might have to wait for up to two weeks. I have done that.
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

3645. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 21:52:19 UTC
From: la8ak.xnd@online.no
Message-ID: <3fba8f16.12940297@news.online.no>
Source record: 30862

On Tue, 18 Nov 2003 09:40:59 +0000 (UTC), Joe McElvenney
<ximac@btinternet.com> wrote:

>Hi,
>
> Have a look at the 74HCT40103 on the Philips site. Although
>the output is asymmetric, it will divide by any number between 2
>and 255.
>
>
> Cheers - Joe
>
>
Thanks for the suggestion, I've used CMOS for almost 30 years and only
use TTL when it is no other solution, one such device is with the 7493
as OH3LWR mention (believe it could divided by some strange factor,
too). problem is that I have hundreds of standard CMOS devices and
they usually (except Philips devices) goes near 10MHz. The reason for
choosing a down counter is to avoid asymmetrical output signal which
might upset the counter if the oscillatorboard has some distance from
the old dividers, but is still some 7490's left in the chain.

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/29a.htm
--
remove ,xnd to reply (Spam precaution!)

3646. Re: Readily available 10MHz divide by 96 10MHz down counter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 22:36:14 UTC
From: DRGrok@munged.net
Message-ID: <bpe6ro$76p$1@bob.news.rcn.net>
Source record: 30863

In article <3fb97355.196574478@news.online.no>, LA8AK,xnd@Online.NO wrote:
>Hi
>
>for my quite unstable counters I've got some 0.1ppm 9.6MHz VCXO's
>(guaranteed over temperature range -20...+20�C), the problem is that
>the original XO is 1MHz with 7490 divider, and now I need a divide by
>96 downcounter. The VCXO drives a 74LS14, so it shouldn't be any fan
>out problem, but I am not aware what is the readily available divider
>to choose. The counter is mentioned on
>http://home.online.no/~la8ak/m21.htm , but it is Norwegian text
>
>hpe 2 hr fm u
>
>73
>Jan-Martin, LA8AK
>http://home.online.no/~la8ak/d.htm
You can make a ÷3 out of a couple of J-K flip-flops, then use that to clock a 5 stage binary counter. That way you get 50% duty cycle square waves at 1.6 MHz, 800 kHz, etc. all the way down.

```
Just a suggestion -- there are many other ways.

Dr. G.
```

3647. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-18 23:55:45 UTC
From: la8ak.xnd@online.no
Message-ID: <3fbaae95.21004197@news.online.no>
Source record: 30864

On Mon, 17 Nov 2003 21:02:55 -0800, "Alfred Lorona"
<w6wqc@dslextreme.com> wrote:

>> which are the classics that the experienced members always
>> suggest
>
>Microwave Transistor Amplifiers by Guillermo Gonzalez for small signal
>design and Radio Frequency Transistors by Norm Dye and Helge Granberg for
>power amplifier design. Don't know if the latter is still in print. Check
>Opamp Technical Books at 1-800-468-4322.
>
>
RCA Solid-state-power circuits and Motorola RF Device Data are
considered to be very good books around here, and you usually don't
pay for them, even older books are valuable

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/b.htm
--
remove ,xnd to reply (Spam precaution!)

3648. hf superregen circuits wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 01:34:26 UTC
From: mr bruce johnson <brucej@alphalink.com.au>
Message-ID: <3fbac09f$1@news.alphalink.com.au>
Source record: 30865

hello all
i am seeking any transistor super regen circuits that you may have
that can be scanned and emailed, and or posted
anything appreciated
thanks bruce vk3mn

3649. Re: hf superregen circuits wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 02:04:59 UTC
From: Capoot <rlcap@xprt.net>
Message-ID: <vrljugsj34bt54@corp.supernews.com>
Source record: 30866

"mr bruce johnson" <brucej@alphalink.com.au> wrote in message
news:3fbac09f$1@news.alphalink.com.au...
> hello all
> i am seeking any transistor super regen circuits that you may have
> that can be scanned and emailed, and or posted
> anything appreciated
> thanks bruce vk3mn
>
Bruce,
Here is a link to John Hunter's website. He has researched and experimented
extensively with superregens.
http://www.users.bigpond.com/cool386/
Here is one of his transistor circuits:
http://www.users.bigpond.com/cool386/srrx.html
Another site:
http://www.somerset.net/arm/fm_only.html
Ray

3650. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 02:19:13 UTC
From: Andrew Tweddle <sarason@alphalink.com.au>
Message-ID: <3fbb7f08@news.alphalink.com.au>
Source record: 30876
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

```
Dave Hall wrote:
> Ed Price wrote:
>
>>"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
>>news:sjvhrvoi762669aj99kjrtuv7800547il6@4ax.com...
>>
>>>On Sun, 16 Nov 2003 23:30:40 -0800, "Ed Price" <edprice@cox.net>
>>>wrote:
>>>
>>>
>>>>Designing and building a product to provide many years of use, and then
>>>>capable of being repaired without access to unique components and/or
>>
>>exotic
>>
>>>>service equipment, is a concept so rare as to be thought a scam.
>>>
>>>Can anyone recommend a decent commercial vector network analyser and
>>>spectrum analyser that one can repair oneself if necessary and
>>>hopefully keep them up and running for ever?
>>>--
>>>
>>>"I expect history will be kind to me, since I intend to write it."
>>> -
>>
>>Winston Churchill
>>
>>For the spectrum analyzer part, the best a hobbyist can usually afford is an
>>HP-141, with a few plug-ins (IIRC, they offered a total of 6, collect the
>>whole set!). And you will need the HP manuals (some of which are available
>>free from the US Army LOGSA site). And you will need some other basic and
>>decent lab gear (scope, counter, DMM, sig gens) to do the job right.
>>
>>Sorry, but I can't comment on any Network Analyzers.
>
>
> This might be a bit off the exact topic but I have a friend who has a HP
> 141 and the horozontal display scan has shrunk and folded over on top of
> itself. Having never worked on test equipment, I could only offer
> generic possibilities, (Voltages, deflection transistors, caps?). Is
> there are common part failure that can cause this to the best of your
> knowlege?
>
```

> Thanks,
> Dave
>

Look at the 2W resistors and the output transistors in the output
deflection stages for a start.

Andrew

3651. Re: Why are SMA's so expensive?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 02:20:49 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbrlks0.275m.bit-bucket@localhost.config.com>
Source record: 30867

On Sun, 9 Nov 2003 08:06:41 -0500, John Walton hath writ:
> with what would appear to be a plethora of devices using SMA connectors,
> why are they still so expensive?

Just a guess: Because it is so labor intensive to remove the leads.

HI!HI!
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

3652. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 03:21:10 UTC
From: Gavin Jacobs <notasnoball@inhell.com>
Message-ID: <GkBub.91991$jy.39792@clgrps13>
Source record: 30868

Laura,
Judging from your Lat/Long, you're in BC right? So maybe you can help me.

I made an attempt to find EMRFD in Calgary and came up with this:
1) web page of Chapters.ca - no such ISBN
2) phone call to McNally Robinson bookstore - can't find it in their computer

So, did you buy your copy in Canada? If so where?

Any fellow canucks,
What is the best place in CA to order EMRFD?

Thanks,
Gavin

"Laura Halliday" <marsgal42@hotmail.com> wrote in message
news:d42b5a72.0311171349.2af8c204@posting.google.com...
> Wes Stewart <n7ws@_arrl.net> wrote in message
news:<7lrhrv4n8ir3s6u0muuhll15ne6o7pfo2k@4ax.com>...
>
> > I don't have that one but the predecessor was "Introduction to Radio
> > Frequency Design" by Haywood.
>
> Uh, no. EMRFD was positioned as the successor to
> Solid State Design for the Radio Amateur.
>
> Introduction to RF Design is an excellent book. But
> it's not related to EMRFD.
>
> My list of books I've found interesting and/or
> informative (not all electronics-related) is at
> <http://www.qsl.net/ve7ldh/reading.html>
>
> Laura Halliday VE7LDH "Que les nuages soient notre
> Grid: CN89mg pied a terre..."
> ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

3653. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 04:05:24 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bpeq64$kn7$1@freenet9.carleton.ca>
Source record: 30869

"Gavin Jacobs" (notasnoball@inhell.com) writes:
> Laura,
> Judging from your Lat/Long, you're in BC right? So maybe you can help me.
>
> I made an attempt to find EMRFD in Calgary and came up with this:
> 1) web page of Chapters.ca - no such ISBN
> 2) phone call to McNally Robinson bookstore - can't find it in their computer
>
> So, did you buy your copy in Canada? If so where?
>
> Any fellow canucks,
> What is the best place in CA to order EMRFD?
>
> Thanks,
> Gavin
>
Unless some of the big ham stores carry it, I suspect it's not off the shelf
anywhere in Canada. The audience is too limited, and I don't see it (yet)
making inroads to non-hams. Something like the ARRL Handbook shows up
in bookstores, but it's been around for decades and is often offered
as a good intro to electronics and/or construction, even to those not
interested in amateur radio.

Check the Radio Amateurs of Canada website at http://www.rac.ca They
have a list of places that sell their books, and those ham stores are
the places I might expect the book. But even then, as the technical side
of amateur radio fades, they may not bother stocking the technical books.

I bought an ARRL Handbook a couple of years ago from Radio HF here in
the Montreal area, but it turned out they didn't have it in stock, and I
had to wait while he collected enough orders to make an order to the ARRL
worthwhile. http://www3.sympatico.ca/radiohf When I ordered, he
was offering free shipping in order to entice those orders, so the
delay wasn't bothersome. But I haven't bothered asking him if he
has any in stock, and I'm not sure if there is any great reason
for ordering in Canada if you have to wait for a shipment from
the US first.

So, it might be simplest to order from the ARRL, http://www.arrl.org
I guess when I finally get around to it, I'll do it that way.

Michael VE2BVW

>
>
> "Laura Halliday" <marsgal42@hotmail.com> wrote in message

news:d42b5a72.0311171349.2af8c204@posting.google.com...
>> Wes Stewart <n7ws@_arrl.net> wrote in message
news:<7lrhrv4n8ir3s6u0muuhll15ne6o7pfo2k@4ax.com>...
>>
>> > I don't have that one but the predecessor was "Introduction to Radio
>> > Frequency Design" by Haywood.
>>
>> Uh, no. EMRFD was positioned as the successor to
>> Solid State Design for the Radio Amateur.
>>
>> Introduction to RF Design is an excellent book. But
>> it's not related to EMRFD.
>>
>> My list of books I've found interesting and/or
>> informative (not all electronics-related) is at
>> <http://www.qsl.net/ve7ldh/reading.html>
>>
>> Laura Halliday VE7LDH "Que les nuages soient notre
>> Grid: CN89mg pied a terre..."
>> ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte
>
>

3654. Re: Speaker Output Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 04:38:40 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311182038.6a638981@posting.google.com>
Source record: 30870

dplatt@radagast.org (Dave Platt) wrote in message
news:<vrj059esn9lm42@corp.supernews.com>...
>
> Getting proper, fine control of the volume level might be very
> difficult with this approach.

>
> Even if it "works pretty well", I'd be concerned about shoving audio
> distortion products out well away from the signal. This might not be
> too much of an issue for SSTV, which is using voice-grade bandwidth,
> but I _really_ wouldn't want to do it when working PSK31. One of
> PSK31's benefits is its extremely narrow spectrum width, when tuned
> properly.
>

you are quite right. about the intermod levels. i just ran a check on
my PC sound card and this is what i have to report:

1) audio output from the PC sound card is 1V v p-p. The mic input
required is 10mV (unless there is a built-in preamp in the mic, this
is common to some japanese rigs). Thus, u need a 1:100 attentuator. A
10K and a 100 ohms resistor in series would do the trick. I suggest
100 ohms so that the impedance into the mic remains low and noise
free. further, i would also suggest that u place a 1000pf across the
mic input close to the mic jack.

2) audio input required into the PC sound card is 10mV. This is as per
the PC sound specs in the web. If we assume about 50mW audio from the
transceiver across an 8 ohms load, we are looking at V = sqrt(0.050 *
8 * 2) ~ 500mV. I think that a similar attenuator will suffice at this
end too.

- farhan

3655. Looking for an omni-direction FM Transmitter antenna...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 04:57:33 UTC
From: braincambre500@yahoo.com
Message-ID: <85a87c6c.0311182057.44de2f1c@posting.google.com>
Source record: 30871

Hello all,

I would like to build the best all around omni-directional antenna,
that would have a good gain, in the FM broadcast band.

Any thoughts would be commended.

Sincerely,

Patrick Cambre

3656. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 12:42:21 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <KyJub.17708$cX1.3659@fed1read02>
Source record: 30872
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"gw" <gw@webhideout.com> wrote in message
news:235a74db.0311181043.1ff92777@posting.google.com...
> "Ed Price" <edprice@cox.net> wrote in message
news:<WFoub.16633$cX1.14167@fed1read02>...
> > "gw" <gw@webhideout.com> wrote in message

SNIP

> > >
> > > well ed what are your thoughts on a hp 8590? bueno o no bueno?
> >
> > A very good analyzer series, but generally still priced out of the
hobbyist
> > market. Reasonably portable, and ruggedly built. Performance is
generally a
> > bit lower than the 856x series, but still very respectable. Much more
useful
> > than a hobbyist-affordable 141 analyzer, and easier and more versatile
than
> > an older 8569 analyzer. Unless your needs are exotic, the 859x series
will
> > be a good industrial choice.
> >
> > Ed
> > wb6wsn
>
>
> well some guy who has a company that i guess is in the business of
> buying refurbing and selling electronic equipment has one on ebay for
> about $2100.00. should i cross my fingers and go for it? he takes
> credit cards. he says it is working very well, it looks real good
> according the pics he has of it and it has a fresh calibration.

I can't assess risk for you, but $2k sounds like a fair price for a good
condition 8590.

Ed
wb6wsn

3657. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 13:10:02 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <IYJub.17776$cX1.9237@fed1read02>
Source record: 30874
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Chuck Harris" <cfharris@erols.com> wrote in message
news:bpdblubpf1@bob.news.rcn.net...
> Ed Price wrote:
>
> > We were talking about repair and service equipment, not consumer items.
A
> > consumer item is expected to have a short life-cycle, and repairability
is
> > often not a concern.
>
> If you cannot see the relationship, then you need to stretch a bit.
>
> Everything in electronics, test equipment especially has grown in
> complexity and performance, as it has been reduced in size.

SNIP

> The "consumer grade" goodies in the test equipment market don't
> really need more than a simple calibration checking. I cannot tell
> you the last time my little Fluke DVM needed recalibration... Because it
> is 15 years old, and it has NEVER needed recalibration. Has something
> to do with the little fidgety custom components that are inside it.
> Same goes for my Tek 2465 scope.
>
> -Chuck
>

You keep mixing the needs of an enterprise with those of a hobbyist. True, many of the people on the groups of this thread are electronics professionals who also have an electronics hobby interest. My comments have all been aimed toward the hobbyist. If you have a 2465B scope (one of the finest analog scopes I have ever used), then you are one extremely wealthy hobbyist, and the economic constraints most everyone else lives by must not apply to you.

A hobbyist doesn't send anything "out" for calibration; they rely on the ability to cross-check their various gear with everything else in their collection. Sometimes, they might be able to compare one of their items with a professionally calibrated and traceable item. Or maybe they buy a new DMM, that's rated for 0.1% (whatever) and then proceed to adjust the rest of their stuff into agreement with that one new item.

My point is that old equipment is repairable. Your point is that newer equipment is chock full of value, more reliable, and is easier to lift. There's no contradiction between these positions.

BTW, your DVM always "needs" calibration, even if it is still within tolerance every time it's checked. Nice to know that it's stable, but nothing lives forever. As for "fidgety little components", should you ever apply a few watts of RF to the input of your 2465, you'll find it very difficult to repair by yourself, and the Tek bill for the job could very well approach the replacement cost. If the same had happened to a 465, then you would just be replacing a few small, precision resistors.

Ed
wb6wsn

3658. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 13:18:15 UTC
From: Dave Hall <nojunk_n3cvj@worldlynx.net>
Message-ID: <3FBB69C8.65@worldlynx.net>
Source record: 30873
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Ed Price wrote:
>
> "Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
> news:sjvhrvoi762669aj99kjrtuv7800547il6@4ax.com...
> > On Sun, 16 Nov 2003 23:30:40 -0800, "Ed Price" <edprice@cox.net>
> > wrote:
> >
> > >Designing and building a product to provide many years of use, and then
> > >capable of being repaired without access to unique components and/or
> exotic
> > >service equipment, is a concept so rare as to be thought a scam.
> >
> > Can anyone recommend a decent commercial vector network analyser and
> > spectrum analyser that one can repair oneself if necessary and
> > hopefully keep them up and running for ever?
> > --
> >
> > "I expect history will be kind to me, since I intend to write it."
> > -
> Winston Churchill
>
> For the spectrum analyzer part, the best a hobbyist can usually afford is an
> HP-141, with a few plug-ins (IIRC, they offered a total of 6, collect the
> whole set!). And you will need the HP manuals (some of which are available
> free from the US Army LOGSA site). And you will need some other basic and
> decent lab gear (scope, counter, DMM, sig gens) to do the job right.
>
> Sorry, but I can't comment on any Network Analyzers.

This might be a bit off the exact topic but I have a friend who has a HP
141 and the horozontal display scan has shrunk and folded over on top of
itself. Having never worked on test equipment, I could only offer
generic possibilities, (Voltages, deflection transistors, caps?). Is
there are common part failure that can cause this to the best of your
knowlege?

Thanks,
Dave

3659. FA: ATV Video Overlay w/ PC keyboard interface

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 13:49:18 UTC
From: sales@NOSPAM_STV5730A.co.uk
Message-ID: <94388CA95salesblackboxcamerac@news.virgin.net>
Source record: 30875
Cross-posted to: rec.radio.amateur.misc, rec.radio.amateur.equipment, rec.radio.amateur.homebrew, uk.radio.amateur, uk.tech.broadcast

The PIC STV5730A on screen display project board provides a simple platform for text over video applications. It is ideal for creating on screen displays for ATV applications such as callsign generation.

The unit offered for auction is a demo unit. There is some minor cosmetic damage to the enclosure.

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=2574471471&ssPageName=ADME:B:LC:UK:1

Simon Blake

3660. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 14:32:03 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpfut4dai1@bob.news.rcn.net>
Source record: 30877
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Hi Ed,

What I am NOT doing is trying to mix the needs of the hobbiest with the realities of companies that build for professionals. You are lamenting the fact that the newer gear is hard for hobbiests to maintain. That argument will go soft on HP or Tektronix, or any of several dozen other equipment manufacturers that make equipment for professionals.

The simple fact that your abilities at repair stop at thru hole, technology, doesn't mean that devices that use hybrids, and surface mount technology are not repairable. The hybrid front end on the 2465 is quite repairable, but requires a little optical help, just like watch repair, an 1800's tecnology. From what I have heard, most of the parts in the hybrid are standard off the shelf surface mount faire... I have no direct knowledge of whether this is actually true. I did find it to be the case with the output hybrid in HP's 86222A sweeper plugin.

There would be no more point in taking your busted 2465 to Tek for repair than there would be for your 465, they won't work on either.

Checked is not the same as calibration. The case doesn't even get opened for "checked".

And to your assertion that I am a rich hobbiest, I am not an electronics hobbiest at all! I am a self-employed electrical engineer, and I use the test equipment I own to earn a living. Sadly, for me electronics died as a hobby when I started getting paid to do it. The happy part is I truly enjoy my work!

-Chuck, WA3UQV

(I will admit that VERY obsolete electronics retains a hobby sort of thrill for me... Old tube gear, and old minicomputers.)

Ed Price wrote:
> You keep mixing the needs of an enterprise with those of a hobbyist. True,
> many of the people on the groups of this thread are electronics
> professionals who also have an electronics hobby interest. My comments have
> all been aimed toward the hobbyist. If you have a 2465B scope (one of the
> finest analog scopes I have ever used), then you are one extremely wealthy
> hobbyist, and the economic constraints most everyone else lives by must not
> apply to you.
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> ability to cross-check their various gear with everything else in their
> collection. Sometimes, they might be able to compare one of their items with
> a professionally calibrated and traceable item. Or maybe they buy a new DMM,
> that's rated for 0.1% (whatever) and then proceed to adjust the rest of
> their stuff into agreement with that one new item.
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> My point is that old equipment is repairable. Your point is that newer
> equipment is chock full of value, more reliable, and is easier to lift.
> There's no contradiction between these positions.
>
> BTW, your DVM always "needs" calibration, even if it is still within
> tolerance every time it's checked. Nice to know that it's stable, but
> nothing lives forever. As for "fidgety little components", should you ever
> apply a few watts of RF to the input of your 2465, you'll find it very
> difficult to repair by yourself, and the Tek bill for the job could very
> well approach the replacement cost. If the same had happened to a 465, then
> you would just be replacing a few small, precision resistors.
>
> Ed
> wb6wsn
>

3661. Re: Looking for an omni-direction FM Transmitter antenna...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 15:13:14 UTC
From: troglodite@aol.com
Message-ID: <20031119101314.16627.00000485@mb-m07.aol.com>
Source record: 30878

>
>I would like to build the best all around omni-directional antenna,
>that would have a good gain, in the FM broadcast band.
>

There are very few omni-directional antennas that also have gain. Are you using this for a transmitter or a receiver? If for a receiver, you also need some bandwidth, unless you want to concentrate on a small segment of the 10mHz band. For a part 15 transmitter, bear in mind there are some restrictions on antenna size.

I've gone through the same excercise on the 2m Amateur Radio band, in an effort to have as wide a coverage as possible without resorting to a directional beam.

My solution, which might also work for you, was a colinear array of three sections. You can find design information on the web or in the ARRL Antenna Handbook. For 100mHz, a 3 element colinear would be about 8 feet high. You could also use a J-Pole with colinear section which would only be about 6 feet high. The colinear requires a matching coaxial balun at the feedpoint, the J-Pole has a built-in matching stub and may be fed directly with 50-ohm coax. The disadvantage of these antennas is that they are fairly narrow band. You just can't get something for nothing these days. :-)

If you can't find colinear or J-pole information on the web, but this sort of antenna looks interesting to you, drop me a line and I will direct you to specific sources of information.

Doug Moore

3662. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 16:08:24 UTC
From: Gavin Jacobs <notachance@inhell.net>
Message-ID: <bAMub.108649$PD3.5598793@nnrp1.uunet.ca>
Source record: 30879

Thanks for the advice.

I had assumed that if Chapters didn't have it then Amazon wouldn't either,
but I was wrong on that. Turns out it was available from Amazon.ca, so
that's where I placed the order.

"Gavin Jacobs" <notasnoball@inhell.com> wrote in message
news:GkBub.91991$jy.39792@clgrps13...
> Laura,
> Judging from your Lat/Long, you're in BC right? So maybe you can help me.
>
> I made an attempt to find EMRFD in Calgary and came up with this:
> 1) web page of Chapters.ca - no such ISBN
> 2) phone call to McNally Robinson bookstore - can't find it in their
computer
>
> So, did you buy your copy in Canada? If so where?
>
> Any fellow canucks,
> What is the best place in CA to order EMRFD?
>
> Thanks,
> Gavin
>
>
>
> "Laura Halliday" <marsgal42@hotmail.com> wrote in message
news:d42b5a72.0311171349.2af8c204@posting.google.com...
> > Wes Stewart <n7ws@_arrl.net> wrote in message
news:<7lrhrv4n8ir3s6u0muuhll15ne6o7pfo2k@4ax.com>...
> >
> > > I don't have that one but the predecessor was "Introduction to Radio
> > > Frequency Design" by Haywood.
> >
> > Uh, no. EMRFD was positioned as the successor to
> > Solid State Design for the Radio Amateur.
> >
> > Introduction to RF Design is an excellent book. But
> > it's not related to EMRFD.
> >
> > My list of books I've found interesting and/or
> > informative (not all electronics-related) is at
> > <http://www.qsl.net/ve7ldh/reading.html>
> >
> > Laura Halliday VE7LDH "Que les nuages soient notre

> > Grid: CN89mg pied a terre..."
> > ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte
>
>

3663. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 17:06:57 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0311190906.a00ecaf@posting.google.com>
Source record: 30880

"Gavin Jacobs" <notasnoball@inhell.com> wrote in message
news:<GkBub.91991$jy.39792@clgrps13>...
> Laura,
> Judging from your Lat/Long, you're in BC right? So maybe you can help me.
>
> I made an attempt to find EMRFD in Calgary and came up with this:
> 1) web page of Chapters.ca - no such ISBN
> 2) phone call to McNally Robinson bookstore - can't find it in their computer
>
> So, did you buy your copy in Canada? If so where?
>
> Any fellow canucks,
> What is the best place in CA to order EMRFD?

Newington, Connecticut. :-)

I bought my copy of EMRFD directly from the ARRL.
Amazon.com have it too. I'd love to spend more
money at Chapters, but they seem to be more interested
in candles and such nowadays.

Books are duty free in to Canada (always have been),
and if you catch Canada Customs on a good day they
won't hit you for taxes either.

Laura Halliday VE7LDH "Que les nuages soient notre
Grid: CN89mg pied a terre..."
ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

3664. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 17:22:46 UTC
From: Dave Hall <nojunk_n3cvj@worldlynx.net>
Message-ID: <3FBBA45D.1191@worldlynx.net>
Source record: 30881
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Andrew Tweddle wrote:
>
> Dave Hall wrote:
> > Ed Price wrote:
> >
> >>"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
> >>news:sjvhrvoi762669aj99kjrtuv7800547il6@4ax.com...
> >>
> >>>On Sun, 16 Nov 2003 23:30:40 -0800, "Ed Price" <edprice@cox.net>
> >>>wrote:
> >>>
> >>>
> >>>>Designing and building a product to provide many years of use, and then
> >>>>capable of being repaired without access to unique components and/or
> >>
> >>exotic
> >>
> >>>>service equipment, is a concept so rare as to be thought a scam.
> >>>
> >>>Can anyone recommend a decent commercial vector network analyser and
> >>>spectrum analyser that one can repair oneself if necessary and
> >>>hopefully keep them up and running for ever?
> >>>--
> >>>
> >>>"I expect history will be kind to me, since I intend to write it."
> >>> -
> >>
> >>Winston Churchill
> >>
> >>For the spectrum analyzer part, the best a hobbyist can usually afford is an
> >>HP-141, with a few plug-ins (IIRC, they offered a total of 6, collect the
> >>whole set!). And you will need the HP manuals (some of which are available
> >>free from the US Army LOGSA site). And you will need some other basic and
> >>decent lab gear (scope, counter, DMM, sig gens) to do the job right.
> >>
> >>Sorry, but I can't comment on any Network Analyzers.
> >
> >
> > This might be a bit off the exact topic but I have a friend who has a HP
> > 141 and the horozontal display scan has shrunk and folded over on top of
> > itself. Having never worked on test equipment, I could only offer
> > generic possibilities, (Voltages, deflection transistors, caps?). Is
> > there are common part failure that can cause this to the best of your

> > knowlege?
> >
> > Thanks,
> > Dave
> >
>
> Look at the 2W resistors and the output transistors in the output
> deflection stages for a start.
>
> Andrew

Thank you!

Dave

3665. Re: Looking for an omni-direction FM Transmitter antenna...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 17:32:44 UTC
From: mcalhoun@ksu.edu
Message-ID: <bpg9fs$bos@unix2.cc.ksu.edu>
Source record: 30882

>I would like to build the best all around omni-directional antenna,
>that would have a good gain, in the FM broadcast band.

The following is a little long....

I've never made any bandwith measurements, but I've made and used several copper-pipe vertical collinear 2-meter antennas which have served satis-factorily (i.e., they have withstood ice-storms, I "get out", etc.) for many years. I don't recall where I got the original design, and, having just stepped outside and measured one, I'm surprized at how much my vertical element length differs from that described on page 156 of my old (1972) "Radio Amateur's VHF Manual", but I heartily recommend them for their ease of construction, ease of mounting, and ease of matching:

X Y Z (see sketches below)
VHF Manual # 1: 0.475L 0.25L small
2: 0.64L 0.11L small ("small" is never defined!)
where L (Lambda) = wavelength

Note that the total lengths of both designs is the same: about three half-wavelengths. The second design is an "extended double-Zepp" and supposedly gives slightly increased gained and lowered radiation angle.

The VHF manual suggests using balanced transmission line or coax and a balun, but I just use coax tapped on the horizontal part at the minimum-SWR point found by trial and error. (Mentally, I think of the impedance at the shorted end of the horizontal section as being zero ohms and the impedance at the open end being in the neighborhood of 4000 ohms and I start tapping at an appropriate distance between for 50-ohm coax!)

Assuming 146 Mhz and calculating L = 11200/Freq (MHz) = 76.7 inches
X Y Z
VHF Manual # 1: 36.4" 19.2 small
2: 49.1 8.4 small
Mine: 42.5" 19.5" 2.5"
where L (Lambda) = wavelength

I've made at least four of these things; basically, ONE 10-foot length of half-inch copper and four matching elbows should come out just right (allowing about a half-inch each direction for each joint, this takes 2x19+2x41=120 inches of pipe). But when I couldn't get the SWR down as far as I felt it should go (about 1.5:1), I extended both vertical sections with a few more inches of pipe.

My first modification substituted two T's for the two elbows at the open end and added a three-foot wooden dowel (with a just-fit diameter) extending about a foot and a half into each vertical section and crossing

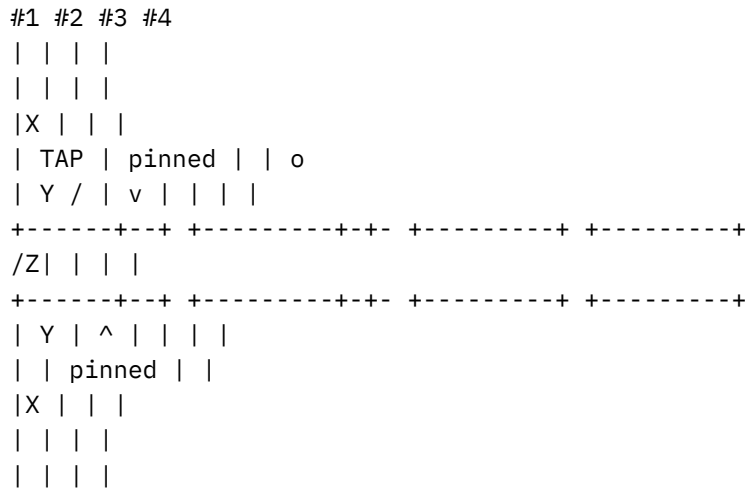
the "open" end for additional support.

I mounted my first one (#1 below) by (essentially) drilling a couple of holes through the short vertical pipe and nailing it to the wall! One could also lay U-shaped bracket(s) across the shorted end and screw them to the wall or clamp them to a tower. But some other designs (two of which use FOUR T's and NO elbows, and the third uses FIVE T's) give better mounting possibilities:

With design #2, the two horizontal copper-pipe stubs may either be inserted into holes drilled in a board and pinned by driving nails through the edges of the board into the stubs, or the holes may be drilled slightly UNDERsize in a pole and the stubs just driven into the holes.

Design #3 just gives more room for nails or clamps.

There is a little problem with wind trying to swing the antennas around the shorted end like a gate on a hinge, so design #4 adds a FIFTH T CROSSWISE to the plane of the rest of the copper and eliminates all swinging tendencies!



--Myron, W0PBV.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE (retired). "Barbershop" tenor. CDL(PTX). W0PBV. (785) 539-4448
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3666. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 17:56:39 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311190956.4e8ab325@posting.google.com>
Source record: 30883
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Chuck Harris <cfharris@erols.com> wrote in message news:<bpfut4dai1@bob.news.rcn.net>...
> Hi Ed,
>
> What I am NOT doing is trying to mix the needs of the hobbiest with
> the realities of companies that build for professionals. You are
> lamenting the fact that the newer gear is hard for hobbiests to
> maintain. That argument will go soft on HP or Tektronix, or any of
> several dozen other equipment manufacturers that make equipment for
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> mount technology are not repairable. The hybrid front end on the
> 2465 is quite repairable, but requires a little optical help, just
> like watch repair, an 1800's tecnology. From what I have heard, most
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> opened for "checked".
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> And to your assertion that I am a rich hobbiest, I am not an electronics
> hobbiest at all! I am a self-employed electrical engineer, and I use
> the test equipment I own to earn a living. Sadly, for me electronics
> died as a hobby when I started getting paid to do it. The happy part
> is I truly enjoy my work!
>
> -Chuck, WA3UQV
>
> (I will admit that VERY obsolete electronics retains a hobby sort of
> thrill for me... Old tube gear, and old minicomputers.)
>
> Ed Price wrote:
> > You keep mixing the needs of an enterprise with those of a hobbyist. True,
> > many of the people on the groups of this thread are electronics
> > professionals who also have an electronics hobby interest. My comments have
> > all been aimed toward the hobbyist. If you have a 2465B scope (one of the
> > finest analog scopes I have ever used), then you are one extremely wealthy

> > hobbyist, and the economic constraints most everyone else lives by must not
> > apply to you.
> >
> > A hobbyist doesn't send anything "out" for calibration; they rely on the
> > ability to cross-check their various gear with everything else in their
> > collection. Sometimes, they might be able to compare one of their items with
> > a professionally calibrated and traceable item. Or maybe they buy a new DMM,
> > that's rated for 0.1% (whatever) and then proceed to adjust the rest of
> > their stuff into agreement with that one new item.
> >
> > My point is that old equipment is repairable. Your point is that newer
> > equipment is chock full of value, more reliable, and is easier to lift.
> > There's no contradiction between these positions.
> >
> > BTW, your DVM always "needs" calibration, even if it is still within
> > tolerance every time it's checked. Nice to know that it's stable, but
> > nothing lives forever. As for "fidgety little components", should you ever
> > apply a few watts of RF to the input of your 2465, you'll find it very
> > difficult to repair by yourself, and the Tek bill for the job could very
> > well approach the replacement cost. If the same had happened to a 465, then
> > you would just be replacing a few small, precision resistors.
> >
> > Ed
> > wb6wsn
> >

does that mean you still have some use for trash 80's?

3667. Re: Looking for an omni-direction FM Transmitter antenna...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 18:53:29 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311191053.36e4e99a@posting.google.com>
Source record: 30884

As Doug mentioned, it's not so easy to get 20% (20MHz centered at 98MHz) bandwidth and gain and "omnidirectionality". Of course, it can't be truely omni and have gain: best you can hope for is omni in the horizontal plane.

That said, the next issue is "best all around". What exactly do you mean by that? How much gain is "good"?

If I were doing it and needed it to cover the whole 20MHz, I'd stack however many full-wave vertical doublets I could manage and feed them with a harness to keep the feeds in-phase. I'd separate them vertically by enough to keep the mutual coupling moderately low and perhaps experiment with that (or model it) to optimize the phase of the mutual coupling. I'd probably make the doublets with fairly large diameter tubing, or use a "bowtie" arrangement, to keep bandwidth high.

If I was concerned with only one frequency, or a narrow band, I'd use a coaxial collinear because it's relatively easy to build and mount and feed and get working properly (IF you understand how it works). That's assuming I wanted to use at least four elements; fewer than that and it's probably not worth the effort.

But also beware that the vertical collinears will give you vertical polarization and that may not be what you want!

Cheers,
Tom

braincambre500@yahoo.com (Patrick) wrote in message news:<85a87c6c.0311182057.44de2f1c@posting.google.com>...
> Hello all,
>
> I would like to build the best all around omni-directional antenna,
> that would have a good gain, in the FM broadcast band.
>
> Any thoughts would be commended.
>
> Sincerely,
>
> Patrick Cambre

3668. Re: Looking for an omni-direction FM Transmitter antenna...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 19:55:11 UTC
From: averyfineman@aol.com
Message-ID: <20031119145511.23307.00004422@mb-m29.aol.com>
Source record: 30885

In article <85a87c6c.0311182057.44de2f1c@posting.google.com>,
braincambre500@yahoo.com (Patrick) writes:

>I would like to build the best all around omni-directional antenna,
>that would have a good gain, in the FM broadcast band.
>
>Any thoughts would be commended.

FM broadcast is usually horizontally polarized. You can borrow from
the small general aviation "rudder" antenna for the VHF 108-137 MHz
civil aviation band.

That one is two half-wave whips at right angles in the horizontal
plane on the plane's vertical stabilizer. Feed it like a half-wave
dipole. Impedance will be somewhere near 75 Ohms; in aircraft
installations that depends on the vertical stabilizer structure.
Has a fairly good omnidirectional pattern.

It's easy to scale up slightly in size to the FM band. Transmission
levels beyond Part 15 regulations is illegal.

Len Anderson
retired (from regular hours) electronic engineer person

3669. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 19:57:51 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpgi00frr1@bob.news.rcn.net>
Source record: 30886
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

gw wrote:
> Chuck Harris <cfharris@erols.com> wrote in message
news:<bpfut4dai1@bob.news.rcn.net>...

>>-Chuck, WA3UQV

> does that mean you still have some use for trash 80's?

Way too new! I'm more interested in old PDP 8, stuff, 8/I's
in particular. Things that have absolutely no practical use ;-)

-Chuck

3670. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 20:41:18 UTC
From: Bill Higdon <w.higdon@attbi.com>
Message-ID: <3FBBD56A.7020905@attbi.com>
Source record: 30887
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Chuck Harris wrote:
> gw wrote:
>
>> Chuck Harris <cfharris@erols.com> wrote in message
>> news:<bpfut4dai1@bob.news.rcn.net>...
>
>
>>> -Chuck, WA3UQV
>>
>
>> does that mean you still have some use for trash 80's?
>
>
>
> Way too new! I'm more interested in old PDP 8, stuff, 8/I's
> in particular. Things that have absolutely no practical use ;-)
>
> -Chuck
>

So Chuck your looking for a Trash 8/E rather than a Trash 80. BTW my
Trash 80 was a real Trash 80. R.S said it was uneconomical to repair,
read out of warrenty replaced a bad ttl chip and away it went. A friend
reworked the firmware to get rid of the infamous keyboard and cassette
problems(we rescued 8 of them from that dumpster).
Bill

3671. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 21:00:51 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpglm4ngf1@bob.news.rcn.net>
Source record: 30888
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Bill Higdon wrote:
> Chuck Harris wrote:

>
> So Chuck your looking for a Trash 8/E rather than a Trash 80. BTW my
> Trash 80 was a real Trash 80. R.S said it was uneconomical to repair,
> read out of warrenty replaced a bad ttl chip and away it went. A friend
> reworked the firmware to get rid of the infamous keyboard and cassette
> problems(we rescued 8 of them from that dumpster).
> Bill
>

Snort! That's a good one! I spent too much time using the original
TRS-80 to ever really want one. In one of my first consulting jobs
I wrote a bunch of drivers for a customer's Z80 controlled instrument
using the customer's TRS-80 as the development system. It worked just
fine, I guess... it got the job done, but I never did like it all that
much. I kind of liked the TRS80 IV, I think it was, that came out much
later.

-Chuck

3672. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 22:14:59 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <bpgq40$d7l$1@newshost.mot.com>
Source record: 30889
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

FYI: I still use the Color Computer to do laser light shows.
Steve, k,9,d,c,i

"Chuck Harris" <cfharris@erols.com> wrote in message
news:bpgi00frr1@bob.news.rcn.net...
> gw wrote:
> > Chuck Harris <cfharris@erols.com> wrote in message
news:<bpfut4dai1@bob.news.rcn.net>...
>
> >>-Chuck, WA3UQV
>
> > does that mean you still have some use for trash 80's?
>
>
> Way too new! I'm more interested in old PDP 8, stuff, 8/I's
> in particular. Things that have absolutely no practical use ;-)
>
> -Chuck
>

3673. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-19 23:01:59 UTC
From: - - Bill - - <exray@coquidotnet>
Message-ID: <vrntjcjl36srb6@corp.supernews.com>
Source record: 30890
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Steve Nosko wrote:
> FYI: I still use the Color Computer to do laser light shows.
> Steve, k,9,d,c,i

Good for you! I really felt stupid seeing mine in the trash can only a year or two after having paid $300 for it.
Shoulda kept it? Nah.
Still have that little pocket version with 4k RAM, though. It'll come in handy someday :-)
-Bill M

3674. Re: hf superregen circuits wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 01:16:55 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <bph4j3buo1@maud.ifi.uio.no>
Source record: 30891

> i am seeking any transistor super regen circuits that you may have

The superregenerative receiver is usually used at VHF.

At HF, the regenerative receiver is more common. I built the WBR 40 meter
regen by N1BYT (QST Aug 2001) recently with good results.

--
Sverre Holm, LA3ZA
---
www.qsl.net/la3za

3675. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 01:44:12 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311191744.896f65f@posting.google.com>
Source record: 30892
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Chuck Harris <cfharris@erols.com> wrote in message news:<bpgi00frr1@bob.news.rcn.net>...
> gw wrote:
> > Chuck Harris <cfharris@erols.com> wrote in message
news:<bpfut4dai1@bob.news.rcn.net>...
>
> >>-Chuck, WA3UQV
>
> > does that mean you still have some use for trash 80's?
>
>
> Way too new! I'm more interested in old PDP 8, stuff, 8/I's
> in particular. Things that have absolutely no practical use ;-)
>
> -Chuck

perhaps one of you guys can tell me this. when you see a unit on ebay
and it says fresh calibration, what exactly does this mean to me as
the buyer? does this mean it will probably be operating ok for a few
years or is this something that has to be done yearly? for the home
shop hobbyist ? thanks.

3676. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 09:38:06 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <ZX%ub.18357$cX1.8301@fed1read02>
Source record: 30893
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"gw" <gw@webhideout.com> wrote in message
news:235a74db.0311190956.4e8ab325@posting.google.com...
> Chuck Harris <cfharris@erols.com> wrote in message
news:<bpfut4dai1@bob.news.rcn.net>...

SNIP
>
> does that mean you still have some use for trash 80's?

Sorry, I never had much use for TRS-80's. But I do have a Commodore PET; a very original one (with the black tape deck). It has an IEEE-488 port, and a Basic that can control any IEEE-488 instrument. And, considering that it has a built-in monochrome monitor, it qualifies as a genuine boat-anchor, since it glows in the dark. <g>

Ed

3677. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 09:48:58 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <960vb.18358$cX1.2762@fed1read02>
Source record: 30894
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"gw" <gw@webhideout.com> wrote in message
news:235a74db.0311191744.896f65f@posting.google.com...
> Chuck Harris <cfharris@erols.com> wrote in message
news:<bpgi00frr1@bob.news.rcn.net>...
> > gw wrote:
> > > Chuck Harris <cfharris@erols.com> wrote in message
news:<bpfut4dai1@bob.news.rcn.net>...
> >
> > >>-Chuck, WA3UQV
> >
> > > does that mean you still have some use for trash 80's?
> >
> >
> > Way too new! I'm more interested in old PDP 8, stuff, 8/I's
> > in particular. Things that have absolutely no practical use ;-)
> >
> > -Chuck
>
> perhaps one of you guys can tell me this. when you see a unit on ebay
> and it says fresh calibration, what exactly does this mean to me as
> the buyer? does this mean it will probably be operating ok for a few
> years or is this something that has to be done yearly? for the home
> shop hobbyist ? thanks.

A commercial calibration implies no warranty of future reliability. It just means that the unit was inspected, by a lab with traceable standards (to NIST), and that equipment parameters were found to be within the specified tolerances (or some adjustments we made to allow for proper performance).

Every equipment should be on a periodic schedule of calibration, possibly 6 months or 12 months. The interval is determined by the original manufacturer's declaration, or from the class of equipment (is it a resistor or a function generator or an oscilloscope), or from the accumulated record of a device's calibration history. (A Metrology professional can make a case for shorter or longer intervals, based on a review of the calibration history.)

The calibration is valid as of that date only, although it's reasonable to expect that the calibration will be valid for some time to come (unless the shipper dropped it as it went out the cal lab's door!).

All that said, a traceable calibration is an indication that the equipment has been treated in a professional manner, and I would view that as a definite plus when considering a purchase.

Ed
WB6WSN

3678. Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 10:06:28 UTC
From: jvereker@wp.pl
Message-ID: <25102a3d.0311200206.3fd3957d@posting.google.com>
Source record: 30895

Hello,

I'm trying to find some simple receiver (or at least a converter)
project for 440 or 144 MHz to build. I'm interested in CW mode. But
there's nothing.
Is it very hard to build something for 70 cm or there are another
reasons, that I can't find anything?

jvereker@wp.pl

3679. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 10:13:51 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <wt0vb.18359$cX1.6346@fed1read02>
Source record: 30896
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Chuck Harris" <cfharris@erols.com> wrote in message
news:bpfut4dai1@bob.news.rcn.net...
> Hi Ed,
>
> What I am NOT doing is trying to mix the needs of the hobbiest with
> the realities of companies that build for professionals. You are
> lamenting the fact that the newer gear is hard for hobbiests to
> maintain. That argument will go soft on HP or Tektronix, or any of
> several dozen other equipment manufacturers that make equipment for
> professionals.

That's my opinion. Do I care what Agilent or Tektronix thinks? Gee, do they care what I think? And why are YOU worried about their feelings? Sounds like your nose if pretty far up somebody's butt!

> The simple fact that your abilities at repair stop at thru hole,
> technology, doesn't mean that devices that use hybrids, and surface
> mount technology are not repairable.

By the average hobbyist? I don't think so!!!!!!!!!!

> The hybrid front end on the
> 2465 is quite repairable, but requires a little optical help, just
> like watch repair, an 1800's tecnology.

Sorry, I don't do watches. A "little optical help" isn't a magnifying lens in a fluorescent work light. SM work calls for something like a B&L stereo viewer, and that's as expensive as a very decent oscilloscope. BTW, turn on your spell checker, a 1980's technology.

> From what I have heard, most
> of the parts in the hybrid are standard off the shelf surface mount
> faire... I have no direct knowledge of whether this is actually true.

Well, don't let lack of direct knowledge slow down your opinions.

SNIP

> And to your assertion that I am a rich hobbiest, I am not an electronics
> hobbiest at all! I am a self-employed electrical engineer, and I use
> the test equipment I own to earn a living. Sadly, for me electronics
> died as a hobby when I started getting paid to do it. The happy part
> is I truly enjoy my work!

I wish you enjoyed reading the thread as well. I said you were either a professional or a very rich hobbyist (as you had declared ownership of some

nice gear). OK, you are a professional. Do you hear me now? YOU ARE A PROFESSIONAL!

> -Chuck, WA3UQV
>
> (I will admit that VERY obsolete electronics retains a hobby sort of
> thrill for me... Old tube gear, and old minicomputers.)

Well, that's a good sign, as we have been yakking about this in the boatanchors (and more) group. This is a hangout for hobbyists and very frugal professionals.

Ed
WB6WSN

3680. Re: Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 13:00:27 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <LV2vb.192288$mZ5.1420438@attbi_s54>
Source record: 30797

"Julian Vereker" <jvereker@wp.pl> wrote in message
news:25102a3d.0311200206.3fd3957d@posting.google.com...
> Hello,
>
> I'm trying to find some simple receiver (or at least a converter)
> project for 440 or 144 MHz to build. I'm interested in CW mode. But
> there's nothing.
> Is it very hard to build something for 70 cm or there are another
> reasons, that I can't find anything?
>
> jvereker@wp.pl

Julian,

I do not know where you are looking.

IF you have an HF transceiver there are VHF transverters available from both
Ten-Tec and Elecraft

http://www.tentec.com/Amateur.htm

Elecraft will have a 440 transverter available in the near future
http://www.elecraft.com/XV/XV.htm

Hamtronics - VHF and UHF kits since 1962
Receive converter kits (less enclosure) are only $ 49 USD
http://www.hamtronics.com/

Greg
w9gb

3681. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 14:00:40 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpihe9$7ev$1@bob.news.rcn.net>
Source record: 30798
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Fresh calibration, should mean that it was fully tested out,
cleaned and calibrated by a technician who knew what he was
doing....

What it actually means is anybodies guess. It could be actually
calibrated, it could be that the guy bought it surplus, turned
it on, and it lit up.

The words "fresh calibration" without an express warranty are
worthless.

Most anything Tektronix or HP made will stay in calibration to
close enough for hobbiest use for years.

A real bonifide business won't be comfortable using test equipment
that is out of calibration for anything very important. It is
their assurance that all of the functions should be working properly.

-Chuck, WA3UQV

gw wrote:

> perhaps one of you guys can tell me this. when you see a unit on ebay
> and it says fresh calibration, what exactly does this mean to me as
> the buyer? does this mean it will probably be operating ok for a few
> years or is this something that has to be done yearly? for the home
> shop hobbyist ? thanks.

3682. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 14:47:32 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bpik66$dg9$1@bob.news.rcn.net>
Source record: 30799
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Ed Price wrote:

> That's my opinion. Do I care what Agilent or Tektronix thinks? Gee, do they
> care what I think? And why are YOU worried about their feelings? Sounds like
> your nose if pretty far up somebody's butt!

You should care. Unless you suddenly start building your own test
equipment, you are going to be "stuck" with using equipment geared
toward professionals, and manufactured by companies like HP(Agilent)
or tektronix.

OBTW, can you think of a less vulgar way of expressing your opinions?

I have no financial interest in any test equipment manufacturer. They
don't give me special favors, or punishments for stating my opinions.

>>The simple fact that your abilities at repair stop at thru hole,
>>technology, doesn't mean that devices that use hybrids, and surface
>>mount technology are not repairable.
>
>
> By the average hobbyist? I don't think so!!!!!!!!!!

The "average hobbyist" once made complete radios from hunks
of rock, metal and wood. A pretty extreme feat for the time.
Now if it requires a little study, or the acquisition of some
special skill, or tools, it is deemed impossible.

>
>>The hybrid front end on the
>>2465 is quite repairable, but requires a little optical help, just
>>like watch repair, an 1800's tecnology.
>
>
> Sorry, I don't do watches. A "little optical help" isn't a magnifying lens
> in a fluorescent work light. SM work calls for something like a B&L stereo
> viewer, and that's as expensive as a very decent oscilloscope. BTW, turn on
> your spell checker, a 1980's technology.
>

At least when I post, my spelling is the result of my own efforts.
Yours, apparently, comes from the efforts of a machine. I don't
think it hurt your eyes all that much to stumble over one of my very
few typo's. When you type at over 100WPM, a few will sneak in now and
then.

The parts in these hybrids are very large compared with mechanical watch
parts. A cheapy stereo dissection microscope works very nicely...
easily had for $250 new, or $100 on ebay. Back in the days of yore,
adjusted to today's dollar, a soldering gun cost as much.
>
>>From what I have heard, most
>>of the parts in the hybrid are standard off the shelf surface mount
>>faire... I have no direct knowledge of whether this is actually true.
>
>
> Well, don't let lack of direct knowledge slow down your opinions.

You have some direct knowledge that says differently? I know that there
will be some parts that are special, but I doubt all are. I have
several friends that do a good business repairing these "special"
hybrids, they aren't great big companies, just individual hams that saw
a market.

I haven't needed to go inside the hybrids on my 2465, mostly because I
don't put my scope into positions where it is likely it will get zapped.

>>And to your assertion that I am a rich hobbiest, I am not an electronics
>>hobbiest at all! I am a self-employed electrical engineer, and I use
>>the test equipment I own to earn a living. Sadly, for me electronics
>>died as a hobby when I started getting paid to do it. The happy part
>>is I truly enjoy my work!
>
>
> I wish you enjoyed reading the thread as well. I said you were either a
> professional or a very rich hobbyist (as you had declared ownership of some
> nice gear). OK, you are a professional. Do you hear me now? YOU ARE A
> PROFESSIONAL!
>

REALLY?

------ your exact words------------
.............................If you have a 2465B scope (one of the
finest analog scopes I have ever used), then you are one extremely wealthy
hobbyist, and the economic constraints most everyone else lives by must
not apply to you.
------ your exact words -----------

Stop trying to bend the record to make me look bad, and you look good.

>>(I will admit that VERY obsolete electronics retains a hobby sort of
>> thrill for me... Old tube gear, and old minicomputers.)
>
>
> Well, that's a good sign, as we have been yakking about this in the
> boatanchors (and more) group. This is a hangout for hobbyists and very
> frugal professionals.

It is a hangout for people with an interest in boatanchors, nothing more, nothing less.

-Chuck, WA3UQV

3683. Re: Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 14:54:35 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bpikhd$e7k$1@bob.news.rcn.net>
Source record: 30800

"G.Beat" <now9spamgb@spam.comcast.net> wrote in message
news:LV2vb.192288$mZ5.1420438@attbi_s54...
> "Julian Vereker" <jvereker@wp.pl> wrote in message
> news:25102a3d.0311200206.3fd3957d@posting.google.com...
> > Hello,
> >
> > I'm trying to find some simple receiver (or at least a converter)
> > project for 440 or 144 MHz to build. I'm interested in CW mode. But
> > there's nothing.
> > Is it very hard to build something for 70 cm or there are another
> > reasons, that I can't find anything?
> >
> > jvereker@wp.pl
>
> Julian,
>
> I do not know where you are looking.
>
> IF you have an HF transceiver there are VHF transverters available from
both
> Ten-Tec and Elecraft
>
> http://www.tentec.com/Amateur.htm
>
> Elecraft will have a 440 transverter available in the near future
> http://www.elecraft.com/XV/XV.htm
>
> Hamtronics - VHF and UHF kits since 1962
> Receive converter kits (less enclosure) are only $ 49 USD
> http://www.hamtronics.com/

Or, better, Down-East Microwave in New Jersey. They sell kits for 50 MHz
and up, up, up.

http://www.downeastmicrowave.com/

Reliable outfit, reliable gear. They've been at it for many years.

3684. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 15:00:18 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311200700.14f63911@posting.google.com>
Source record: 30801
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message news:<ZX%ub.18357$cX1.8301@fed1read02>...
> "gw" <gw@webhideout.com> wrote in message
> news:235a74db.0311190956.4e8ab325@posting.google.com...
> > Chuck Harris <cfharris@erols.com> wrote in message
> news:<bpfut4dai1@bob.news.rcn.net>...
>
> SNIP
> >
> > does that mean you still have some use for trash 80's?
>
> Sorry, I never had much use for TRS-80's. But I do have a Commodore PET; a
> very original one (with the black tape deck). It has an IEEE-488 port, and a
> Basic that can control any IEEE-488 instrument. And, considering that it has
> a built-in monochrome monitor, it qualifies as a genuine boat-anchor, since
> it glows in the dark. <g>
>
> Ed

damn ....commodores.....i almost forgot about them......do you
remember the compaq 'portable' that about broke your back when you
carried it?

3685. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 16:55:01 UTC
From: Dave VanHorn <dvanhorn@cedar.net>
Message-ID: <zu2dnUvM-P9GbCGiRVn-jg@comcast.com>
Source record: 30802
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

> By the average hobbyist? I don't think so!!!!!!!!!!!

I work on SMD all the time. All that's needed is a 40W temperature controlled iron, a roll of good solder braid, and 63/37 solder with internal no-clean flux.
I go down as far as 0402 components, which look like sand, and have replaced 100 pin QFP chips without problem. BGAs are where the hobbyist becomes incapable of working on them. (Ball Grid Arrays)

3686. Re: Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 19:24:48 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000f2.00122ff3@btinternet.com>
Source record: 30803

Julian,

No, it is not particularly difficult to build for 144/432 MHz.
All you need are good low-noise devices, short leads and a little
determination, which I'm sure you have plenty of. For starters,
why not have a look at the simple 144 to 30MHz converter on this
site -

http://homepage.tinet.ie/~ei9gq/vhf_conv.html

This should give you an idea of the style of construction
needed. The only component that you may have trouble with is the
overtone crystal but there are other ways of achieving the same
end.

73 de Joe, G3LLV

3687. New version of APRSPoint available with MapPoint 2004

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-20 20:17:34 UTC
From: hxc98@yahoo.com
Message-ID: <aa8577c5.0311201217.5fb14c27@posting.google.com>
Source record: 30804

A new version of APRSPoint is available. It incorporates a lot of new changes and enhancements and works with both MapPoint 2002 and 2004. MapPoint 2004 was just released by Microsoft and is available as part of the package. It contains lots of new additional map data for North America and Europe. You are welcome to visit http://www.aprspoint.com/ for details. Thanks.

3688. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 01:51:52 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <Uq2dnQeizLV4_CCiRVn-hg@ctc.net>
Source record: 30805
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

```
">
> damn ....commodores.....i almost forgot about them......do you
> remember the compaq 'portable' that about broke your back when you
> carried it?

Yes, and I came within one day of throwing one down some stairs to put it
out of service so I could get a laptop at work.
```

3689. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 03:04:30 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FBD80BE.43BC3F3E@clifto.com>
Source record: 30806
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

gw wrote:
> damn ....commodores.....i almost forgot about them......do you
> remember the compaq 'portable' that about broke your back when you
> carried it?

Repaired one once. Hell of a time finding a diode for the power supply.

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis
to comply with their own agreements and with international law. Given that,
what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

3690. hi-speed op amps for RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 03:07:09 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FBD815D.24F2A2F9@clifto.com>
Source record: 30807

I found some jellybeans (LM318TC) with 10 MHz GBW product and I plan to play. Anyone have any tips for doing RF with jellybean ICs?

These might be a bit noisy for microvolt stuff, but I plan to start with IF frequencies and move on as the play permits.

Also, anyone play with the new generation of fifty-cent jellybean 100+ MHz amplifiers?

--
"Look, we have exhausted virtually all our diplomatic effort to get the Iraqis to comply with their own agreements and with international law. Given that, what other option is there but to force them to do so?"
-- Tom Daschle, Feb. 11, 1998

3691. Re: hi-speed op amps for RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 05:49:27 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bpk917hth1@freenet9.carleton.ca>
Source record: 30808

"Clifton T. Sharp Jr." (clifto@clifto.com) writes:
> I found some jellybeans (LM318TC) with 10 MHz GBW product and I plan to
> play. Anyone have any tips for doing RF with jellybean ICs?
>
> These might be a bit noisy for microvolt stuff, but I plan to start with
> IF frequencies and move on as the play permits.
>
> Also, anyone play with the new generation of fifty-cent jellybean 100+ MHz
> amplifiers?
>
Those were pretty good thirty years ago, and even the late seventies, but
the LM318 is pretty puny at this point. Not only are there much better
op-amps, but you couldn't do all that much with the 10MHz spec (just more
than the 741 decades ago).

I really don't know the state of high speed op-amps today, but I think
I'd go directly to them if I needed them.

Michael VE2BVW

3692. Connex 3300 Cb Radio FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 19:13:50 UTC
From: mrnmrscody@aol.com
Message-ID: <20031121141350.28617.00000557@mb-m11.aol.com>
Source record: 30809

I have a Connex 3300 radio that i am willing to sell. The radio is in good working condition. It has a roger beep installed, with a switch for it on the right side of the radio. It also has a toy that honks a semi horn 2 time then says "Hey get out of the way stupid!". I have a road king mic for it. It will aslo come with a midland external speaker for it. The radio has Am/Fm band and PA. It has 240 channels.
I had it listed on E-bay and the auction was ended, becuase it is a problematic radio since it is considered a 10 meter radio. But if you are intrested in buying it feel free to E-mail me at "mrnmrscody@aol.com". The radio is about 6 month old, unfortunatley my house burned down sept. 26 and I do not have the original box or paper. Radio was saved since it was in my big truck! I hate to sell it but with everything going on in my life I am forced to sell it.

Steve Cody II
mrnmrscody@aol.com

3693. vhf pcb stripline swr plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 20:46:18 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1069447877.720945@smtp-1.griffin.com>
Source record: 30810

In particular looking for dia/pcb layout, or the dimensions of, the sense head...ie of the strip lines, so that i can make swr meter..looking for compact design, to take about 200w max. someone must have some/point me to some plans..(save me having to think..)the rest is made, going to use it for swr protect on an amp, so when i knock the antenna off my van again i dont blow up $100 worth of transistors!!! moral here..slow down for low bridges..

thanks g0zen

3694. Re: hi-speed op amps for RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 20:58:01 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311211258.499bb6a3@posting.google.com>
Source record: 30811

"Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:<3FBD815D.24F2A2F9@clifto.com>...
...
> Also, anyone play with the new generation of fifty-cent jellybean 100+ MHz
> amplifiers?

I've been playing with/using things like the OPA685, THS4302RG and
AD8351. I'll probably try the AD8099, but suspect it won't go low
enough in distortion at 40MHz. My holy grail is better than -80dBc
second and third harmonics at 50MHz and 2V p-p output, and
input-referred voltage noise down in the 1-2nV/rtHz region. But I
suppose that I'll never be completely happy, as the bar will move
higher as fast ADC resolution and distortion improve. As for ADCs,
I'm hoping for 18 useful bits at 100Ms/s in monolithic, and would
welcome 20 bits or more. We've done 23 bits at 20Ms/s for a long time
now, but it's a tad pricey.

Cheers,
Tom

3695. Re: vhf pcb stripline swr plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-21 22:32:19 UTC
From: Gary Cavie <m0jjh@despammed.com>
Message-ID: <MPG.1a28a2cf8dff766a9896ce@news.individual.net>
Source record: 30812

In article <1069447877.720945@smtp-1.griffin.com>, zen@lineisp.co.uk
says...
> In particular looking for dia/pcb layout, or the dimensions of, the sense
> head...ie of the strip lines, so that i can make swr meter..looking for
> compact design, to take about 200w max. someone must have some/point me to
> some plans..(save me having to think..)the rest is made, going to use it for
> swr protect on an amp, so when i knock the antenna off my van again i dont
> blow up $100 worth of transistors!!! moral here..slow down for low
> bridges..
>
> thanks g0zen
>
>
>

May be of some use - Harry's Homebrew Pages -
http://w1.859.telia.com/~u85920178/

Has a PCB VSWR bridge listed under useful circuits. According to the
text, should run up to 100w, but could well be a starting point for
further investigation

Gary

3696. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 02:29:19 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <SRzvb.631$87.470@bignews6.bellsouth.net>
Source record: 30813

Paul Burridge wrote:
> Hi gang,
>
> I've never had a lot of luck with GDMs for some reason. Even with a
> decent meter, it seems such a drag tuning across such a vast range
> looking for a tiny, easily-missed dip which you have to screw out of
> the meter by forcing the sensing coil so far into the circuit
> concerned you practically break the circuit board. Am I alone in
> finding this potentially invaluable device practically useless in
> practice? Is there a more viable alternative?
>
> p.
I've built several GDO's over the years. My favorite circuit is the old standby using a split stator variable capacitor and a shunt fed coplets oscillator. This capacitor can be 100-250 pf per section. My favorite tube is the 6CW4 nuvistor, though a 6DV4 might
be a better choice at VHF. I put a TO-5 transistor heat sink over the tube fearing it might run hot! I use a cathode resistor of about 150-330 ohms (un-bypassed) and connect a bnc connector to the cathode via a 1000pf capacitor to steal a little signal to drive my frequency counter. With the counter set for low level input I get good drive up to about 100mhz or so. My coil socket is an RCA (phono) connector and the coils use a matching plug. A better idea might be to use a 3 pin DIN plug and socket, this allows for a ground connection to go to a coil center tap. If you add the center tap the circuit will work below 1.5mhz with proper coils, otherwise it will not oscillate below this frequency! (Having coils that go to 455khz would be nice to test if stages). Power supply used two 6.3v 300ma filament transformers back to back with a bridge rectifier. You can find transformers small enough to fit the supply into a box small enough to house the instrument, yet not too big to be hand hold-able. The coils can be wound on 1/4" or 3/8" plastic water line intended for ice maker use. These will fit into small places. Use of peaking chokes in the plate and filament lines can help eliminate "drop outs" in frequency coverage. Sensitivity can be adjusted with a plate pot, or put the pot in the meter circuit. I have used sub-mini meters salvaged from old jap tape recorders (vu-meters). These are typically around 500ua sensitivity. See my web site at www.qsl.net/wa2mze.

3697. FS: Philips BGA2031/1 MMIC variable gain amps

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 03:08:12 UTC
From: Mike Adams <adams@ftdsb.com>
Message-ID: <3FBEDF80.70109@ftdsb.com>
Source record: 30814
Cross-posted to: sci.electronics.design,sci.research.careers,sci.physics.relativity,rec.ham-radio,rec.radio.amateur.homebrew

Distributors, Contract Manufacturers, OEMs, or microwave circuitry designers, this message may be of interest to you.

If you have a current or future need for Philips BGA2031/1 MMIC's, you should check out the deal at:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2574612712

3698. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 04:14:28 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <qoBvb.772$87.330@bignews6.bellsouth.net>
Source record: 30815

Mike Coslo wrote:
> GTS wrote:
>
>> Sorry about that, a case of mistaken identity.
>>
>> Fortunately, I like radio. :-)
>>
>> Alex Flinsch wrote:
>> > On <nospam@unknown.org> wrote:
>> >
>> >>Wrong group dude.
>> >>
>> >>But thanks, we like beer ;-)
>> >>
>> >
>> >
>> > perhaps they sell 807's
>
>
> As a homebrewer and a homebrewer, I think that's what I'll name my
> next batch!
>
> - Mike KB3EIA -
>
Hams used to refer to bottles of beer as "cold 807's"
Then again, the "hippies" in my old radio club used to
refer to pot (not the resistive or cooking vessel kind)
as 'triodes'. A strong stash was a power triode? Guess
a bong was a water cooled triode? OH well....

3699. Re: Synthesizers

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 07:00:50 UTC
From: Jeffrey Herman <jeffreyh@hawaii.edu>
Message-ID: <Pine.GSO.4.58a.0311212055240.12711@uhunix2>
Source record: 30817

Hi Bob,

I'm just an old analog guy so I can't help you, but I'm forwarding your
note to the rec.radio.amateur.homebrew newsgroup in hopes that someone
can assist you.

(If anyone on RRAH can help Bob, please write to him:
innesbob@absamail.co.za)

73, Jeff KH6O
Operations Specialist 1st, U.S. Coast Guard
Mathematics Lecturer, University of Hawaii System

On Sat, 22 Nov 2003, Bob Innes wrote:

> Hi Jeffrey,
>
> Hope this finds you - I am trying to find someone who has
> managed to interface a MC145170 Synthesizer chip with PIC or
> similar CPU for HF amateur radio use??
>
> I believe you have done lots of dabbling in this line?
>
> Have responded to a number of guys with projects listed on
> the Internet, but they never came back, have probably been
> swallowed up in the Internet "black-hole"
>
> Look forward to your response please.
>
> Regards,
>
> Bob
>
> ZS6RZ
>
>

3700. Re: hi-speed op amps for RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 07:05:35 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <ftSdnQwjPL5QmSKiRVn-sA@comcast.com>
Source record: 30816

Clifton,

I've been exploring much the same concept. I hate having to figure the bias resistors for a transistor circuit, so I found op-amps fairly attractive to think
about using.

Here's a few things to consider:

1) Typical gains for RF or IF stages in traditional receivers start at about 20db,
that's a stiff enough gain to justify the noise figure inherent in an active circuit
stage. 20db translates into a gain of 10.

The shortwave band is approximately 2 to 30 Mhz. That means to cover the shortwave band at a 20db gain, we need a gain-bandwidth product of about 2 X 10 - 30 X 10, or about 20 Mhz GBW to 300 GBW.

Your LM318 won't cut it for shortwave.

2) Look at the latest circuits from Analog Devices, Linear Technlogies, or Maxim. They will provide samples if you are a qualified engineer, even if you
happen to be a consultant.

Today's circuits have GBW's ranging from 900 to 1500 GBW, at 10 Mhz (everyone's favorite band for CW) you're looking at a gain of 90 to 150,
or approximately 35 to 43 db.

30 db circuits become possible with these devices at 10 Mhz, so I would go with that range of GBW.

3) Op-amps created for different applications are useful in different parts of
a shortwave receiver. Voltage-controlled amps are good for tunable IF filters. Low-noise op-amps created for hard drive heads are good for preselector stages. Rail-to-rail op-amps are good just after the demodulator
as a form of automatic gain control.

4) Remember, op-amps have worse noise than transistors, all other things being equal. An all op-amp shortwave receiver is possible but you need
to not get carried away and paste every possible active device you can get your hands on.

5) Given a choice between an passive mixer terminated with op-amps and
an 4-quadrant multiplying active mixer, I'd take the latter. They have
a
gain figure that is quite hard to beat with an op-amp with far better
noise
figure.

I'd don't have any circuits to give you, this is what I have learned playing
with
high bandwidth op-amps in LTSpice.

Good luck,

The Eternal Squire

Clifton T. Sharp Jr. <clifto@clifto.com> wrote in message
news:3FBD815D.24F2A2F9@clifto.com...
> I found some jellybeans (LM318TC) with 10 MHz GBW product and I plan to
> play. Anyone have any tips for doing RF with jellybean ICs?
>
> These might be a bit noisy for microvolt stuff, but I plan to start with
> IF frequencies and move on as the play permits.
>
> Also, anyone play with the new generation of fifty-cent jellybean 100+ MHz
> amplifiers?
>
> --
> "Look, we have exhausted virtually all our diplomatic effort to get the
Iraqis
> to comply with their own agreements and with international law. Given
that,
> what other option is there but to force them to do so?"
> -- Tom Daschle, Feb. 11, 1998

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.528 / Virus Database: 324 - Release Date: 10/17/03

3701. Re: Philips BGA2031/1 MMIC variable gain amps

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 08:54:30 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <avFvb.96784$Ec1.4518874@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30818
Cross-posted to: sci.electronics.design,sci.research.careers,sci.physics.relativity,rec.ham-radio,rec.radio.amateur.homebrew

Aren't those dollar a pound surplus sales great?

Pete

Mike Adams <adams@ftdsb.com> wrote in message
news:3FBEDF80.70109@ftdsb.com...
> Distributors, Contract Manufacturers, OEMs, or microwave circuitry
> designers, this message may be of interest to you.
>
> If you have a current or future need for Philips BGA2031/1 MMIC's, you
> should check out the deal at:
>
> http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2574612712
>

3702. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 13:06:37 UTC
From: la8ak.xnd@online.no
Message-ID: <3fbf556c.49908825@news.online.no>
Source record: 30819

On Mon, 17 Nov 2003 13:55:19 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>On Sun, 16 Nov 2003 22:33:38 GMT, la8ak.xnd@online.no (J M Noeding)
>wrote:
>
>Maybe you have a different model. Mine purports to cover up to 360Mhz,
>but there is *no way* AFAICS that the thing would be capable of
>anything remotely close to that upper range limit, on cursory
>inspection of the internals. I'm glad I went for the wholesale
>re-build but still find it hopelessly impractical to use on minature,
>in-circuit components.

Can only agree very much to your comment "there is *no way* AFAICS
that the thing would be capable of anything remotely close to that
upper range limit", whether the upper limit is 280 or 360MHz becomes
less important when it actually don't operate properly above 140MHz

But I don't see that an instrument intended to cover down to 500kHz
could have practical variable capacitor for UHF, so somewhere should
be another construction. Perhaps an idea to look at DL7QY microwave
dipmeter.... I might consider copying some of his details to a web
page

73
Jan-Martin
LA8AK
Instruments: http://home.online.no/~la8ak/m1.htm (and -.m2.htm)
Homebrew instruments: http://home.online.no/~la8ak/m3.htm
Homebrew audio instruments: http://home.online.no/~la8ak/m31.htm
--
remove ,xnd to reply (Spam precaution!)

3703. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 13:50:38 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FBF6995.DC61960@earthlink.net>
Source record: 30820

J M Noeding wrote:
>
> On Mon, 17 Nov 2003 13:55:19 +0000, Paul Burridge
> <pb@osiris1.notthisbit.co.uk> wrote:
>
> >On Sun, 16 Nov 2003 22:33:38 GMT, la8ak.xnd@online.no (J M Noeding)
> >wrote:
> >
> >Maybe you have a different model. Mine purports to cover up to 360Mhz,
> >but there is *no way* AFAICS that the thing would be capable of
> >anything remotely close to that upper range limit, on cursory
> >inspection of the internals. I'm glad I went for the wholesale
> >re-build but still find it hopelessly impractical to use on minature,
> >in-circuit components.
>
> Can only agree very much to your comment "there is *no way* AFAICS
> that the thing would be capable of anything remotely close to that
> upper range limit", whether the upper limit is 280 or 360MHz becomes
> less important when it actually don't operate properly above 140MHz
>
> But I don't see that an instrument intended to cover down to 500kHz
> could have practical variable capacitor for UHF, so somewhere should
> be another construction. Perhaps an idea to look at DL7QY microwave
> dipmeter.... I might consider copying some of his details to a web
> page
>
> 73
> Jan-Martin
> LA8AK
> Instruments: http://home.online.no/~la8ak/m1.htm (and -.m2.htm)
> Homebrew instruments: http://home.online.no/~la8ak/m3.htm
> Homebrew audio instruments: http://home.online.no/~la8ak/m31.htm
> --
> remove ,xnd to reply (Spam precaution!)

You can use a capacitor in series with the variable capacitor to reduce
the tuning range, but you would need a switch to select the high or low
capacitance range, and to move the coil connection to the active
components. That, or use a dual capacitor, build two circuits, and
select one oscillator at a time.
--
I say, the boy is so stupid that he tried to make a back up copy of his
hard drive on the Xerox machine!

Michael A. Terrell
Central Florida

3704. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 14:03:29 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <4jourvgacodl0bs0sj6796dl654l3tslfr@4ax.com>
Source record: 30821

On Fri, 21 Nov 2003 21:29:19 -0500, Kenneth
<%wa2mze%@%bellsouth%.%net%> wrote:

>I've built several GDO's over the years. My favorite circuit is the old
>standby using a split stator variable capacitor and a shunt fed coplets
>oscillator. This capacitor can be 100-250 pf per section. My favorite
>tube is the 6CW4 nuvistor, though a 6DV4 might
>be a better choice at VHF. I put a TO-5 transistor heat sink over the
>tube fearing it might run hot! I use a cathode resistor of about
>150-330 ohms (un-bypassed) and connect a bnc connector to the cathode
>via a 1000pf capacitor to steal a little signal to drive my frequency
>counter. With the counter set for low level input I get good drive up
>to about 100mhz or so. My coil socket is an RCA (phono) connector and
>the coils use a matching plug. A better idea might be to use a 3 pin
>DIN plug and socket, this allows for a ground connection to go to a coil
>center tap. If you add the center tap the circuit will work below
>1.5mhz with proper coils, otherwise it will not oscillate below this
>frequency! (Having coils that go to 455khz would be nice to test if
>stages). Power supply used two 6.3v 300ma filament transformers back to
>back with a bridge rectifier. You can find transformers small enough to
>fit the supply into a box small enough to house the instrument, yet not
>too big to be hand hold-able. The coils can be wound on 1/4" or 3/8"
>plastic water line intended for ice maker use. These will fit into
>small places. Use of peaking chokes in the plate and filament lines can
>help eliminate "drop outs" in frequency coverage. Sensitivity can be
>adjusted with a plate pot, or put the pot in the meter circuit. I have
>used sub-mini meters salvaged from old jap tape recorders (vu-meters).
>These are typically around 500ua sensitivity. See my web site at
>www.qsl.net/wa2mze.

Thanks. Do you reckon there's any benefit in using toobz over FETs,
then?

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3705. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 14:35:59 UTC
From: la8ak.xnd@online.no
Message-ID: <3fbf7428.831352@news.online.no>
Source record: 30822

On Sat, 22 Nov 2003 13:50:38 GMT, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

>You can use a capacitor in series with the variable capacitor to reduce
>the tuning range, but you would need a switch to select the high or low
>capacitance range, and to move the coil connection to the active
>components. That, or use a dual capacitor, build two circuits, and
>select one oscillator at a time.

in practice - a not so good idea!
--
remove ,xnd to reply (Spam precaution!)

3706. need data on 2sc2570

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 14:59:49 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311220659.1b1a44c5@posting.google.com>
Source record: 30823

a friend has recently suggested that i should use 2sc2570 for vhf
work. i got a couple locally, they are cheap too. i have been told
that they have an Ft of 4.5GHz. i have searched the web trying to look
for datasheets.
my transistor is marked NEC, but the NEC site doesnt seem to have any
data on this beast.
any pointers??
- farhan

3707. Re: need data on 2sc2570

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 16:51:16 UTC
From: swells8044@aol.com
Message-ID: <20031122115116.25936.00000794@mb-m05.aol.com>
Source record: 30824

try NTE 107 thats what their sight crosses it to.
Steve

3708. Re: vhf pcb stripline swr plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 18:43:41 UTC
From: Robert Offer <robert@g1zjp.freeserve.co.uk>
Message-ID: <bpoapl$15p$1@newsg4.svr.pol.co.uk>
Source record: 30825

Hi
There are a couple of useful items in an article in "The VHF/UHF DX Book" - edited by Ian White G3SEK Which look as if one or the other might suit your application - one strip line, the other co-ax.
Section in the book is "Test Gear & Station Accessories - Impedance & VSWR Measurement" - A gold mine of information!
Hope this helps
Bob
G1ZJP

--
Protected by Norton Anti Virus and Norton Internet Securities 2003
Watch out for the SPAM traps.

3709. tda1572 oscillator configuration

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 20:03:42 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <yiPvb.311308$0v4.18332795@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30826

Has anybody used the oscillator section of the tda1572 with a crystal type of configuration. I looked at the tda1072 application note in one of my old data books, and I don't see how that circuit would even oscillate. I know that it can be done, because the Linn Kudos FM/AM tuner does this with the chip's on-board oscillator.

Pete

3710. HP 8640B LF ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 22:07:59 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vrvocbbkq9vi01@corp.supernews.com>
Source record: 30827

I just acquired an HP 8640B and now I'd like to get rid of my HP 606A but I need to go below 500 KHz. I wonder if anyone has had any experience with the HP 11710A or B that they'd care to comment on. I'd also like to know if there's any other reasonably priced LF sig gen that's stable and has a calibrated output that I should consider as $150.00 for an HP 11710 seems kind of high when you can find HP 8640Bs for around $200.
tnx
hank wd5jfr

3711. Homebrew DDS-based Scalar Sweep Set

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 22:43:53 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <JERvb.2745$rS5.357@nwrdny02.gnilink.net>
Source record: 30828

I've been working on a very simple and inexpensive HF Scalar Sweep set for testing filters and other frequency dependent devices. It's based on a DDS frequency source and an Analog Devices log detector. Sprinkle in some PIC firmware and some Visual Basic software, and you have a very nice little RF test instrument that rivals equipment costing much, much more. If you want to see where I am, you can get more info at my web site:

http://mysite.verizon.net/jdrocci/index.html

I have a lot of ideas for expanding the capability of this device. With some outboard modules and appropriate software, it could be an HF spectrum analyzer, a return-loss analyzer, an accurate RF probe, and a lot more. I'm looking for constructive suggestions.

Joe
W3JDR

3712. Transformer question.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 22:59:42 UTC
From: ogrowup@webtv.net
Message-ID: <20877-3FBFEA5E-44@storefull-2233.public.lawson.webtv.net>
Source record: 30829

I've been looking at building a few vacuum-tube based projects (just for the heck of it...and maybe use a few of the tubes I have siting around! :)) I have been able to acquire a few single-winding transformers, both HV(175-250 V) and either 6 or 12 for heaters
Question: since I do not have the dual-voltage transformers in a single package, when wiring them into the circuit, are the 117V primaries wired in series? This SEEMS correct, but my suppositions have been wrong before!

"Stupidty is the only universal capital crime; the sentence is death. There is no appeal, and execution is
carried out automatically and without pity."
Robert A. Heinlein
"TIme Enough For Love"

3713. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 23:20:46 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <79Svb.6738$6c3.3898@bignews1.bellsouth.net>
Source record: 30830

Paul Burridge wrote:
> On Fri, 21 Nov 2003 21:29:19 -0500, Kenneth
> <%wa2mze%@%bellsouth%.%net%> wrote:
>
>
>>I've built several GDO's over the years. My favorite circuit is the old
>>standby using a split stator variable capacitor and a shunt fed coplets
>>oscillator. This capacitor can be 100-250 pf per section. My favorite
>>tube is the 6CW4 nuvistor, though a 6DV4 might
>>be a better choice at VHF. I put a TO-5 transistor heat sink over the
>>tube fearing it might run hot! I use a cathode resistor of about
>>150-330 ohms (un-bypassed) and connect a bnc connector to the cathode
>>via a 1000pf capacitor to steal a little signal to drive my frequency
>>counter. With the counter set for low level input I get good drive up
>>to about 100mhz or so. My coil socket is an RCA (phono) connector and
>>the coils use a matching plug. A better idea might be to use a 3 pin
>>DIN plug and socket, this allows for a ground connection to go to a coil
>>center tap. If you add the center tap the circuit will work below
>>1.5mhz with proper coils, otherwise it will not oscillate below this
>>frequency! (Having coils that go to 455khz would be nice to test if
>>stages). Power supply used two 6.3v 300ma filament transformers back to
>>back with a bridge rectifier. You can find transformers small enough to
>>fit the supply into a box small enough to house the instrument, yet not
>>too big to be hand hold-able. The coils can be wound on 1/4" or 3/8"
>>plastic water line intended for ice maker use. These will fit into
>>small places. Use of peaking chokes in the plate and filament lines can
>>help eliminate "drop outs" in frequency coverage. Sensitivity can be
>>adjusted with a plate pot, or put the pot in the meter circuit. I have
>>used sub-mini meters salvaged from old jap tape recorders (vu-meters).
>>These are typically around 500ua sensitivity. See my web site at
>>www.qsl.net/wa2mze.
>
>
> Thanks. Do you reckon there's any benefit in using toobz over FETs,
> then?
>
Probably not, but there isn't any disadvantage to using a tube, except
for having to use an AC operated supply. If you need a portable grid
dipper (to check antennas up on the tower for example) then you want a
solid state battery operated unit (which sure beats 100 feet of
extension cord dragging behind you when you climb the tower!).

Not all fets function well into the vhf range. If you want to build a
solid state dipper using fets make sure you get vhf units, not ones

intended for audio use. There are circuits using fets that simulate
negative resistance (like tunnel diodes) which make for an interesting
oscillator since no coil taps are needed and a single gang cap can be used.

3714. Re: Transformer question.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 23:25:33 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <yfSvb.3222$87.320@bignews6.bellsouth.net>
Source record: 30831

Padraigh wrote:
> I've been looking at building a few vacuum-tube based projects (just for
> the heck of it...and maybe use a few of the tubes I have siting around!
> :)) I have been able to acquire a few single-winding transformers, both
> HV(175-250 V) and either 6 or 12 for heaters
> Question: since I do not have the dual-voltage transformers in a single
> package, when wiring them into the circuit, are the 117V primaries
> wired in series? This SEEMS correct, but my suppositions have been wrong
> before!
>
> "Stupidty is the only universal capital crime; the sentence is death.
> There is no appeal, and execution is
> carried out automatically and without pity."
> Robert A. Heinlein
> "TIme Enough For Love"
>
I assume you mean using two transformers, one for the hv and one for the heaters. You must wire the primaries in PARALLEL NOT series! If you want to operate the thing on a 240v line then you need to get two identical transformers, put the secondaries in parallel and the primaries in series (total of 4 transformers in this case).

3715. Re: Transformer question.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 23:28:53 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vrvs9v3rfm3hea@corp.supernews.com>
Source record: 30832

the primaries will be wired in parallel.
hank wd5jfr
"Padraigh" <ogrowup@webtv.net> wrote in message
news:20877-3FBFEA5E-44@storefull-2233.public.lawson.webtv.net...
> I've been looking at building a few vacuum-tube based projects (just for
> the heck of it...and maybe use a few of the tubes I have siting around!
> :)) I have been able to acquire a few single-winding transformers, both
> HV(175-250 V) and either 6 or 12 for heaters
> Question: since I do not have the dual-voltage transformers in a single
> package, when wiring them into the circuit, are the 117V primaries
> wired in series? This SEEMS correct, but my suppositions have been wrong
> before!
>
> "Stupidty is the only universal capital crime; the sentence is death.
> There is no appeal, and execution is
> carried out automatically and without pity."
> Robert A. Heinlein
> "TIme Enough For Love"
>

3716. Re: Transformer question.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-22 23:40:33 UTC
From: ogrowup@webtv.net
Message-ID: <20877-3FBFF3F1-52@storefull-2233.public.lawson.webtv.net>
Source record: 30833

Thanks for the quick response. Yes, I plan to use 2 seperate transformers...and will be VERY mindful of the caution needed when working with high voltages! I caused enough trouble at work last night when I added the wrong chemical (a concentrated detergent) to a chemical bath...there was this pretty purple foam flying about, though... :)

"Stupidty is the only universal capital crime; the sentence is death.
There is no appeal, and execution is
carried out automatically and without pity."
Robert A. Heinlein
"TIme Enough For Love"

3717. Re: Transformer question.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 01:01:33 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <yFTvb.3494$87.3315@bignews6.bellsouth.net>
Source record: 30834

Bill Turner wrote:
> On Sat, 22 Nov 2003 18:25:33 -0500, Kenneth <%wa2mze%@%bellsouth%.%net%>
> wrote:
>
>
>>If you
>>want to operate the thing on a 240v line then you need to get two
>>identical transformers, put the secondaries in parallel and the
>>primaries in series (total of 4 transformers in this case).
>
>
> ____
>
> And get the phasing proper lest smoke spurt and fuses flash.
>
Got that right man!

3718. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 01:29:09 UTC
From: la8ak.xnd@online.no
Message-ID: <3fc0041d.37690089@news.online.no>
Source record: 30835

On Sat, 22 Nov 2003 18:20:46 -0500, Kenneth
<%wa2mze%@%bellsouth%.%net%> wrote:

>
>Not all fets function well into the vhf range. If you want to build a
>solid state dipper using fets make sure you get vhf units, not ones
>intended for audio use. There are circuits using fets that simulate
>negative resistance (like tunnel diodes) which make for an interesting
>oscillator since no coil taps are needed and a single gang cap can be used.
>
Right. I don't like fets, execpt as switches, RX RF amplifier and in
PA. We had a discussion in a radio club among designers 30 years ago
if it was any reason for using fets in oscillators instead of
bipolars, but couldn't really find any good reason, except they were
fancy.
It is also a circuit using a jfet and pnp-combination which works in a
negative impedance mode, but usually found on lower frequencies. Used
it for some time to check resonnant frequency of unknown tuned
circuits with a counter, but the problem is to control oscillation
level. It worked fine for 50% of the applications while the counter
indicated some higher (or lower) frequency for some circuits, so it
was abandomed. Believe I have seen it mentioned for griddipmeters,
too.
It seems to be a reason why PNP UHF transistors are used in most UHF
tuners found here, usually BF479, BF679, BF979. I've copied some of
the text for DL7QY's dip meter covering up to 1400MHz on
http://home.online.no/~la8ak/m3.htm

-JM

--
remove ,xnd to reply (Spam precaution!)

3719. Re: tda1572 oscillator configuration

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 01:29:09 UTC
From: la8ak.xnd@online.no
Message-ID: <3fc006a9.38341880@news.online.no>
Source record: 30836

On Sat, 22 Nov 2003 20:03:42 GMT, "Pete KE9OA"
<n.gianakopoulos@worldnet.att.net> wrote:

>Has anybody used the oscillator section of the tda1572 with a crystal type
>of configuration. I looked at the tda1072 application note in one of my old
>data books, and I don't see how that circuit would even oscillate. I know
>that it can be done, because the Linn Kudos FM/AM tuner does this with the
>chip's on-board oscillator.

20-30 years ago TBA120 (Texas SN76660N) was a popular device and used
in several numerous applications in Europe, particularly in Germany
and Nederland, some of these constructions were published in the
"Elektor" magazine (believe the original was Dutch),
among the applications I remember:

RF mixer
phase detector
product detector
audio mixer
oscillators on audio as well as RF
syncronous AM detector
etc
It is no real principal difference between devices like TDA1047,
TBA120, NE/SA604, NE614, TDA1576, TBA120, S041P, MC1357P so if you
have the schematic of the inner functions, find the phase relation
between the limiter input pins and quadrature output connections you
should be able to make an xtal oscillator

I wrote some note to Radcom (G3VA) about TBA120 applications 20 years
ago, but cannot remember today which applications I tested, believe it
was found a maximum frequency around 15MHz.
The later devices are designed for low-power with low maximum
frequency, while the older like Motorola MC1357P (not MC3357) has been
used as 70MHz ATV demodulator and was published in such magazine
around 1984, one MC1357P was also used as RF limiter. But if your
device is a low-poer-type, it might not operate at high enough
frequency where you have an xtal to connect.
Believe I have some applications on one of my pages, but lack the
index, so I'll have to use google to search on my own pages, hi

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

3720. Re: vhf pcb stripline swr plans wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 02:38:38 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1069555331.608858@smtp-1.griffin.com>
Source record: 30837

yes i have read the book..the pcb version is not really up to it, but along with harry's one has given me a starter..quite easy really, just wondering if they will take the power i am using.still one way to find out!!just need to make the stripline small enough to fit in the amp and still have it working and not burning out..

simon
"Robert Offer" <robert@g1zjp.freeserve.co.uk> wrote in message news:bpoapl$15p$1@newsg4.svr.pol.co.uk...
> Hi
> There are a couple of useful items in an article in "The VHF/UHF DX Book" -
> edited by Ian White G3SEK Which look as if one or the other might suit your
> application - one strip line, the other co-ax.
> Section in the book is "Test Gear & Station Accessories - Impedance & VSWR
> Measurement" - A gold mine of information!
> Hope this helps
> Bob
> G1ZJP
>
> --
> Protected by Norton Anti Virus and Norton Internet Securities 2003
> Watch out for the SPAM traps.
>
>

3721. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 03:02:03 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <wqVvb.3797$87.1831@bignews6.bellsouth.net>
Source record: 30838

J M Noeding wrote:
> On Sat, 22 Nov 2003 18:20:46 -0500, Kenneth
> <%wa2mze%@%bellsouth%.%net%> wrote:
>
>
>
>>Not all fets function well into the vhf range. If you want to build a
>>solid state dipper using fets make sure you get vhf units, not ones
>>intended for audio use. There are circuits using fets that simulate
>>negative resistance (like tunnel diodes) which make for an interesting
>>oscillator since no coil taps are needed and a single gang cap can be used.
>>
>
> Right. I don't like fets, execpt as switches, RX RF amplifier and in
> PA. We had a discussion in a radio club among designers 30 years ago
> if it was any reason for using fets in oscillators instead of
> bipolars, but couldn't really find any good reason, except they were
> fancy.
> It is also a circuit using a jfet and pnp-combination which works in a
> negative impedance mode, but usually found on lower frequencies. Used
> it for some time to check resonnant frequency of unknown tuned
> circuits with a counter, but the problem is to control oscillation
> level. It worked fine for 50% of the applications while the counter
> indicated some higher (or lower) frequency for some circuits, so it
> was abandomed. Believe I have seen it mentioned for griddipmeters,
> too.
> It seems to be a reason why PNP UHF transistors are used in most UHF
> tuners found here, usually BF479, BF679, BF979. I've copied some of
> the text for DL7QY's dip meter covering up to 1400MHz on
> http://home.online.no/~la8ak/m3.htm
>
> -JM
>
>
> --
> remove ,xnd to reply (Spam precaution!)
The negative resistance fet circuit I mentioned used a pair of jfets,
one P channel and one N channel with the sources tied together and the
gates of each transistor tied to the drain of the other. In this way
each transistor acts as the self bias resistor of the other. The
resulting voltage/current curve of the combo exhibits a region where the
current decreases as the voltage increases, looking much like the 'kink'
in the plate circuit curves of an old time tetrode tube (such as the
24A). The major disadvantage of this circuit for a gdo is that it is

such a strong oscillator that you don't get much of a dip (you need to sample the output and feed it to a rectifier and meter) unless you load the coil down with a shunt resistor....and you need a different value for each range. Also P channel fets with good vhf performance are as rare as hen's teeth.

3722. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 03:34:55 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311221934.6ede9bf7@posting.google.com>
Source record: 30839
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message news:<tPmtb.4837$cX1.463@fed1read02>...
> "John Miles" <jmiles@pop.removethistomailme.net> wrote in message
> news:MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com...
> > In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
> > gw@webhideout.com says...
> > > johnm <jmiles@pop.removethistomailme.net> wrote in message
> news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
> > > > > what is a good spectrum analyzer to have for a home shop in your
> > > > > opinion, and also what is a good scope to have and do you have to
> > > > > break the bank on this stuff? thanks.
>
> SNIP
>
> > > how about a 8569b ? some guy has one on ebay now for about
> > > $3,000.00......i might pull the trigger on that one.....I would be
> > > using it for hf work. I was considering a 141t from tucker . it cost
> > > more but at least you know it works. i was going to get the 8552b and
> > > 8553b plugins with it. then you have to round up the connecting cables
> > > and manuals for them. comments? oh by the way i have read good things
> > > about the hp 8569b's. if they work.
> >
> > My guess is that the 8569b would be a very passable unit. Its specs
> > seem competitive with an optioned-out Tek 492 in most respects, except
> > that it only goes down to 10 MHz (perhaps there's an underrange
> > capability that lets it see lower frequencies?) That might be a concern
> > if you're going to be using it mostly for HF work.
>
> SNIP
>
> > The 141Ts at Tucker seem like a pretty good deal. I believe they all
> > come with new CRTs. I personally like to buy broken models on eBay and
> > fix them up. It's cheaper, you get really familiar with the gear inside
> > and out, and you always have spare parts on hand. But that strategy
> > isn't for everybody.
> >
> > -- jm
>
>
> As I have HP-141's, an HP-8569, an 8566B and an 8562A, let me drop a few
> comments here.
>
> The 141's are the best deal for a hobbyist. You can acquire the slightly
> better 8552B IF section, and then get only the RF plug-in that suits your

> needs (an 8556, with it's built-in tracking generator, for a few Hz to 300
> kHz, or an 8555, for 10 MHz through umpteen GHz, assuming you also get the
> external mixers). Unfortunately, by the time a hobbyist gets one of these,
> it has been abused and neglected by its last commercial owner. CRT burns are
> common, and the flood-gun analog memory may be very quirky. For an advanced
> hobbyist, either get an associated Polaroid scope camera, or build your own
> camera hood. You can capture a lot of transient things that way, and you can
> scan the pixs to input into your computer. Also, HP made a line of
> oscilloscope plug-ins that fit the 141 mainframe, so you can use the 141 as
> a multi-channel analog memory oscilloscope too. 141's are a pain in two
> ways; first, you have to externally store extra plug-ins, and secondly, the
> hard side handles make carrying one a painful experience beyond about 50
> feet. Also, you tend to injure your fingertips sliding those bulky plug-ins
> in and out past the big metal front handles. The 141 may also be the last of
> the hobbyist repairable analyzers; newer analyzers use proprietary chips and
> are built too dense to let you get fingers and probes into them.
>
> The 8562A is old (1987) but a superb analyzer, 1 kHz to 18 GHz, all digital
> and synthesized. This will do everything you want, except drive a parallel
> or RS-232 printer directly. If you're smart enough to talk to it by
> IEEE-488, then you can do everything through the computer. Other 856x series
> units have lesser capabilities, but are still great analyzers, and just
> might be priced low enough for a very serious hobbyist. Also, the HP-859x
> series are very good, although some have odd frequency, memory and IO
> capabilities. All 856x & 859x series units are one-man portables, until your
> knuckles turn white and numb.
>
> The 8569 is, in my opinion, a transitional beast between the analog and
> digital worlds. It's not as stable and simple as the 8562A, although it's a
> leap above the 141. Since it's wide, it's also awkward to carry using it's
> handle. I'm not much of a fan of the 8569.
>
> The 8566B is HP's top-of-the-line analyzer. They threw down the benchmark
> for everyone else to try to meet. Mine is customized a bit, covering 20 Hz
> to 22 GHz, and with an external tracking pre-selector, optional detectors,
> programmable attenuators, RF path switching and low-noise pre-amps. My
> company has a number of somewhat more plain-vanilla 8566B's and 8566A's.
> There isn't anything I need to do that these units fall short of (uhh, with
> the help of some external IEEE-488 linked computers). OTOH, these are now
> obsolete, non-supported by Agilent, and need two guys to carry one. Mine is
> in a 60" tall dedicated rack. Typical used price is around $20k.
>
> Most companies will be better served with one of Agilent's newer EPA or SPA
> analyzers. Anritsu and Rohde & Schwartz are also making fine analyzers.
> IIRC, Leader makes an analyzer that a hobbyist may aspire to affording.
>
> I would say that a 141 is still the best hobbyist choice. A company needs to
> be sure that they get a usable item for their money, so buying on eBay is a
> gamble. A company should buy from some place like Tucker, where they get a
> warranty backed by a reputable source. Yeah, it initially costs more. But

> it's a lot safer than having to try to repair an analyzer when you need that
> analyzer to do the real work of your company. A hobbyist can afford to spend
> 50 to 100 hours to get something going; in a business environment, where the
> clock is always ticking, that's unacceptable.
>
> Ed
> wb6wsn

ed ...what is a tracking generator and how is it a advantage for a
home hobbyist to have one or is it really necessary? also what do you
thing about 8565a's

also what is the determining factor for pricing on these various units
on ebay? does it have anything to do with the options on each unit?
sometimes there would appear to be some flucuations on the prices on
either the same type unit or a similar unit.

3723. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 03:38:04 UTC
From: Chuck Harris <cfharris@erols.com>
Message-ID: <bppa2uaib1@bob.news.rcn.net>
Source record: 30840
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

A tracking generator is a sweep generator calibrated to track
to the center frequency of a spectrum analyzer as it sweeps.

Got it?

It is used to display the bandpass characteristics of a network
using a spectrum analyzer.

-Chuck

gw wrote:
> "Ed Price" <edprice@cox.net> wrote in message news:<tPmtb.4837$cX1.463@fed1read02>...
>
>>"John Miles" <jmiles@pop.removethistomailme.net> wrote in message
>>news:MPG.1a1f6f2abdff4aa798968e@news-central.giganews.com...
>>
>>>In article <235a74db.0311141917.7fbd1f5b@posting.google.com>,
>>>gw@webhideout.com says...
>>>
>>>>johnm <jmiles@pop.removethistomailme.net> wrote in message
>>
>> news:<MPG.1a1f0b5db5f04d5298968c@news-central.giganews.com>...
>>
>>>>>what is a good spectrum analyzer to have for a home shop in your
>>>>>opinion, and also what is a good scope to have and do you have to
>>>>>break the bank on this stuff? thanks.
>>
>>SNIP
>>
>>
>>>>how about a 8569b ? some guy has one on ebay now for about
>>>>$3,000.00.....i might pull the trigger on that one.....I would be
>>>>using it for hf work. I was considering a 141t from tucker . it cost
>>>>more but at least you know it works. i was going to get the 8552b and
>>>>8553b plugins with it. then you have to round up the connecting cables
>>>>and manuals for them. comments? oh by the way i have read good things
>>>>about the hp 8569b's. if they work.
>>>
>>>My guess is that the 8569b would be a very passable unit. Its specs
>>>seem competitive with an optioned-out Tek 492 in most respects, except
>>>that it only goes down to 10 MHz (perhaps there's an underrange
>>>capability that lets it see lower frequencies?) That might be a concern
>>>if you're going to be using it mostly for HF work.
>>

>>SNIP
>>
>>
>>>The 141Ts at Tucker seem like a pretty good deal. I believe they all
>>>come with new CRTs. I personally like to buy broken models on eBay and
>>>fix them up. It's cheaper, you get really familiar with the gear inside
>>>and out, and you always have spare parts on hand. But that strategy
>>>isn't for everybody.
>>>
>>>-- jm
>>
>>
>>As I have HP-141's, an HP-8569, an 8566B and an 8562A, let me drop a few
>>comments here.
>>
>>The 141's are the best deal for a hobbyist. You can acquire the slightly
>>better 8552B IF section, and then get only the RF plug-in that suits your
>>needs (an 8556, with it's built-in tracking generator, for a few Hz to 300
>>kHz, or an 8555, for 10 MHz through umpteen GHz, assuming you also get the
>>external mixers). Unfortunately, by the time a hobbyist gets one of these,
>>it has been abused and neglected by its last commercial owner. CRT burns are
>>common, and the flood-gun analog memory may be very quirky. For an advanced
>>hobbyist, either get an associated Polaroid scope camera, or build your own
>>camera hood. You can capture a lot of transient things that way, and you can
>>scan the pixs to input into your computer. Also, HP made a line of
>>oscilloscope plug-ins that fit the 141 mainframe, so you can use the 141 as
>>a multi-channel analog memory oscilloscope too. 141's are a pain in two
>>ways; first, you have to externally store extra plug-ins, and secondly, the
>>hard side handles make carrying one a painful experience beyond about 50
>>feet. Also, you tend to injure your fingertips sliding those bulky plug-ins
>>in and out past the big metal front handles. The 141 may also be the last of
>>the hobbyist repairable analyzers; newer analyzers use proprietary chips and
>>are built too dense to let you get fingers and probes into them.
>>
>>The 8562A is old (1987) but a superb analyzer, 1 kHz to 18 GHz, all digital
>>and synthesized. This will do everything you want, except drive a parallel
>>or RS-232 printer directly. If you're smart enough to talk to it by
>>IEEE-488, then you can do everything through the computer. Other 856x series
>>units have lesser capabilities, but are still great analyzers, and just
>>might be priced low enough for a very serious hobbyist. Also, the HP-859x
>>series are very good, although some have odd frequency, memory and IO
>>capabilities. All 856x & 859x series units are one-man portables, until your
>>knuckles turn white and numb.
>>
>>The 8569 is, in my opinion, a transitional beast between the analog and
>>digital worlds. It's not as stable and simple as the 8562A, although it's a
>>leap above the 141. Since it's wide, it's also awkward to carry using it's
>>handle. I'm not much of a fan of the 8569.
>>
>>The 8566B is HP's top-of-the-line analyzer. They threw down the benchmark

>>for everyone else to try to meet. Mine is customized a bit, covering 20 Hz
>>to 22 GHz, and with an external tracking pre-selector, optional detectors,
>>programmable attenuators, RF path switching and low-noise pre-amps. My
>>company has a number of somewhat more plain-vanilla 8566B's and 8566A's.
>>There isn't anything I need to do that these units fall short of (uhh, with
>>the help of some external IEEE-488 linked computers). OTOH, these are now
>>obsolete, non-supported by Agilent, and need two guys to carry one. Mine is
>>in a 60" tall dedicated rack. Typical used price is around $20k.
>>
>>Most companies will be better served with one of Agilent's newer EPA or SPA
>>analyzers. Anritsu and Rohde & Schwartz are also making fine analyzers.
>>IIRC, Leader makes an analyzer that a hobbyist may aspire to affording.
>>
>>I would say that a 141 is still the best hobbyist choice. A company needs to
>>be sure that they get a usable item for their money, so buying on eBay is a
>>gamble. A company should buy from some place like Tucker, where they get a
>>warranty backed by a reputable source. Yeah, it initially costs more. But
>>it's a lot safer than having to try to repair an analyzer when you need that
>>analyzer to do the real work of your company. A hobbyist can afford to spend
>>50 to 100 hours to get something going; in a business environment, where the
>>clock is always ticking, that's unacceptable.
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>>Ed
>>wb6wsn
>
>
>
> ed ...what is a tracking generator and how is it a advantage for a
> home hobbyist to have one or is it really necessary? also what do you
> thing about 8565a's
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> also what is the determining factor for pricing on these various units
> on ebay? does it have anything to do with the options on each unit?
> sometimes there would appear to be some flucuations on the prices on
> either the same type unit or a similar unit.

3724. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 03:57:18 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3fc02d9e$1@wobble>
Source record: 30841

Uncle Peter wrote:

> It is kind of hard to get the proper coupling on PCB style coils.

Bingo.

> Those were intended for larger tube circuit designs, not PCB
> based gear.

Daily Double!

Dana

3725. Re: need data on 2sc2570

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 04:38:36 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311222038.19334864@posting.google.com>
Source record: 30842

swells8044@aol.com (Swells8044) wrote in message
news:<20031122115116.25936.00000794@mb-m05.aol.com>...
> try NTE 107 thats what their sight crosses it to.
> Steve

guys, thanks everyone. i found it a little later when i searched for
2sc2570A instead of 2sc2570.

"the truth is out there, google it out".

- farhan

3726. Re: Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 09:25:35 UTC
From: jvereker@wp.pl
Message-ID: <25102a3d.0311230125.6ccf9a84@posting.google.com>
Source record: 30843

> I do not know where you are looking.
Google of course, but it seems getting worse and worse...
>
> IF you have an HF transceiver there are VHF transverters available from both
> Ten-Tec and Elecraft
>
> http://www.tentec.com/Amateur.htm
>
> Elecraft will have a 440 transverter available in the near future
> http://www.elecraft.com/XV/XV.htm
>
> Hamtronics - VHF and UHF kits since 1962
> Receive converter kits (less enclosure) are only $ 49 USD
> http://www.hamtronics.com/
>
Fine, but notice, please from where I am writing (.pl is for Poland).
The costs of shipping, a local tax and zoll payments will rise price
about 75%. That's first notice. The second one is I want to build it
myself. That's why I choose homebrewing group.

jvereker@wp.pl

3727. Re: Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 09:30:44 UTC
From: jvereker@wp.pl
Message-ID: <25102a3d.0311230130.575d1f66@posting.google.com>
Source record: 30844

> No, it is not particularly difficult to build for 144/432 MHz.
> All you need are good low-noise devices, short leads and a little
> determination, which I'm sure you have plenty of. For starters,
> why not have a look at the simple 144 to 30MHz converter on this
> site -
>
>
> http://homepage.tinet.ie/~ei9gq/vhf_conv.html
Thanks for the link. Something lil' more complex ?

> This should give you an idea of the style of construction
> needed. The only component that you may have trouble with is the
> overtone crystal but there are other ways of achieving the same
> end.
We got good crystal producer here in Poland called Omig, BTW they are
IBM supplier I think I'll find something.

jvereker@wp.pl

3728. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 10:10:24 UTC
From: Ed Price <edprice@cox.net>
Message-ID: <9I%vb.10793$m24.4481@fed1read02>
Source record: 30845
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Chuck Harris" <cfharris@erols.com> wrote in message
news:bppa2uaib1@bob.news.rcn.net...
> A tracking generator is a sweep generator calibrated to track
> to the center frequency of a spectrum analyzer as it sweeps.
>
> Got it?
>
> It is used to display the bandpass characteristics of a network
> using a spectrum analyzer.
>
> -Chuck

Exactly. I found the 8556 plug-in, with a range of 20 Hz to 300 kHz, to be very handy when I was designing lowpass EMI filters (which usually have a cut-off frequency below 10 kHz or so, and increase in loss to maybe 60 dB by 100 kHz. The tracking generator could give me a quick look at the cutoff and slope, so I could tweak the circuit in real-time. It's also handy for acoustics, ultrasonic and vibration testing.

And the 141 has a plotter X & Y output, so you can drive an analog plotter to trace the curve using a very slow sweep speed.

Ed

3729. Re: New Home Brew Store

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 10:29:30 UTC
From: Dick <dick@langwang.demon.co.uk>
Message-ID: <4IiGKjBKwIw$EwCr@langwang.demon.co.uk>
Source record: 30846

Just a thought, my 5gal stainless steel Cornelius kegs would
make great hi Q VHF resonant cavities but the only way I can think of
tuning them would be to vary the beer level by drinking it. However if I
was having a lot of QSOs involving a lot of channel changes then I would
be forced to drink a lot of beer .... and consequently not capable of
having a coherent QSO 'cos I make very good beer ..... on the other hand
I could stay fixed frequency but not be able to drink the beer ....
Ah well, back to the drawing board !!!!!
--
Dick
GM0MNL Fra' Auld Reekie

3730. Re: Tektronix & HP & SA's

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 13:47:15 UTC
From: gw@webhideout.com
Message-ID: <235a74db.0311230547.69e0f3d8@posting.google.com>
Source record: 30747
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

"Ed Price" <edprice@cox.net> wrote in message news:<9I%vb.10793$m24.4481@fed1read02>...
> "Chuck Harris" <cfharris@erols.com> wrote in message
> news:bppa2uaib1@bob.news.rcn.net...
> > A tracking generator is a sweep generator calibrated to track
> > to the center frequency of a spectrum analyzer as it sweeps.
> >
> > Got it?
> >
> > It is used to display the bandpass characteristics of a network
> > using a spectrum analyzer.
> >
> > -Chuck
>
> Exactly. I found the 8556 plug-in, with a range of 20 Hz to 300 kHz, to be
> very handy when I was designing lowpass EMI filters (which usually have a
> cut-off frequency below 10 kHz or so, and increase in loss to maybe 60 dB by
> 100 kHz. The tracking generator could give me a quick look at the cutoff and
> slope, so I could tweak the circuit in real-time. It's also handy for
> acoustics, ultrasonic and vibration testing.
>
> And the 141 has a plotter X & Y output, so you can drive an analog plotter
> to trace the curve using a very slow sweep speed.
>
> Ed

hmmm....i think i want one.....

3731. Re: HP 8640B LF ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 14:03:40 UTC
From: fmmck@aol.com
Message-ID: <20031123090340.10213.00000769@mb-m01.aol.com>
Source record: 30748

<< I just acquired an HP 8640B and now I'd like to get rid of my HP 606A but I need to go below 500 KHz. >>

Hank-

Recently someone mentioned that the 8640B was a UHF signal generator that had digital dividers for lower frequencies. If that is true, you might be able to add additional dividers to go lower in frequency. You might have to sacrifice one of the existing bands, depending on how extensive the modification is.

73, Fred, K4DII

3732. Re: Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 14:54:40 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <m6f1sv024n7l6lkla9b4qf5ubhcrnk04ji@4ax.com>
Source record: 30749

On Sat, 22 Nov 2003 22:02:03 -0500, Kenneth
<%wa2mze%@%bellsouth%.%net%> wrote:

>> remove ,xnd to reply (Spam precaution!)
>The negative resistance fet circuit I mentioned used a pair of jfets,
>one P channel and one N channel with the sources tied together and the
>gates of each transistor tied to the drain of the other. In this way
>each transistor acts as the self bias resistor of the other. The
>resulting voltage/current curve of the combo exhibits a region where the
>current decreases as the voltage increases, looking much like the 'kink'
>in the plate circuit curves of an old time tetrode tube (such as the
>24A). The major disadvantage of this circuit for a gdo is that it is
>such a strong oscillator that you don't get much of a dip (you need to
>sample the output and feed it to a rectifier and meter) unless you load
>the coil down with a shunt resistor....and you need a different value
>for each range. Also P channel fets with good vhf performance are as
>rare as hen's teeth.

Interesting. The circuit I rebuilt my old Tradiper with used two
dual-gate MOSFETs., 3SK88s I believe they are. It gives a nice fragile
ouput which is easily pulled down by an external tuned circuit,
thereby giving rise to a good, deep dip. The only problem is the size
of the blasted snifffer coils! Whilst this is fine for big old valve
type constructions, it *is* totally impractical for today's ever
smaller PCB jobs. I guess the time is coming to abandon it in favour
of some other method of measurement, probably involving a scope and
sig-gen.

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3733. WTB 160m transmatch parts

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 15:37:45 UTC
From: mike nelson <mike_nelson@acm.org>
Message-ID: <3fc0d4e8_1@athena.netset.com>
Source record: 30750

Does anyone have some 3 inch coil stock (10tpi, about 10-12 inches long) they'd be willing to sell?

Also need a 1200pf variable capacitor (100 watt level spacing) and a dual 200 pf per section variable (also 100 watt level).

Am building a link-coupled 160 meter transmatch per a very old Lew McCoy article.

thanks

Mike
W8LPR

3734. Re: HP 8640B LF ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 16:43:24 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <Ms5wb.12254$n56.1794@newsread1.news.pas.earthlink.net>
Source record: 30751

To get lowband out of an 8640, I think I would simply add a mixer to the output of the 8640.

Get a cheap oscillator, one of those computer time base ones, and feed it into the LO of a double balanced mixer. SBL-1 or some such.

Feed the 8640 into the RF in and then you have your desired lowband on the IF output.

==========

I'd add an attenuator to the IF output pin, 4 dB.

This way, assuming about 6 dB loss in the mixer, you know the output is just about 10 dB below what the 8640 output level is and you can use that to set the lowband output to a known level.

Jim Pennell
N6BIU

3735. Re: Philips BGA2031/1 MMIC variable gain amps

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 17:43:20 UTC
From: Steve Ratzlaff <steveratz@eoni.com>
Message-ID: <3FC0F1B8.9D61E7E@eoni.com>
Source record: 30752
Cross-posted to: sci.electronics.design,sci.research.careers,sci.physics.relativity,rec.ham-radio,rec.radio.amateur.homebrew

Make sure you read the data sheet first if you're thinking these might
make good general purpose amps! Those MMICs are only for the cellular
frequency range--minimum freq of 800MHz.
Steve AA7U

Pete KE9OA wrote:
>
> Aren't those dollar a pound surplus sales great?
>
> Pete
>
> Mike Adams <adams@ftdsb.com> wrote in message
> news:3FBEDF80.70109@ftdsb.com...
> > Distributors, Contract Manufacturers, OEMs, or microwave circuitry
> > designers, this message may be of interest to you.
> >
> > If you have a current or future need for Philips BGA2031/1 MMIC's, you
> > should check out the deal at:
> >
> > http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2574612712
> >

3736. Re: tda1572 oscillator configuration

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 22:37:25 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <FEawb.318390$0v4.18462508@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30753

Thanks.....I appreciate the info. I finally found an application circuit, but using the topology that is described, the circuit behaves more like an LC oscillator vs. a crystal oscillator.
This chip must have been designed by a different enginnering team, than the one that did the NE602. The mixer is a real joke, with its 200K output impedance vs. the 1.5K output impedance of the 602. The 602 uses an emitter follower type of oscillator, while the 1072/1572 us a hard to implement differential oscillator. The 602's oscillator is good to 200MHz, while the 1572 is limited to 50MHz. Now I understand why AOR chose to use just the I.F. subsystem/demodulator sections of this chip. I think that I am going to go with a 602 for the 2nd mixer, and use an AGC loop ahead of it.
On another note, things are moving ahead at a good rate on the MW receiver design. I've completed the synthesizer, and am now working on optimizing the step response. Reference sidebands are -80dBc, with 2nd, 3rd, and 4th harmonics at -28dBc, -43dBc, and -60dBc respectively.
I entered the system of loop filter equations from Motorola's AN1207 appnote into an Excel spreadsheet, eliminating the need to spend a half hour muddling through those equations. I did discover three errors in that appnote, so be careful when using it.
The selection of R2's value was shifted over one decimal point, while the value of omegaB was slightly off. The equation for C5's value used an incorrect value for R14.
Overall, the real problem with this appnote was one of carelessness; apparently, nobody proofread the document before releasing it for publication. I don't think that I've ever seen so many errors in this type of document, which is why I wonder about the accuracy of that Philips appnote for the 1572.

Pete

J M Noeding <la8ak.xnd@online.no> wrote in message
news:3fc006a9.38341880@news.online.no...
> On Sat, 22 Nov 2003 20:03:42 GMT, "Pete KE9OA"
> <n.gianakopoulos@worldnet.att.net> wrote:
>
> >Has anybody used the oscillator section of the tda1572 with a crystal
type
> >of configuration. I looked at the tda1072 application note in one of my
old
> >data books, and I don't see how that circuit would even oscillate. I know
> >that it can be done, because the Linn Kudos FM/AM tuner does this with
the
> >chip's on-board oscillator.
>
> 20-30 years ago TBA120 (Texas SN76660N) was a popular device and used

> in several numerous applications in Europe, particularly in Germany
> and Nederland, some of these constructions were published in the
> "Elektor" magazine (believe the original was Dutch),
> among the applications I remember:
>
> RF mixer
> phase detector
> product detector
> audio mixer
> oscillators on audio as well as RF
> syncronous AM detector
> etc
> It is no real principal difference between devices like TDA1047,
> TBA120, NE/SA604, NE614, TDA1576, TBA120, S041P, MC1357P so if you
> have the schematic of the inner functions, find the phase relation
> between the limiter input pins and quadrature output connections you
> should be able to make an xtal oscillator
>
> I wrote some note to Radcom (G3VA) about TBA120 applications 20 years
> ago, but cannot remember today which applications I tested, believe it
> was found a maximum frequency around 15MHz.
> The later devices are designed for low-power with low maximum
> frequency, while the older like Motorola MC1357P (not MC3357) has been
> used as 70MHz ATV demodulator and was published in such magazine
> around 1984, one MC1357P was also used as RF limiter. But if your
> device is a low-poer-type, it might not operate at high enough
> frequency where you have an xtal to connect.
> Believe I have some applications on one of my pages, but lack the
> index, so I'll have to use google to search on my own pages, hi
>
> 73
> Jan-Martin, LA8AK
> http://home.online.no/~la8ak/c.htm
> --
> remove ,xnd to reply (Spam precaution!)

3737. Re: tda1572 oscillator configuration

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 22:39:19 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <rGawb.318398$0v4.18465154@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30754

One thing that I forgot to mention.....if there is enough interest in that spreadsheet, I will post it up on my website.

Pete

J M Noeding <la8ak.xnd@online.no> wrote in message news:3fc006a9.38341880@news.online.no...
> On Sat, 22 Nov 2003 20:03:42 GMT, "Pete KE9OA"
> <n.gianakopoulos@worldnet.att.net> wrote:
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> >Has anybody used the oscillator section of the tda1572 with a crystal type
> >of configuration. I looked at the tda1072 application note in one of my old
> >data books, and I don't see how that circuit would even oscillate. I know
> >that it can be done, because the Linn Kudos FM/AM tuner does this with the
> >chip's on-board oscillator.
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> 20-30 years ago TBA120 (Texas SN76660N) was a popular device and used
> in several numerous applications in Europe, particularly in Germany
> and Nederland, some of these constructions were published in the
> "Elektor" magazine (believe the original was Dutch),
> among the applications I remember:
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> RF mixer
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> oscillators on audio as well as RF
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> It is no real principal difference between devices like TDA1047,
> TBA120, NE/SA604, NE614, TDA1576, TBA120, S041P, MC1357P so if you
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> frequency, while the older like Motorola MC1357P (not MC3357) has been
> used as 70MHz ATV demodulator and was published in such magazine
> around 1984, one MC1357P was also used as RF limiter. But if your

> device is a low-poer-type, it might not operate at high enough
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> Jan-Martin, LA8AK
> http://home.online.no/~la8ak/c.htm
> --
> remove ,xnd to reply (Spam precaution!)

3738. Re: hi-speed op amps for RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-23 23:45:47 UTC
From: ddwyer <dd@ddwyer.demon.co.uk>
Message-ID: <OpojSJAraUw$EwGi@ddwyer.demon.co.uk>
Source record: 30755

In article <bpk917hth1@freenet9.carleton.ca>, Michael Black
<et472@FreeNet.Carleton.CA> writes
>"Clifton T. Sharp Jr." (clifto@clifto.com) writes:
>> I found some jellybeans (LM318TC) with 10 MHz GBW product and I plan to
>> play. Anyone have any tips for doing RF with jellybean ICs?
>>
>> These might be a bit noisy for microvolt stuff, but I plan to start with
>> IF frequencies and move on as the play permits.
>>
>> Also, anyone play with the new generation of fifty-cent jellybean 100+ MHz
>> amplifiers?
>>
>Those were pretty good thirty years ago, and even the late seventies, but
>the LM318 is pretty puny at this point. Not only are there much better
>op-amps, but you couldn't do all that much with the 10MHz spec (just more
>than the 741 decades ago).

Plenty of >1GHz gbw opamps available 5 or so different (linear, Texas,
AD, MAXIM.) with 0.95uV/Hz so terminate in 50R high gbw means good gain
through to 100MHz .
Self oscillation can be a problem 50R directly in series with the o/p
helps.
For lowest noise cant beat high current discrete transistor.

ddwyer

3739. ATT. UK. looking for Scrappy (roger) phone no.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 00:21:39 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1069633528.419763@smtp-1.griffin.com>
Source record: 30756

need to buy some old tat from roger (scrappy) but dont have contact no. or ad...(normally seen lurking at pickets lock etc.)

can any one help??

thanks simon g0zen

3740. Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 00:24:33 UTC
From: la8ak.xnd@online.no
Message-ID: <3fc14e89.122290962@news.online.no>
Source record: 30757

Found some notes in last Radcom (Technical topics by G3VA) about
saturable core inductors. Surprising little has been discussed about
the matter recently, but I suppose it could be a good idea to use for
LF experiments when tunable cores are a problem, he also mentions
using two MOSFETs to form a variable capacitor with maximum
capacitance of 1500pF

see http://home.online.no/~la8ak/c97.htm for some more info extracted
from Tecnical topics 11/2003

73
Jan-Martin
LA8AK
http://home.online.no/~la8ak/d.htm
--
remove ,xnd to reply (Spam precaution!)

3741. Re: hand soldering SSOPs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 05:59:08 UTC
From: Wim Lewis <wiml@underhill.hhhh.org>
Message-ID: <bps6nc$h49$0@216.39.137.58>
Source record: 30758

In article <vqjhbkeebhro37@corp.supernews.com>,
xpyttl <xpyttl_nospam@earthling.net> wrote:
>Solder paste is probably better, but it's breathtakingly expensive and has a
>very short shelf life. Plus, you gotta use a heat gun which will heat a
>large section of the board, potentially removing other stuff you already
>mounted.

I've had good luck using solder paste (not TOO expensive from digikey,
especially considering how little of it I use at a time). I use it with
a small soldering iron, a butane pencil torch, or the toaster-oven method.
(I use an oil lamp instead of a toaster-oven, but the technique's basically
the same.) I apply the paste with a toothpick and then melt it with one of
those three tools. I've had no trouble soldering SSOPs or 0805 chip
components.

The one easy mistake to make, I've found, is not to preheat the board long
enough before trying to solder using a hot-air torch or oven. The liquid
components of the solder paste will boil suddenly and pop the component right
off the board.

As other people have mentioned, once you get the hang of SMT soldering,
it's really nice not to have to drill so many holes in your prototype
PCBs any more.

--
Wim Lewis <wiml@hhhh.org>, Seattle, WA, USA. PGP keyID 27F772C1

3742. Re: soldering aluiminium boxes ????? how

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 05:59:10 UTC
From: Wim Lewis <wiml@underhill.hhhh.org>
Message-ID: <bps6ne$h4a$0@216.39.137.58>
Source record: 30759

In article <MZwqb.507$fO5.478926@newsfep1-win.server.ntli.net>,
uk-hamman <uk-hamman@ntlworld.com> wrote:
>say I get myself a large plastic box , air-tight joints
>and Perspex top , with an air-tight fitting door
>and a pair of fitted gloves , and a one way air valve
>connected to the hoover , to withdraw some of the air
>out of the box ???? , maybe even light a candle in the box
>to burn up the last bit of the oxygen ??

I don't think you would get an oxygen-free environment very eaily
that way. I think it would be easier to fill the box with some inert
gas rather than trying to draw a vacuum.

--
Wim Lewis <wiml@hhhh.org>, Seattle, WA, USA. PGP keyID 27F772C1

3743. Re: Homebrew DDS-based Scalar Sweep Set

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 06:14:37 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a2b41a5644d2ed6989690@news-central.giganews.com>
Source record: 30760

In article <JERvb.2745$rS5.357@nwrdny02.gnilink.net>, joe@roccis.com
says...
> I've been working on a very simple and inexpensive HF Scalar Sweep set for
> testing filters and other frequency dependent devices. It's based on a DDS
> frequency source and an Analog Devices log detector. Sprinkle in some PIC
> firmware and some Visual Basic software, and you have a very nice little RF
> test instrument that rivals equipment costing much, much more. If you want
> to see where I am, you can get more info at my web site:
>
> http://mysite.verizon.net/jdrocci/index.html
>
> I have a lot of ideas for expanding the capability of this device. With some
> outboard modules and appropriate software, it could be an HF spectrum
> analyzer, a return-loss analyzer, an accurate RF probe, and a lot more. I'm
> looking for constructive suggestions.

Nice work, Joe, very clean-looking page!

Have you seen Paul Kiciak's VNA project? http://users.adelphia.net/
~n2pk/ There might be some room for a meeting of minds between your two
projects.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

3744. Re: Homebrew DDS-based Scalar Sweep Set

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 12:19:19 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <bHmwb.13630$yy5.7846@nwrdny01.gnilink.net>
Source record: 30761

John,
Thanks for the compliment!

Yes, I have read Paul's work. Although the vector capability would be nice (especially for antenna work), I didn't feel I need the added complexity for an HF only unit. I wanted it to be KISS-like so I could get it going fast and begin using it for what it was intended. Besides, Paul's software seems to be written under DOS, and I don't think he's offered to open the source yet. Also, programming a rectangular grid is very easy. The thought of programming a polar Smith chart makes my brain matter smoke.

Next step for me is to put it in a housing with its own power supply and develop some hardware calibration routines for flatness, scale calibration, etc. It's been fun.

Joe
W3JDR

"John Miles" <jmiles@pop.removethistomailme.net> wrote in message news:MPG.1a2b41a5644d2ed6989690@news-central.giganews.com...
> In article <JERvb.2745$rS5.357@nwrdny02.gnilink.net>, joe@roccis.com
> says...
> > I've been working on a very simple and inexpensive HF Scalar Sweep set for
> > testing filters and other frequency dependent devices. It's based on a DDS
> > frequency source and an Analog Devices log detector. Sprinkle in some PIC
> > firmware and some Visual Basic software, and you have a very nice little RF
> > test instrument that rivals equipment costing much, much more. If you want
> > to see where I am, you can get more info at my web site:
> >
> > http://mysite.verizon.net/jdrocci/index.html
> >
> > I have a lot of ideas for expanding the capability of this device. With some
> > outboard modules and appropriate software, it could be an HF spectrum
> > analyzer, a return-loss analyzer, an accurate RF probe, and a lot more. I'm
> > looking for constructive suggestions.
>
> Nice work, Joe, very clean-looking page!
>

> Have you seen Paul Kiciak's VNA project? http://users.adelphia.net/
> ~n2pk/ There might be some room for a meeting of minds between your two
> projects.
>
> -- jm
>
> --
> http://www.qsl.net/ke5fx
> Note: My E-mail address has been altered to avoid spam
> --

3745. FA:7360 RCA,RF Switch

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 14:33:42 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <aFowb.322547$0v4.18543935@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30762

See all at:
http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

heytubeguy

3746. FA: Air Dux coil,Antique Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 14:34:29 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <VFowb.322550$0v4.18542926@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30763

See all at:
http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

heytubeguy

3747. 50r pcb stripline width??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 18:53:49 UTC
From: zindazenda <zen@lineisp.co.uk>
Message-ID: <1069700277.136306@smtp-1.griffin.com>
Source record: 30764

ok..i know the width of track for 50r pcb stripline using standard 1/16in fibreglass pcb is 2.8mm but howabout 1/8in pcb???
or does anyone have programe that works this out? (for dos/windows .)
reason for asking making high power swr meter and i have a large sheet of 1/8 in pcb i need to use....

g0zen.
simon

3748. Re: 50r pcb stripline width??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 21:48:29 UTC
From: Gary Cavie <m0jjh@despammed.com>
Message-ID: <MPG.1a2c8d08a50a9c149896cf@news.individual.net>
Source record: 30765

In article <1069700277.136306@smtp-1.griffin.com>, zen@lineisp.co.uk
says...
> ok..i know the width of track for 50r pcb stripline using standard 1/16in
> fibreglass pcb is 2.8mm but howabout 1/8in pcb???
> or does anyone have programe that works this out? (for dos/windows .)
> reason for asking making high power swr meter and i have a large sheet of
> 1/8 in pcb i need to use....
>
> g0zen.
> simon
>
>
>

Simon,

Some useful calculators at
http://www.emclab.umr.edu/pcbtlc/microstrip.html

HTH

Gary

3749. Re: 50r pcb stripline width??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-24 22:56:38 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.000000fa.0015eede@btinternet.com>
Source record: 30766

Hi,

Google for (and download) AppCAD from the Agilent site.

73 de Joe, G3LLV

3750. Re: 50r pcb stripline width??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 00:41:16 UTC
From: DRGrok@munged.net
Message-ID: <bpu8dr$cm7$1@bob.news.rcn.net>
Source record: 30767

In article <1069700277.136306@smtp-1.griffin.com>, "zindazenda" <zen@lineisp.co.uk> wrote:
>ok..i know the width of track for 50r pcb stripline using standard 1/16in
>fibreglass pcb is 2.8mm but howabout 1/8in pcb???
>or does anyone have programe that works this out? (for dos/windows .)
>reason for asking making high power swr meter and i have a large sheet of
>1/8 in pcb i need to use....
>
>g0zen.
>simon
>
>
A good enuf approximation would be to double the width for the 1/16" board --
gives 5.6 mm when using 1/8". The Zo is a function of the w/h ratio [not
exact, but close enuf for anything you would be using G-10 or similar for].

Dr. G.

3751. Re: 50r pcb stripline width??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 01:03:17 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311241703.20fd2ffb@posting.google.com>
Source record: 30768

If you scale all the dimensions of any TEM line, the impedance will
stay the same.

Also, I have an Excel spreadsheet that lets you find impedances (a
free download but I don't have the URL handy...), and there are
several stripline/microstrip applets on the web...should be easy to
find with a Google search. Perhaps the best answer is to use the
transmission line calculator in RFSim99, which is free and does a
whole lot more than just transmission lines.

Cheers,
Tom

"zindazenda" <zen@lineisp.co.uk> wrote in message
news:<1069700277.136306@smtp-1.griffin.com>...
> ok..i know the width of track for 50r pcb stripline using standard 1/16in
> fibreglass pcb is 2.8mm but howabout 1/8in pcb???
> or does anyone have programe that works this out? (for dos/windows .)
> reason for asking making high power swr meter and i have a large sheet of
> 1/8 in pcb i need to use....
>
> g0zen.
> simon

3752. Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 06:50:40 UTC
From: jason_hsu@my-deja.com
Message-ID: <f7d9a152.0311242250.6353d9c@posting.google.com>
Source record: 30769
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

It's part of a design for a T/R sense circuit for a noise cancellation device.

I won't bore you with too many details. One thing I noticed in a design I'm looking at is that 1W resistors could be subject to as much as 50W of power apiece during the time it takes for a relay to respond. This response time is 7msec. The overall duty cycle will be low (well under 1%).

Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1 second is also .35 Joules, which a 1W resistor should have no trouble handling. Can the resistors be damaged during that .007 seconds?

Also, how much time does it take to damage a toroid? If it can handle X units of flux density continuously, how much flux density can it handle for .007 seconds with a low overall duty cycle (like well under 1%)?

Jason Hsu, AG4DG
usenet AAAAATTTTT jasonhsu.com

3753. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 10:53:21 UTC
From: peg@slingshot.co.nz
Message-ID: <62069f15.0311250253.4f21260a@posting.google.com>
Source record: 30770
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Make a parallell/ series combination to equal 51 ohm. Immerse in oil,

3754. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 11:33:14 UTC
From: bigcat@meeow.co.uk
Message-ID: <a7076635.0311250333.3c23fb82@posting.google.com>
Source record: 30771
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

jason_hsu@my-deja.com (Jason Hsu) wrote in message
news:<f7d9a152.0311242250.6353d9c@posting.google.com>...

> I won't bore you with too many details. One thing I noticed in a
> design I'm looking at is that 1W resistors could be subject to as much
> as 50W of power apiece during the time it takes for a relay to
> respond. This response time is 7msec. The overall duty cycle will be
> low (well under 1%).
>
> Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> second is also .35 Joules, which a 1W resistor should have no trouble
> handling. Can the resistors be damaged during that .007 seconds?

Hi. I've always read upto 10x the rated diss is workable. 50x is
really pushing it I would think. My experience with this is limited
though - but I can tell you from experience that 1500x rated power
doesnt work so well :)

Regards, NT

3755. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 13:04:31 UTC
From: "Watson A.Name - Watt Sun, Dark Remover" <alondra101@hotmail.com>
Message-ID: <MPG.1a2cf33b62f76f1f989974@news.dslextreme.com>
Source record: 30772
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

In article <f7d9a152.0311242250.6353d9c@posting.google.com>,
jason_hsu@my-deja.com mentioned...
> It's part of a design for a T/R sense circuit for a noise cancellation
> device.
>
> I won't bore you with too many details. One thing I noticed in a
> design I'm looking at is that 1W resistors could be subject to as much
> as 50W of power apiece during the time it takes for a relay to
> respond. This response time is 7msec. The overall duty cycle will be
> low (well under 1%).
>
> Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> second is also .35 Joules, which a 1W resistor should have no trouble
> handling. Can the resistors be damaged during that .007 seconds?
>
> Also, how much time does it take to damage a toroid? If it can handle
> X units of flux density continuously, how much flux density can it
> handle for .007 seconds with a low overall duty cycle (like well under
> 1%)?
>
> Jason Hsu, AG4DG
> usenet AAAAATTTTT jasonhsu.com

But what happens if the relay fails to close in 7 mSec? OOPS!

Or fails to close at all? BIG OOPS!

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

3756. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 14:02:43 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-B64737.09024425112003@news.verizon.net>
Source record: 30773
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

In article <lb06svc0ta3llgienj5qol7c3ruj8acvk2@4ax.com>,
Bill Turner <noway@nohow.com> wrote:

> On 24 Nov 2003 22:50:40 -0800, jason_hsu@my-deja.com (Jason Hsu) wrote:
>
> >Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> >PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> >second is also .35 Joules, which a 1W resistor should have no trouble
> >handling. Can the resistors be damaged during that .007 seconds?
>
> ----------
>
> You really need to ask the manufacturer of the resistor. They are well
> aware of the problem - if you get to the right person.
>
> Having said that, here is a generalization: If the resistor's element
> is a solid block of material, such as in a carbon composition type, it
> will have very good pulse power ratings. On the other hand, if the
> element is a film, it may develop tiny hot spots during pulsing and
> eventually fail.
>

Many years ago I analyzed a problem with resistors which were
discoloring in the field. This involved two identical circuits with
identical singal inputs. In one circuit, a resistor kept turning brown
over time, in the other it did not. We were getting field returns as a
result of troubleshooting that focused on the brown resistors.

What was the difference? The resistor which did not discolor was resting
on two metal traces which ran under it, the one which discolored, was
resting on the PCB. That tiny amount of heatsinking provided by the
traces was the difference. Obviously, the circuit needed to be
redesigned, but it worked great on the breadboard when it went into
production.

Al

--
There's never enough time to do it right the first time.....

3757. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 14:40:52 UTC
From: Ban <bansuri@web.de>
Message-ID: <URJwb.92953$hV.3513345@news2.tin.it>
Source record: 30774
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Jason Hsu wrote:
|| It's part of a design for a T/R sense circuit for a noise
|| cancellation device.
||
|| I won't bore you with too many details. One thing I noticed in a
|| design I'm looking at is that 1W resistors could be subject to as
|| much as 50W of power apiece during the time it takes for a relay to
|| respond. This response time is 7msec. The overall duty cycle will
|| be low (well under 1%).
||
|| Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
|| PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
|| second is also .35 Joules, which a 1W resistor should have no trouble
|| handling. Can the resistors be damaged during that .007 seconds?
||
|| Also, how much time does it take to damage a toroid? If it can
|| handle X units of flux density continuously, how much flux density
|| can it handle for .007 seconds with a low overall duty cycle (like
|| well under 1%)?
||
|| Jason Hsu, AG4DG
|| usenet AAAAATTTTT jasonhsu.com

I have here some datasheets of Beyschlag MELF-resistors (CMA0204). They take up to 40W continuous pulses if the pulse length is 200us or shorter. So 2-3 of those should be able to absorb your pulse. They also have non-inductive types for RF-apps.
--
ciao Ban

3758. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 14:47:39 UTC
From: Fred Bloggs <nospam@nospam.com>
Message-ID: <3FC36B86.5080004@nospam.com>
Source record: 30775
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Jason Hsu wrote:
> It's part of a design for a T/R sense circuit for a noise cancellation
> device.
>
> I won't bore you with too many details. One thing I noticed in a
> design I'm looking at is that 1W resistors could be subject to as much
> as 50W of power apiece during the time it takes for a relay to
> respond. This response time is 7msec. The overall duty cycle will be
> low (well under 1%).
>
> Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> second is also .35 Joules, which a 1W resistor should have no trouble
> handling. Can the resistors be damaged during that .007 seconds?

Your question is improper- no mention of resistor type - almost any
resistor type can take the limited overload if you up the steady state
power rating. When in doubt go with bulk ceramic- these products are
well characterized for pulsed overload operation and used in RF apps.
http://www.globar.com/ec/resistor.php.html

>
> Also, how much time does it take to damage a toroid? If it can handle
> X units of flux density continuously, how much flux density can it
> handle for .007 seconds with a low overall duty cycle (like well under
> 1%)?

This will be easier because the heating time constant is longer and RF
is reflected away when it saturates- you will have to measure this
yourself- it is unlikely any manufacturer has done it.

3759. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 14:56:45 UTC
From: legg@magma.ca
Message-ID: <e715b5cc.0311250656.347fc5de@posting.google.com>
Source record: 30776
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

jason_hsu@my-deja.com (Jason Hsu) wrote in message
news:<f7d9a152.0311242250.6353d9c@posting.google.com>...
> It's part of a design for a T/R sense circuit for a noise cancellation
> device.
>
> I won't bore you with too many details. One thing I noticed in a
> design I'm looking at is that 1W resistors could be subject to as much
> as 50W of power apiece during the time it takes for a relay to
> respond. This response time is 7msec. The overall duty cycle will be
> low (well under 1%).
>
> Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> second is also .35 Joules, which a 1W resistor should have no trouble
> handling. Can the resistors be damaged during that .007 seconds?
>
> Also, how much time does it take to damage a toroid? If it can handle
> X units of flux density continuously, how much flux density can it
> handle for .007 seconds with a low overall duty cycle (like well under
> 1%)?
>
> Jason Hsu, AG4DG
> usenet AAAAATTTTT jasonhsu.com

Depends on the resistor's construction. It is a rating that will be published in the mfr's data sheets. Cement-coated resistors have a low peak stress rating. Enamelled and welded wirewound, composition and ceramic resistors can have high pulse power handling capabilities in a single surge event that is characterised as being less than a half cycle of the AC line frequency (a common surge stress rating).

Toroids are basically thermally limited to their material construction class. If wire doesn't fuse, the em force applied doesn't cause mechanical damage and you don't care if volt-seconds are exceeded (saturation), a 7mSec overwattage isn't going to hurt the part permanently.

RL

3760. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 15:12:29 UTC
From: "Watson A.Name \"Watt Sun - the Dark Remover\"" <NOSPAM@dslextreme.com>
Message-ID: <bpvrgb$506vq$1@hades.csu.net>
Source record: 30777
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Al wrote:

> In article <lb06svc0ta3llgienj5qol7c3ruj8acvk2@4ax.com>,
> Bill Turner <noway@nohow.com> wrote:
>
>
>>On 24 Nov 2003 22:50:40 -0800, jason_hsu@my-deja.com (Jason Hsu) wrote:
>>
>>
>>>Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
>>>PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
>>>second is also .35 Joules, which a 1W resistor should have no trouble
>>>handling. Can the resistors be damaged during that .007 seconds?
>>
>>_____
>>
>>You really need to ask the manufacturer of the resistor. They are well
>>aware of the problem - if you get to the right person.
>>
>>Having said that, here is a generalization: If the resistor's element
>>is a solid block of material, such as in a carbon composition type, it
>>will have very good pulse power ratings. On the other hand, if the
>>element is a film, it may develop tiny hot spots during pulsing and
>>eventually fail.
>>
>
>
> Many years ago I analyzed a problem with resistors which were
> discoloring in the field. This involved two identical circuits with
> identical singal inputs. In one circuit, a resistor kept turning brown
> over time, in the other it did not. We were getting field returns as a
> result of troubleshooting that focused on the brown resistors.
>
> What was the difference? The resistor which did not discolor was resting
> on two metal traces which ran under it, the one which discolored, was
> resting on the PCB. That tiny amount of heatsinking provided by the
> traces was the difference. Obviously, the circuit needed to be
> redesigned, but it worked great on the breadboard when it went into
> production.

The resistor should never have been run at that close to its maximum
dissipation to begin with. That's a lack of what they call a
conservative design.

> Al
>

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@
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3761. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 15:33:01 UTC
From: Fred Bloggs <nospam@nospam.com>
Message-ID: <3FC37628.9000506@nospam.com>
Source record: 30778
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Watson A.Name \"Watt Sun - the Dark Remover\" wrote:

>
>
> The resistor should never have been run at that close to its maximum
> dissipation to begin with. That's a lack of what they call a
> conservative design.

That's exactly right-and this story about "it worked right during production testing" points up the fact that the price you pay for misapplying a component is extended in-house testing designed at a higher skill level than the usual application engineer possesses.

3762. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 16:26:45 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bpvvrm$1j9$1@news.oregonstate.edu>
Source record: 30687
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Watson A.Name - Watt Sun, Dark Remover <alondra101@hotmail.com> wrote:
> But what happens if the relay fails to close in 7 mSec? OOPS!

True, but -- while relays aren't exactly that horribly reliable,
long-term -- for transistor-driver applications it's not at all surprising
to see components used that would fry if left on full-time. For instance,
you often see drive transistors for the ringers of cell phones that would be
operating above their rated specs if they were turned 'on' 100% of the time,
yet such a design is still practical for the sake of cost savings and
miniaturization in a that type of product.

---Joel Kolstad

3763. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 17:04:14 UTC
From: optoeng@pioneernet.net
Message-ID: <ed443a10.0311250904.64f0ffb6@posting.google.com>
Source record: 30779
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

jason_hsu@my-deja.com (Jason Hsu) wrote in message
news:<f7d9a152.0311242250.6353d9c@posting.google.com>...
> It's part of a design for a T/R sense circuit for a noise cancellation
> device.
>
> I won't bore you with too many details. One thing I noticed in a
> design I'm looking at is that 1W resistors could be subject to as much
> as 50W of power apiece during the time it takes for a relay to
> respond. This response time is 7msec. The overall duty cycle will be
> low (well under 1%).
>
> Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> second is also .35 Joules, which a 1W resistor should have no trouble
> handling. Can the resistors be damaged during that .007 seconds?
>
> Also, how much time does it take to damage a toroid? If it can handle
> X units of flux density continuously, how much flux density can it
> handle for .007 seconds with a low overall duty cycle (like well under
> 1%)?
>
> Jason Hsu, AG4DG
> usenet AAAAATTTTT jasonhsu.com

Resistor pulse ratings can be difficult to obtain from manufacturers. As stated by another poster, peak power ratings on datasheets are often about 10x continuous, sometimes even lower. For high value resistors, the voltage across the resistor may be the limiting factor. Anyhow, I've destructively tested lots of low value resistors. For some intermediate range of pulse durations, their failure point tends to follow the famous 'I-squared-t equals K' curve, which describes the ideal tradeoff between time and power level. At some short pulse duration, the failure threshold becomes roughly constant. The resistor reaches a power density that causes rapid destruction of the conductor. For wirewound and metal oxide resistors, this power level can be 100s of times the average power rating. For carbon composition resistors, 50x may or may not be destructive. Carbon film and thick film resistors have failure points that vary all over the map. This is partly due to the way that they are trimmed: scribing or laser cutting produces a narrow area in the resistive element, which concentrates power in a small zone. Failure is usually due to cracking of the element as it expands more rapidly than the substrate. This is why pulse ratings for these type resistors are usually very

low multiples of their continuous rating. So, it depends.
Paul Mathews

3764. phone-cells and ham radio

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 18:28:01 UTC
From: pdrunen@aol.com
Message-ID: <20031125132801.05620.00000988@mb-m13.aol.com>
Source record: 30780

Hi Group,

I have a phone-cell just like alot of hams which gets free service over the weekends and after 9 pm on the weekdays. I also spend alot of time on the road. I have tried HF mobile but it just not like the base with the car noise and weaker signal.

Has anyone designed a phone-cell interface so that I can call my home number and connect up to the HF or VHF rig?

I would be interested in hearing about any cell phone and ham related projects.

de KJ4UO

3765. Re: ICF2001 schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 18:48:17 UTC
From: Brian Zdan <bzdan@novia.net>
Message-ID: <3fc3a35d$0$795$45beb828@newscene.com>
Source record: 30781

Do you still need a schematic for the 2001? If so, I will look around
for mine.

Brian KM0Y

Serial # 19781010 wrote:

>I need schematics for Sony ICF2001 (not ICF2001D). It has very bad
>reciption.
>
>Dusan, YT1DL
>
>

3766. Re: HP 8640B LF ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 19:34:38 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <i9Owb.968$_b7.240083079@hebe.telenet-ops.be>
Source record: 30782

I saw in the application notes for hp that for extending the range,they use dividers with filters.
An other example was the use of the 5 MHz output as lo for a mixer.
Then use the generator in the range from 5 to 5.5 MHz and feed this also in a mixer.

3767. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 21:30:35 UTC
From: averyfineman@aol.com
Message-ID: <20031125163035.05539.00002597@mb-m16.aol.com>
Source record: 30783

In article <lb06svc0ta3llgienj5qol7c3ruj8acvk2@4ax.com>, Bill Turner
<noway@nohow.com> writes:

>On 24 Nov 2003 22:50:40 -0800, jason_hsu@my-deja.com (Jason Hsu) wrote:
>
>>Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
>>PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
>>second is also .35 Joules, which a 1W resistor should have no trouble
>>handling. Can the resistors be damaged during that .007 seconds?
>
>_____
>
>You really need to ask the manufacturer of the resistor. They are well
>aware of the problem - if you get to the right person.
>
>Having said that, here is a generalization: If the resistor's element
>is a solid block of material, such as in a carbon composition type, it
>will have very good pulse power ratings. On the other hand, if the
>element is a film, it may develop tiny hot spots during pulsing and
>eventually fail.

Absolutely a good, pragmatic answer, Bill. MANY components can
survive a very short power overload. Carbon Comps do.

A "sacrifice" test can be done with a DC power supply, an electrolytic
capacitor, and a switch. Charge up the electrolytic, then dump the
charge through the resistor. It should be a trivial thing to calculate the
"pulse" of the initial charge-dump through the resistor for any under-
or post-grad engineering type...for a particular resistance, capacitor,
and voltage.

A rough time-constant of t = R x C yields the "pulse" time. Figure
the "pulse" power as half the capacitor charge voltage across
the resistor under test. Not precision, true, but pragmatic and
quick.

If it doesn't survive, well, too bad. [sacrifice]

If it survives, try it several more times, noting appearance, resistance
before and after each "pulse" test.

...or, everyone else can spend a lot of time at "intellectual arguments"
in here without ever trying it out on the bench... :-)

Len Anderson
retired (from regular hours) electronic engineer person

3768. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-25 23:28:38 UTC
From: jgboyles@aol.com
Message-ID: <20031125182838.19942.00001024@mb-m02.aol.com>
Source record: 30784

>Your question is improper- no mention of resistor type

I thought there were no improper questions, just improper answers: -). You can substitute stupid or whatever for improper. When a beginner asks a question (not sure Jason is a beginner) it doesn't help them much to tell it is improper. Just makes them feel bad.
73 Gary N4AST

3769. Re: HP 8640B LF ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 00:08:26 UTC
From: k7itm@aol.com
Message-ID: <3200347.0311251608.51f2cc41@posting.google.com>
Source record: 30785

fmmck@aol.com (Fred McKenzie) wrote in message
news:<20031123090340.10213.00000769@mb-m01.aol.com>...
> << I just acquired an HP 8640B and now I'd like to get rid of my HP 606A but I
> need to go below 500 KHz. >>
>
> Hank-
>
> Recently someone mentioned that the 8640B was a UHF signal generator that had
> digital dividers for lower frequencies. If that is true, you might be able to
> add additional dividers to go lower in frequency. You might have to sacrifice
> one of the existing bands, depending on how extensive the modification is.
>
> 73, Fred, K4DII

Yes, it uses digital divide-by-2 stages, but to get low harmonic
content in the output, the square wave is filtered by some pretty
decent filters. I don't know what the going price of things like the
HP3325A is, but that's a decent generator with very good frequency
resolution. For the low frequencies involved, you could also just use
a DDS, followed by a switched attenuator. A mixer down from higher
freqs is OK if you don't care about phase noise, I guess; add a LPF to
get rid of RF and LO feedthrough. You do miss one of the nice things
about the HP8640B, though, which is high output power. Getting back
to +20dBm with op amps shouldn't be too hard, but to keep SNR good,
you'd want to follow that with a step attenuator anyway (or take the
amplifier out of the circuit), probably, and not rely on just the 8640
output level to do the trick at really low levels.

Cheers,
Tom

3770. RS DX-394B: why 2nd LO buffer added?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 02:14:09 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <M_Twb.7948$Eq1.987002@news20.bellglobal.com>
Source record: 30786
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Apart from the new pcb, the main electrical difference between the Radio Shack DX-394B and its immediate predecessor, the DX-394A, is the addition of an emitter follower buffer amp between the output of the 2nd local Oscillator (the emitter of the one transistor 44.5MHz VCXO) and the 2nd mixer. The latter is a 2SK210-Y/YY VHF N-channel JFET; 1st IF is injected at the gate and the 2nd LO at the drain.

Why would the designers add the buffer? What performance comparison should I make between the A and the B model to assess whether it would be worthwhile to retrofit a similar buffer to the A model? I can say that I have not noticed any dramatic difference with my usual listening habits.

Tom

3771. If you Love Free Movies....

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 03:30:58 UTC
From: Mom's New Job! <gworrell@cfl.rr.com>
Message-ID: <S7Vwb.3154$Cv6.2826@twister.tampabay.rr.com>
Source record: 30787

--
Turn $1.33 a day into a HUGE MONTHLY INCOME!

Get FREE Movies, Music, Video Games, Computers, And Cellular Products!

http://www.movieclubplus.com/sw0006434

3772. Re: RS DX-394B: why 2nd LO buffer added?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 03:31:16 UTC
From: Carl WA1KPD <nantucketbound@yahoo.com>
Message-ID: <GsKdnU-_FeMag1miRVn-sw@comcast.com>
Source record: 30788
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

```
--
Carl
WA1KPD
Visit My Boatanchor Collection at http://pages.cthome.net/nord/wa1kpd.html
"Tom Holden" <holden_family@sympatico.ca> wrote in message
news:M_Twb.7948$Eq1.987002@news20.bellglobal.com...
> Apart from the new pcb, the main electrical difference between the Radio
> Shack DX-394B and its immediate predecessor, the DX-394A, is the addition
of
> an emitter follower buffer amp between the output of the 2nd local
> Oscillator (the emitter of the one transistor 44.5MHz VCXO) and the 2nd
> mixer. The latter is a 2SK210-Y/YY VHF N-channel JFET; 1st IF is injected
at
> the gate and the 2nd LO at the drain.
>
> Why would the designers add the buffer? What performance comparison should
I
> make between the A and the B model to assess whether it would be
worthwhile
> to retrofit a similar buffer to the A model? I can say that I have not
> noticed any dramatic difference with my usual listening habits.
>
> Tom
>
>
```

3773. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 04:59:56 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <grWwb.233239$ao4.837321@attbi_s51>
Source record: 30789

"J M Noeding" <la8ak.xnd@online.no> wrote in message
news:3fc14e89.122290962@news.online.no...
>, he also mentions
> using two MOSFETs to form a variable capacitor with maximum
> capacitance of 1500pF

Why bother with MOSFETs? You can get varactor diodes used for tuning
AM broadcast receivers with that much capacitance.

Rick N6RK

3774. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 05:01:35 UTC
From: "Watson A.Name - Watt Sun, Dark Remover" <alondra101@hotmail.com>
Message-ID: <MPG.1a2dd372e8a64dec989978@news.dslextreme.com>
Source record: 30790
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

In article <3FC37628.9000506@nospam.com>, nospam@nospam.com
mentioned...
>
>
> Watson A.Name \"Watt Sun - the Dark Remover\" wrote:
>
> >
> >
> > The resistor should never have been run at that close to its maximum
> > dissipation to begin with. That's a lack of what they call a
> > conservative design.
>
> That's exactly right-and this story about "it worked right during
> production testing" points up the fact that the price you pay for
> misapplying a component is extended in-house testing designed at a
> higher skill level than the usual application engineer possesses.

I worked for a small company that was owned by a conglomerate. The
conglomerate said that they'd never use any of our equipment that were
in a blue case. Which, since almost everything was in a blue case...

Anyway, we had problems with the 7805 regulators shutting down from
overtemp. They were mounted on the PCB with a small heatsink. So we
had to ECO them by adding a few inches of wire and bolting the 7805 to
the aluminum case, which soaked up plenty of heat. After that, no
more weird behavior.

--
@@F@r@o@m@@O@r@a@n@g@e@@C@o@u@n@t@y@,@@C@a@l@,@@w@h@e@r@e@@
###Got a Question about ELECTRONICS? Check HERE First:###
http://users.pandora.be/educypedia/electronics/databank.htm
My email address is whitelisted. *All* email sent to it
goes directly to the trash unless you add NOSPAM in the
Subject: line with other stuff. alondra101 <at> hotmail.com
Don't be ripped off by the big book dealers. Go to the URL
that will give you a choice and save you money(up to half).
http://www.everybookstore.com You'll be glad you did!
Just when you thought you had all this figured out, the gov't
changed it: http://physics.nist.gov/cuu/Units/binary.html
@@t@h@e@@a@f@f@l@u@e@n@t@@m@e@e@t@@t@h@e@@E@f@f@l@u@e@n@t@@

3775. Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 06:03:11 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FC4421F.61BDE4DA@noDirectEmail.com>
Source record: 30791

Not long ago and in another thread many of you gave me great advice on how to make a car battery float charger. I wanted to just connect a properly sized wall wart, but everyone recommended voltage regulation. So I connected a voltage regulator (13.6V) to a 500mA wall wart. The wall wart has an open-circuit voltage of 18V and is rated 500mA at 12 V.

Further background, I built this charger to prevent my having to start a friends car once a week while they're on extended vacation.

Now two weeks later I check the battery. Its voltage is 12.7V. The charger circuit measures 13.7V. And I measured the drain, from the alarm and radio, it is 10mA.

The ambient temperature on average is about 40F.

What went wrong? Why is the battery only 12.7V instead of 13.7?

Lacking a better solution from you guys it seems we need more power, ugh, ugh. 2A ought to do it.

Spec's say that car batteries (at room temperature) are best regulated at 13.3V. For 32 degrees F 14.2V is better.

Yet the failure analysis remains incomplete. Where did we go wrong?

Thanks for your help.

3776. Re: RS DX-394B: why 2nd LO buffer added?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 06:53:00 UTC
From: CW <clinton.magers@comcast.net>
Message-ID: <g5Ywb.111084$Dw6.530415@attbi_s02>
Source record: 30792
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Now that was informative.

"Carl WA1KPD" <nantucketbound@yahoo.com> wrote in message
news:GsKdnU-_FeMag1miRVn-sw@comcast.com...
>
>
> --
> Carl
>

3777. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 08:20:50 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <l4k8sv8o97beol2e60o9vi08phj4q5nqg0@4ax.com>
Source record: 30793

On Wed, 26 Nov 2003 04:59:56 GMT, "Rick Karlquist N6RK"
<richard@karlquist.removethis.com> wrote:

>
>"J M Noeding" <la8ak.xnd@online.no> wrote in message
>news:3fc14e89.122290962@news.online.no...
>>, he also mentions
>> using two MOSFETs to form a variable capacitor with maximum
>> capacitance of 1500pF
>
>Why bother with MOSFETs? You can get varactor diodes used for tuning
>AM broadcast receivers with that much capacitance.

What is the capacitance tolerance for such varactors and what is the
temperature coefficient ? These can be quite a problem in any
oscillator circuits.

To get such huge capacitance, the control voltage must be quite low.
In LF receiver front ends, the total RF voltage from any decent sized
antenna can be quite large, modulating the varactor voltage and hence
capacitance. This sounds like a varactor multiplier :-). Such
behaviour would not be so nice from intermodulation point of view.

In the worst case, the varactor could even be driven into conduction
due to a large applied total RF voltage, so a pair of back to back
varactors would have to be used. But with two capacitors in series in
the resonant circuit, the capacitance drops to one half of a single
varactor capacitance, thus, you would have to use two pairs of back to
back (4) varactors of 1500 pF each to get a total 1500 pF capacitance.

Even a larger number of varactors would be preferable, so a higher
minimum voltage could be used, with less risk for RF generated tuning
voltage modulation, but then the minimum capacitance would also
increase due to the limited maximum tuning voltage characteristics of
the varactor maximum available tuning voltage supply. I guess that the
larger varactors are quite expensive, so this would also limit the
number of units.

Switching in some fixed capacitors (e.g. in a binary sequence) avoids
some of these problems, but it would be quite hard to operate the
circuit with a large number of fixed capacitors.

Paul OH3LWR

3778. Re: any good books?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 08:40:01 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <BFZwb.334008$0v4.18758003@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30794

It should still be available.....I got mine a couple of years ago.
Another good book is "Solid State Radio Engineering"

Pete

Alfred Lorona <w6wqc@dslextreme.com> wrote in message
news:bpc986$1ligoi$1@ID-49117.news.uni-berlin.de...
>
>
> (snip)
> > which are the classics that the experienced members always
> > suggest
>
> Microwave Transistor Amplifiers by Guillermo Gonzalez for small signal
> design and Radio Frequency Transistors by Norm Dye and Helge Granberg for
> power amplifier design. Don't know if the latter is still in print. Check
> Opamp Technical Books at 1-800-468-4322.
>
>

3779. Sony ICF-SW7600GR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 10:26:57 UTC
From: bozidar.pasaric@ri.hinet.hr
Message-ID: <1g513nf.11ggyjq1sl1b5kN%bozidar.pasaric@ri.hinet.hr>
Source record: 30795

Although that receiver is a broadcast-all-frequency portable radio, I think that this info could be of some interest to homebrewers and especially beginners. Many young future amateurs often ask me where they could buy a good amateur-band receiver. However, all the devices in the market today are transcievers, which are quite expensive and you must have a licence, too. So, I could not give them a satisfactory answer. I usually recommend some kit and my technical support, but this seldom works. The other day I had an opportunity to use a Sony ICF-SW7600GR receiver, and I was pleasantly surpised. The receiver is a double conversion superhet; it has all amateur bands, SSB mode (USB and LSB), CW, a BFO and an attenuator in the antenna. The VFO is a PLL covering all frequencies between 150 kHz and 30 MHz. There as a key-pad where you can type in the frequency, but after that you can change it in 1 kHz steps up and down by means of four press-buttons in the lower right-hand corner of the receiver. Finer tuning is easy with the BFO. The sensitivity is about 1.5 microvolts, and the selectivity about 4 kHz. Since the CW signal is strictly one-sided, it is easy for a homebrewer to add an active AF CW filter, if he thinks it to be necessary. I use the RX also as a precision and very sensitive frequency meter for the HF oscillators I build.

I think that SWL listeners, and QRP TX builders could use that receiver. Since the RX has been catalogized as a general consumption produce, it is easy to order it with any Sony seller. The price is about 170 dollars. This is not an advertisement, because I have not any connection with Sony, but I believe that this info will be useful to amateurs. I have been licenced since 1953, being a half-century homebrewer, and I am glad that I could find such a product in the market. You can find something more about it at <http://stephan.win31.de/sony7600.htm>.

You can also read about my Tayloe homebrew receiver at <http://www.hanssummers.com/electronics/gallery/4/>. Best wishes, Bozidar, 9a2hl

3780. Antenna design choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 12:09:06 UTC
From: Roger Conroy <rogerconroy@nospam.hotmail.com>
Message-ID: <bq256p$8ht$1@ctb-nnrp2.saix.net>
Source record: 30796

Does the thickness of the material used in antenna construction make any
difference to its performance? (Other than the obvious mechanical strength)
I have the option of using 3mm copper rod OR 15mm Copper pipe for 2m and
70cm 1/4 wave groundplanes.

73
Roger ZR3RC

3781. Re: HP 8640B LF ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 12:44:00 UTC
From: Jeff Anderson <jeffa@ix.netcom.com>
Message-ID: <ke1xb.18079$sb4.14437@newsread2.news.pas.earthlink.net>
Source record: 30697

HP made a downconverter for the 8640B. It's the 11710B.

- Jeff, WA6AHL

3782. Re: Antenna design choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 12:57:31 UTC
From: k3bu@aol.comnoSaddam
Message-ID: <20031126075731.19914.00001052@mb-m02.aol.com>
Source record: 30698

>
>Does the thickness of the material used in antenna construction make any
>difference to its performance? (Other than the obvious mechanical strength)
>I have the option of using 3mm copper rod OR 15mm Copper pipe for 2m and
>70cm 1/4 wave groundplanes.
>
>73
>Roger ZR3RC
>
>

Yes, resonant frequency will change. To maintan the resonant frequency you need to shorten the thicker diameter elements.

Yuri, K3BU

3783. Re: Antenna design choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 12:59:44 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <4t1xb.27985$oN2.13223@edtnps84>
Source record: 30699

The bigger the pipe, the lower the 'Q' factor, hence you'll get wider bandwidth.

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

3784. FS Boonton 160a Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 13:10:32 UTC
From: amdx <amdx@att.net>
Message-ID: <cD1xb.114504$Ec1.4995257@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30700

I have a Boonton Q-meter Type 160-A Technical manual.
It is a War Department Technical manual # TM11-2635
Dated, 3 January 1945. Condition is good.
If anyone has a Boonton 160-A and needs a manual
please email me.

Mike
amdx@att.net

3785. Re: RS DX-394B: why 2nd LO buffer added?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 15:19:58 UTC
From: n2ah@hotmail.com
Message-ID: <774a2c02.0311260719.326e0550@posting.google.com>
Source record: 30701
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

"Tom Holden" <holden_family@sympatico.ca> wrote in message
news:<M_Twb.7948$Eq1.987002@news20.bellglobal.com>...
> Apart from the new pcb, the main electrical difference between the Radio
> Shack DX-394B and its immediate predecessor, the DX-394A, is the addition of
> an emitter follower buffer amp between the output of the 2nd local
> Oscillator (the emitter of the one transistor 44.5MHz VCXO) and the 2nd
> mixer. The latter is a 2SK210-Y/YY VHF N-channel JFET; 1st IF is injected at
> the gate and the 2nd LO at the drain.
>
> Why would the designers add the buffer? What performance comparison should I
> make between the A and the B model to assess whether it would be worthwhile
> to retrofit a similar buffer to the A model? I can say that I have not
> noticed any dramatic difference with my usual listening habits.

They obviously wanted to provide some isolation and/or impedance
matching between the oscillator and the mixer. It's a good engineering
practice, but may not have much practical effect. If you don't notice
a difference, then don't bother retrofitting.

Art Harris N2AH

3786. Re: THE LIMP ONE LIST - 3 SO FAR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 15:33:39 UTC
From: Doug Davis <dougd@buckeye-horsenose-express.com>
Message-ID: <XqudncLeU7itVVmiRVn-hg@buckeye-express.com>
Source record: 30702
Cross-posted to: alt.ham-radio.hf,alt.ham-radio.ssb,alt.radio.amateur,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Is this all you have to do, you piece of shit?

"BIG-AL@3894.5-LSB-75-METERS" <BIG-AL -003894.5-LSB-75-METERS@
BIG-AL -003894.5-LSB-75-METERS> wrote in message
news:vn6pet1b11o0fc@corp.supernews.com...
> NUMBER ONE ON THE LIST IS (DRUM ROLL)
>
> LEO
>
> WHY. WELL FOR BEING JUST PLAIN EASY TO TROLL.
>
>
> NUMBER TWO (DRUM ROLL)
>
> RENE
>
> WHY. WELL FOR BEING JUST PLAIN DUMB. HEY KIDO, NOBODY CARES. GET IT???
>
> NUMBER THREE (FART SOUND)
>
> CONCERNED OF USENET
>
> WHY. WELL THIS PERSON HAS TO BE THE BIGGEST IDIOT ON HERE. DOES IT THINK
> THAT POSTING PUBLIC HEADERS IN A MESSAGE IS GOING TO AMOUNT TO ANYTHING.
> WELL I GUESS HE/SHE DOESN'T HAVE A CLUE.
>
>
>
>

3787. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 15:36:02 UTC
From: Harry Dellamano <harryd@tdsystems.org>
Message-ID: <CL3xb.75$785.38@nwrddc01.gnilink.net>
Source record: 30703
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

"Jason Hsu" <jason_hsu@my-deja.com> wrote in message
news:f7d9a152.0311242250.6353d9c@posting.google.com...
> It's part of a design for a T/R sense circuit for a noise cancellation
> device.
>
> I won't bore you with too many details. One thing I noticed in a
> design I'm looking at is that 1W resistors could be subject to as much
> as 50W of power apiece during the time it takes for a relay to
> respond. This response time is 7msec. The overall duty cycle will be
> low (well under 1%).
>
> Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> second is also .35 Joules, which a 1W resistor should have no trouble
> handling. Can the resistors be damaged during that .007 seconds?
>
> Also, how much time does it take to damage a toroid? If it can handle
> X units of flux density continuously, how much flux density can it
> handle for .007 seconds with a low overall duty cycle (like well under
> 1%)?
>
> Jason Hsu, AG4DG
> usenet AAAAATTTTT jasonhsu.com

Kamaya Ohm Resistors. I love those guys. Check it out, 1W SMD 500W @ 7ms.

http://www.kamaya.co.jp/us/image/catalog-46.pdf

enjoy
harry

3788. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 17:03:14 UTC
From: kensmith@violet.rahul.net
Message-ID: <bq2mci$3o0$1@blue.rahul.net>
Source record: 30704
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

In article <g997sv4hkrvcn37usfr9diaqfcs0judk7v@4ax.com>,
Bill Turner <noway@nohow.com> wrote:
[...]
>I'll say it again: Use the manufacturer's pulse rating specs. If they
>don't provide such specs, you'd be better off finding one who does.

Also:

If the maker's specification says "2.5 times overload for 3 seconds",
don't figure that 3 times overload for 2.5 seconds is ok too.

Watch out for the voltage limits as well as power limits. With high value
resistors it is sometimes the voltage that limits you.

With SMT parts, all limits only apply if the part in mounted the way the
maker expected.

--
--
kensmith@rahul.net forging knowledge

3789. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 17:50:55 UTC
From: brianburke@juno.com
Message-ID: <f45722ac.0311260950.5cb493c3@posting.google.com>
Source record: 30705
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Watson A.Name - "Watt Sun, Dark Remover" <alondra101@hotmail.com> wrote in message news:<MPG.1a2cf33b62f76f1f989974@news.dslextreme.com>...
>
> But what happens if the relay fails to close in 7 mSec? OOPS!
>
> Or fails to close at all? BIG OOPS!

I think the resistor becomes a fuse.

3790. FS: Panel Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 18:51:03 UTC
From: Bob Stein <bobXstein@sbcglobal.net>
Message-ID: <3FC4F617.30708@sbcglobal.net>
Source record: 30706

The following panel meters are all dc moving coil (D'Arsonval) types
except as noted.

Ammon 0-50-100 1.75" square $10 (2-0-2 mA FS, zero
center)
BA 0-1500 V 3" square 10 (200 uA FS)
Beede 0-1 mA 4"x5" rect 10
Bird 0-15-60 W 3.5" round Free (bad movement)
G.E. 0-10 Vac 3.5" square 5 (scratch on face)
G.E. 0-500 mA 3.5" round 10
G.E. 0-500 mA ac 3.5" square 10
HP 0-10 V, -10-+3 dBm 2.25" half round 7 (1 mA FS)
HP 0-100% Modulation 4.25" square 25 (50 uA FS)
Knight 0-50 uA 3"x4.5" rect 10
Modutec -10-+2 dBm 3"x3.5" rect 10 (1 mA FS)
Shurite -20-+3 VU 1.5x0.5 edge 10 (NIB)
Sierra 0-10-50 W 3.5" square 5 (may have cracked
jewel)
Simpson 0-1 mA 1.75" square 7
Simpson 0-1.0 3.5" round 5 (0.5 mA FS)
Simpson 0-25 uA 2.5" square 5 (broken housing)
Simpson 0-250 Vac 3.5" square 20 (NOS)
Sun 0-1 mA 2.5" round 7
Triplett 0-250 Vac 4" square 25 (NOS)
Triplett 0-500 A 2.5" square 5 (7.5 mA FS, broken
mounting screws)
Weston 0-50 mA 3.5" round 10
Weston 1-10-Inf VSWR 3.5" round 10 (30 uA FS)
Weston 50-0-50 mA 3.5" round 20 (zero center)

Above prices do not include shipping from 94024. Will entertain
offers on any or all.

Bob, W6NBI

--
Remove spam-suppression X from my address

3791. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-26 22:27:29 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <IN9xb.236631$ao4.844855@attbi_s51>
Source record: 30707

> >Why bother with MOSFETs? You can get varactor diodes used for tuning
> >AM broadcast receivers with that much capacitance.
>
> What is the capacitance tolerance for such varactors and what is the
> temperature coefficient ? These can be quite a problem in any
> oscillator circuits.

The tolerance of AM BCB varactors is extremely tight,
since the front end has to track with the LO in the radio.
Certainly far tighter tolerance than unspecified MOSFETs.

The tempco of those varactors is very low. Probably better than
any inductor you are going to resonate it with. In the low
100's of PPM.

> To get such huge capacitance, the control voltage must be quite low.

No it's not. The tuning voltage range is at least 10 volts and often
higher. At least as high as the breakdown voltage of the gate
oxide in a MOSFET.

> varactor capacitance, thus, you would have to use two pairs of back to
> back (4) varactors of 1500 pF each to get a total 1500 pF capacitance.

You can get several thousand pF in one diode from Toko. 1500 pF is
by no means the limit.

. I guess that the
> larger varactors are quite expensive, so this would also limit the
> number of units.

No they're not expensive. Consumer electronics manufacturers
buy them by the millions at low prices.

> Paul OH3LWR

Rick N6RK

3792. Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 01:08:04 UTC
From: haf47@juno.com
Message-ID: <f03bf94f.0311261708.65235a78@posting.google.com>
Source record: 30708

Recent visits to my local Radio Shack for even the most simple components has left me disappointed. Recently I had the need for 5 10uf electrolytics at any voltage really, and could not find them at 3 local stores.

There used to be a selection of 25 or so IC's that were widely used and popular...no more tho.

Even a simple LM386 could not be found around here.

Also, the parts are now being jammed into these ugly parts bins as if to hide them from view.

Is this the same situation where you live?

One manager mentioned that components are no longer a real concern of management and that he is under the impression that "parts" are on the way out soon.

Wouldn't that just be the way...the old local electronics places are out of business, and the Shack eliminates their parts. They sure do have answers, don't they?

de WA2AFD

3793. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 01:19:17 UTC
From: la8ak.xnd@online.no
Message-ID: <3fc54f08.25260182@news.online.no>
Source record: 30709

"Rick Karlquist N6RK" <richard@karlquist.movethis.com> wrote:

>Why bother with MOSFETs? You can get varactor diodes used for tuning
>AM broadcast receivers with that much capacitance.
>
>
>You can get several thousand pF in one diode from Toko. 1500 pF is
>by no means the limit.
>
I really doubt these varactor diodes are much good for tuning a transmitters PA? I don't want to go into retyping all the pages from G3VA, but the circuits are still shown as noted in the first place at http://home.online.no/~la8ak/c97.htm , you need some amount of mosfets to build a 10nF variable capacitor, but it is realisable. Don't know about other types mosfets than the mentioned ARF446/7 and APT10050, I got some hundreds IRF630 for nothing on a Scandinavian VHF meeting......
Technical topics, Radcom December 2003 pg 71 (G3VA): The note is based on "Frequency-Agile Class-D Power amplifier, by Frederick H Raab and Daniel Ruppe of Green Mountain Radio Research Company, and was presented at recent IEE HF Conference at Bath University. It describes (IEE Conference Publication No.493, pp81-85) an electronically-tuned class-D power amplifier that addresses the simultaneous needs for efficiency and frequency agility.

Since the yanks probably wouldn't accept any ideas from the ozzer world, I can enlighten you that Dr Raab is WA1WLW

73
from LA8AK in Europe
--
remove ,xnd to reply (Spam precaution!)

3794. Re: FS Boonton 160a Manual SOLD

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 01:21:28 UTC
From: amdx <amdx@att.net>
Message-ID: <skcxb.338631$0v4.18830384@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30710

Sorry It's Sold.

"amdx" <amdx@att.net> wrote in message
news:cD1xb.114504$Ec1.4995257@bgtnsc05-news.ops.worldnet.att.net...
> I have a Boonton Q-meter Type 160-A Technical manual.
> It is a War Department Technical manual # TM11-2635
> Dated, 3 January 1945. Condition is good.
> If anyone has a Boonton 160-A and needs a manual
> please email me.
>
> Mike
> amdx@att.net
>
>
>

3795. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 01:58:25 UTC
From: Ghost writer <Spamfree@Spamfree.com>
Message-ID: <5Tcxb.38616$A%3.515295@ord-read.news.verio.net>
Source record: 30711

"Howard" <haf47@juno.com> wrote in message
news:f03bf94f.0311261708.65235a78@posting.google.com...
> Recent visits to my local Radio Shack for even the most simple
> components has left me disappointed. Recently I had the need for 5
> 10uf electrolytics at any voltage really, and could not find them at 3
> local stores.
>
> There used to be a selection of 25 or so IC's that were widely used
> and popular...no more tho.
>
> Even a simple LM386 could not be found around here.
>
> Also, the parts are now being jammed into these ugly parts bins as if
> to hide them from view.
>
> Is this the same situation where you live?
>
> One manager mentioned that components are no longer a real concern of
> management and that he is under the impression that "parts" are on the
> way out soon.
>
> Wouldn't that just be the way...the old local electronics places are
> out of business, and the Shack eliminates their parts. They sure do
> have answers, don't they?
>
> de WA2AFD

No body ever said they had to be the "right" answers! Half the sales people
don't know what they're selling anyway. G.W.

3796. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 02:04:22 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3fc5592c@wobble>
Source record: 30712

Bill Turner wrote:

> I wouldn't be surprised. Radio Shack's only advantage, IMO, is they're
> handy. If you don't mind mail order, you can get equal or better parts
> and FAR better selection from Mouser or Digi-Key, and probably spend
> less overall even when shipping is included. Get a catalog and give 'em
> a try.

Amen!

Dana

3797. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 02:27:08 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <0idxb.35023$m84.4947006@news1.news.adelphia.net>
Source record: 30713

Howard wrote:

> Recent visits to my local Radio Shack for even the most simple
> components has left me disappointed. Recently I had the need for 5
> 10uf electrolytics at any voltage really, and could not find them at 3
> local stores.
>
> There used to be a selection of 25 or so IC's that were widely used
> and popular...no more tho.
>
> Even a simple LM386 could not be found around here.
>
> Also, the parts are now being jammed into these ugly parts bins as if
> to hide them from view.
>
> Is this the same situation where you live?
>
> One manager mentioned that components are no longer a real concern of
> management and that he is under the impression that "parts" are on the
> way out soon.
>
> Wouldn't that just be the way...the old local electronics places are
> out of business, and the Shack eliminates their parts. They sure do
> have answers, don't they?

I wonder what their answer will be when the cell phone market is saturated. (which is starting now) I really doubt that the Shack will survive, since they've pinned so much on cell phones.

- Mike KB3EIA -

3798. Re: RS DX-394B: why 2nd LO buffer added?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 02:59:26 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <8Ldxb.14328$Eq1.1365533@news20.bellglobal.com>
Source record: 30714
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Art Harris wrote:
> "Tom Holden" <holden_family@sympatico.ca> wrote in
> message
[snip]
>> Why would the designers add the buffer? What performance
>> comparison should I make between the A and the B model
>> to assess whether it would be worthwhile to retrofit a
>> similar buffer to the A model? I can say that I have not
>> noticed any dramatic difference with my usual listening
>> habits.
>
> They obviously wanted to provide some isolation and/or
> impedance
> matching between the oscillator and the mixer. It's a
> good engineering
> practice, but may not have much practical effect. If you
> don't notice
> a difference, then don't bother retrofitting.

The oscillator is an emitter follower, too, so I doubt that impedance matching is the objective. What would the increased isolation achieve? Would it preclude mixing of 1st IF energy in the oscillator? Should this be of some benefit for intermodulation products?

Tom

3799. would like advice on idea for class E SSB Exciter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 03:45:49 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <J8idnb4eZ6nw8FiiRVn-gw@comcast.com>
Source record: 30715

Hi,

I'm considering making a class E amplifier for single-sideband output, but from what I understand, modulating the plate voltage produces double-sideband. I'd like to avoid that if I can.

I'm thinking of taking regular audio, digitally processing it into single-sideband using a soundcard, and then digitizing that to 8-bits.

I'd then create 8 class E amplifiers that put out 1/8w, 1/4w, 1/2w, 1w, 2w, 4w, 8w, and 16 watt outputs for the same signal; modulating each one as CW in accordance with the audio bit.

I'd combine the outputs through a power combiner.

Questions:

1) Would this scheme be possible for creating SSB by parallel switching of CW amplifiers in accordance with a digitized audio signal?

2) Would I need to create assymetrical power combiners to combine the amplitudes of the different signals, or could I get away with simply making a symmetrical 8-way combiner.

Thanks in advance,

The Eternal Squire

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.543 / Virus Database: 337 - Release Date: 11/21/03

3800. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 04:04:21 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FC577A7.E0E9DF4E@earthlink.net>
Source record: 30716

Howard wrote:
>
> Also, the parts are now being jammed into these ugly parts bins as if
> to hide them from view.
>
> Is this the same situation where you live?
>
> de WA2AFD

Yes, the few stores around here have stuffed the few parts into those cabinets. I don't think they are that bad, I'd like a couple dozen for my shop here at home for bigger parts. I have 25, 50 drawer parts cabinets already full of parts, but the drawers are too small for rotary switches and large connectors. Maybe they will pitch them out if they drop their remaining parts. There are six stores within an hours drive.

--
I say, the boy is so stupid that he tried to make a back up copy of his hard drive on the Xerox machine!

Michael A. Terrell
Central Florida

3801. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 04:06:06 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FC57815.A07115E2@earthlink.net>
Source record: 30717

J M Noeding wrote:
>
> "Rick Karlquist N6RK" <richard@karlquist.movethis.com> wrote:
>
> >Why bother with MOSFETs? You can get varactor diodes used for tuning
> >AM broadcast receivers with that much capacitance.
> >
> >
> >You can get several thousand pF in one diode from Toko. 1500 pF is
> >by no means the limit.
> >
> I really doubt these varactor diodes are much good for tuning a
> transmitters PA? I don't want to go into retyping all the pages from
> G3VA, but the circuits are still shown as noted in the first place at
> http://home.online.no/~la8ak/c97.htm , you need some amount of mosfets
> to build a 10nF variable capacitor, but it is realisable. Don't know
> about other types mosfets than the mentioned ARF446/7 and APT10050, I
> got some hundreds IRF630 for nothing on a Scandinavian VHF
> meeting......
> Technical topics, Radcom December 2003 pg 71 (G3VA): The note is based
> on "Frequency-Agile Class-D Power amplifier, by Frederick H Raab and
> Daniel Ruppe of Green Mountain Radio Research Company, and was
> presented at recent IEE HF Conference at Bath University. It describes
> (IEE Conference Publication No.493, pp81-85) an electronically-tuned
> class-D power amplifier that addresses the simultaneous needs for
> efficiency and frequency agility.
>
> Since the yanks probably wouldn't accept any ideas from the ozzer
> world, I can enlighten you that Dr Raab is WA1WLW
>
> 73
> from LA8AK in Europe
> --
> remove ,xnd to reply (Spam precaution!)

I have no problems with good ideas! Its the weird political stuff I
don't want to hear.
--
I say, the boy is so stupid that he tried to make a back up copy of his
hard drive on the Xerox machine!

Michael A. Terrell
Central Florida

3802. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 04:52:10 UTC
From: Rick Frazier <rick@rickfrazier.com>
Message-ID: <3FC582FA.AF2439F7@rickfrazier.com>
Source record: 30719

Bruce:

Did you measure the voltage with the charger connected, or after you removed it?
A standard 12v lead-acid automotive battery has a nominal voltage of 12.6 volts. Even after a float charge, once the charging current is removed, the battery will return to about 12.6 volts fairly rapidly. Thus, the voltage you measured would be considered normal for a charged battery.

While the trickle charger is connected to the battery, any current in excess of that needed to fully charge the battery is converted to heat. You will only read the charging voltage when the charger is actually connected and operating. about 10ma of the current is going into the loads you've already measured, with the rest going to keeping the battery at top charge.

Unless you are measuring the voltage with the charger connected, you probably don't need to have one with more current.

--Rick

"Bruce W...1" wrote:

> Not long ago and in another thread many of you gave me great advice on
> how to make a car battery float charger. I wanted to just connect a
> properly sized wall wart, but everyone recommended voltage regulation.
> So I connected a voltage regulator (13.6V) to a 500mA wall wart. The
> wall wart has an open-circuit voltage of 18V and is rated 500mA at 12 V.
>
> Further background, I built this charger to prevent my having to start a
> friends car once a week while they're on extended vacation.
>
> Now two weeks later I check the battery. Its voltage is 12.7V. The
> charger circuit measures 13.7V. And I measured the drain, from the
> alarm and radio, it is 10mA.
>
> The ambient temperature on average is about 40F.
>
> What went wrong? Why is the battery only 12.7V instead of 13.7?
>
> Lacking a better solution from you guys it seems we need more power,
> ugh, ugh. 2A ought to do it.
>
> Spec's say that car batteries (at room temperature) are best regulated
> at 13.3V. For 32 degrees F 14.2V is better.
>
> Yet the failure analysis remains incomplete. Where did we go wrong?

>
> Thanks for your help.

3803. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 04:59:22 UTC
From: John Robertson <spam@flippers.com>
Message-ID: <711bsv8ohlo696802lkon2cvr4ur67bts3@4ax.com>
Source record: 30718
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Not an expert on instantaneous surges in resistors (you could ask my daughter - she is in third year physics ;-) but I would suggest that you consider using Flame-Proof resistors in this application. these are resistors that open internally and do not burn up your board when they fail...sometimes known as a fuse resistor....

John :-#)#

On 24 Nov 2003 22:50:40 -0800, jason_hsu@my-deja.com (Jason Hsu) wrote:

>It's part of a design for a T/R sense circuit for a noise cancellation
>device.
>
>I won't bore you with too many details. One thing I noticed in a
>design I'm looking at is that 1W resistors could be subject to as much
>as 50W of power apiece during the time it takes for a relay to
>respond. This response time is 7msec. The overall duty cycle will be
>low (well under 1%).
>
>Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
>PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
>second is also .35 Joules, which a 1W resistor should have no trouble
>handling. Can the resistors be damaged during that .007 seconds?
>
>Also, how much time does it take to damage a toroid? If it can handle
>X units of flux density continuously, how much flux density can it
>handle for .007 seconds with a low overall duty cycle (like well under
>1%)?
>
>Jason Hsu, AG4DG
>usenet AAAAATTTTT jasonhsu.com

(Please post followups or tech enquires to the newsgroup)
John's Jukes Ltd. 2343 Main St., Vancouver, BC, Canada V5T 3C9
Call (604)872-5757 or Fax 872-2010 (Pinballs, Jukes, Video Games)
www.flippers.com
"Old pinballers never die, they just flip out."

3804. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 05:36:57 UTC
From: Roger Gt <Xenot@pacbell.net>
Message-ID: <Z3gxb.1274$rQ2.106@newssvr27.news.prodigy.com>
Source record: 30720
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Check for wire wound resistors, they are most likely to be capable of a high
pulse of current. But check for the manufacturers specification on what
they have been tested to tolerate.
There used to be several sources of these, but I haven't used any for years.
Of course a insulated bobbin with copper or iron wire could be used, if size
isn't critical. Wind it as a single or double layer to get the heat out.

> On 24 Nov 2003 22:50:40 -0800, jason_hsu@my-deja.com (Jason Hsu)
> wrote:
> >It's part of a design for a T/R sense circuit for a noise cancellation
> >device.
> >I won't bore you with too many details. One thing I noticed in a
> >design I'm looking at is that 1W resistors could be subject to as much
> >as 50W of power apiece during the time it takes for a relay to
> >respond. This response time is 7msec. The overall duty cycle will be
> >low (well under 1%).
> >
> >Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> >PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> >second is also .35 Joules, which a 1W resistor should have no trouble
> >handling. Can the resistors be damaged during that .007 seconds?

3805. Max nr of poles in CW-filter ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 08:34:07 UTC
From: Heikki Ahola <heikki.ahola@vtt.fi>
Message-ID: <3FC5B6FF.24DA9D66@vtt.fi>
Source record: 30721

Having built several ladder filters for SSB (8.. 10 MHz, 4 .. 8 poles)
with BW abt. 2 kHz (mainly for TX applications) I would like to try a
narrow filter (BW 500 or even less). One thing I am worried about is
the insertion loss. Has anyone any experience regarding the maximum
number of poles (= crystals) in such narrow filters. I have seen designs
for SSB with 14 poles but some doubts exist if this would be excessive
in a CW filter.

73 de oh2lzi (Heikki)

3806. Re: would like advice on idea for class E SSB Exciter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 12:32:23 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <r9mxb.1537$i81.663@nwrdny02.gnilink.net>
Source record: 30722

In concept, it should be possible to generate SSB digitally at any frequency and any power level. Clearly, it is possible to generate low-level SSB with a PC sound card, but the output frequency is typically limited by the speed at which the card can sample, digitize and process the audio. This speed limitation caps the output at around 15-20KHz with typical sound cards.

The output power delivered to the load is purely a function of how much voltage the D-A converter can deliver to the load. If, as you suggested, one took the 8-bit digital signal (pre-D/A converter) amplified each bit in 8 binary-weighted 'lossless' voltage (not power) drivers, and summed the output in a purely resistive load, then one would have a high-power, high efficiency SSB exciter.

Here are the problems I see:
1) Speed. The A/D, DSP, and D/A have to be able to process audio samples at twice the highest RF output frequency (2.5-3.0 times in practicality)
2) Precision: The high power weighted binary output drivers need to produce very accurate voltages
3) Spectral purity: The output spectrum will have aliases and 'birdies'. The number and amplitude of these is a function of the number of bits in the digitizing process, and the accuracy of the high-power D-A at the output.
4) Complexity: Enough said about this.

A more practical way to get a similar result might be to generate low-level SSB in a high-speed DSP, and amplify the analog result it in a class-B amplifier whose bias is dynamically adjusted by the DSP processor in anticipation of the instantaneous RF level. This should produce a highly-quality signal with good overall power efficiency.

Joe
W3JDR

Check out my project page: http://mysite.verizon.net/jdrocci/.

"The Eternal Squire" <eternalsquire@comcast.net> wrote in message news:J8idnb4eZ6nw8FiiRVn-gw@comcast.com...
> Hi,
>
> I'm considering making a class E amplifier for single-sideband output, but
> from what I
> understand, modulating the plate voltage produces double-sideband. I'd
like
> to
> avoid that if I can.
>
> I'm thinking of taking regular audio, digitally processing it into

> single-sideband using a
> soundcard, and then digitizing that to 8-bits.
>
> I'd then create 8 class E amplifiers that put out 1/8w, 1/4w, 1/2w, 1w,
2w,
> 4w, 8w,
> and 16 watt outputs for the same signal; modulating each one as CW in
> accordance
> with the audio bit.
>
> I'd combine the outputs through a power combiner.
>
> Questions:
>
> 1) Would this scheme be possible for creating SSB by parallel switching
of
> CW
> amplifiers in accordance with a digitized audio signal?
>
> 2) Would I need to create assymetrical power combiners to combine the
> amplitudes
> of the different signals, or could I get away with simply making a
> symmetrical
> 8-way combiner.
>
> Thanks in advance,
>
> The Eternal Squire
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.543 / Virus Database: 337 - Release Date: 11/21/03
>
>

3807. FS Ad - Electronic Components including TIL311 Hex Displays - LEDs - TTL Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 12:46:26 UTC
From: jrpart@excite.com
Message-ID: <357f4a42.0311270446.772a7567@posting.google.com>
Source record: 30723
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.homebrew,uk.radio.amateur

Most of the components below are still available.
Some of the quantities have changed. E-mail for
details.

jrpart@excite.com (Parts & Stuff) wrote:
> All prices are in US Funds.
>
> QTY. Part # Unit Price Description
> ---- --------- ---------- -----------
> OPTO.
>
> 125 TIL311 $7.00 ea. The TI TIL-311 is a Hexadecimal Dot
> Matrix Display with integral TTL driver
> electronics to accept, store & display
> 4-bit binary data, Epoxy package
> (Note: This part wholesales at about $16.50 each)
>
> 8 TIL311A $7.00 ea. The TI TIL-311A is a Hexadecimal Dot
> Matrix Display with integral TTL driver
> circuit to accept, store & display
> 4-bit binary data, Plastic package
>
> 10 DIS1417 $7.00 ea. The TI DIS-1417 is a Hexadecimal Dot
> Matrix Display with integral TTL driver
> circuit to accept, store & display
> 4-bit binary data, Epoxy package
>
> For a copy of the TIL311 Datasheet see:
> http://www-s.ti.com/sc/ds/til311.pdf and it is mirrored at
> http://umwnt1.physics.lsa.umich.edu/mttc/images/til311.pdf
>
> 275 Green LED $0.10 ea. Rectangular 5mm x 2mm face/lens
> $17.50 per bag of 250 ($0.07 each) and
>
> 8,750 Red LED $0.10 ea. T1 3/4, 5mm Diameter or 0.2" Diameter
> Sharp P/N: GL5PR4 (5mA at 1.9V)
> $17.50 per bag of 250 ($0.07 each) and
> $100 per box of 2000 ($0.05 each)
>
> 106 MAN6440 $0.95 ea. Dual Digit, Green 7 Segment display,
> 0.56" tall character, Common Cathode
> $15 per tube of 20 MAN- 6440 ($0.75 ea.)

>
> 85 FND6740 $0.95 ea. Dual Digit, Red 7 Segment display,
> 0.56" tall character, Common Cathode
> $15 per tube of 20 FND-6740 ($0.75 ea.)
>
>
> TTL CHIPS, DIP Package
>
> 550 7407N $0.18 ea. $4.00 per tube of 25 ($0.16 each)
> Hex Non-Inverted Buffer with
> Open-Collector outputs
>
> 605 74ALS20AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
> Dual 4-Input Positive NAND Gates
>
> 240 74ALS27AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
> Triple 3-Input Positive NOR Gates
>
> 1350 74LS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
> Dual D-Type Positive Edge-triggered
> Flip-Flops with Preset and Clear.
>
> 100 74ALS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
> Dual D-Type Positive Edge-triggered
> Flip-Flops with Preset and Clear.
>
>
> RESISTORS
>
> 55,000 100 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
> $15 per box of 5000 or
> $100 for 50,000 pieces.
>
> 4,000 220 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
> $12 per box of 4000 or
>
> 4,000 680 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
> $12 per box of 4000 or
>
> A pack of 100 resistors is $4 inclusive shipping to anywhere
> in the US and Canada
>
> e-mail: jrpart@excite.com
>
> Minimum purchase $4 including postage.
>
> No shipping is included in the above prices. To quote a
> total including shipping, I require your full ZIP code or
> postal code in addition to a list of what you are interested
> in. Please specify the country for international orders

> outside of North America. The shipping you will be quoted
> is the cost of the postage stamp (plus insurance if requested).
>
> The only part that I will ship for a total of $4 (by regular
> mail) to anywhere in the US and Canada is a pack of 100
> resistors.
>
> All components are new. All semi-conductors are stored in
> anti-static tubes/bags or on anti-static foam if you purchase
> less than a tube/bag.
>
> Offers on the lot are welcome. Keep in mind that I am looking
> for a price below wholesale, but more than the commercial buyers
> of surplus electronic parts are offering.

3808. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 13:32:57 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <pcudnZNcu4ASYViiRVn-sw@comcast.com>
Source record: 30724

I would add Allied www.alliedelec.com to that list -- their "break point"
for shipping is $25, they will ship via USPS Priority Mail (which is very
quick anyway). At any rate, who doesn't have a soft-spot in their heart for
old Allied with their Knight Kits from 4 decades ago!

"Bill Turner" <noway@nohow.com> wrote in message
news:7hkasvs0tvdsr94vaceia6mtahu5lhufok@4ax.com...
> On 26 Nov 2003 17:08:04 -0800, haf47@juno.com (Howard) wrote:
>
> >One manager mentioned that components are no longer a real concern of
> >management and that he is under the impression that "parts" are on the
> >way out soon.
>
> ----------
>
> I wouldn't be surprised. Radio Shack's only advantage, IMO, is they're
> handy. If you don't mind mail order, you can get equal or better parts
> and FAR better selection from Mouser or Digi-Key, and probably spend
> less overall even when shipping is included. Get a catalog and give 'em
> a try.
>
> --
> Bill, W6WRT
>

3809. Re: would like advice on idea for class E SSB Exciter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 14:00:17 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311270600.66a92510@posting.google.com>
Source record: 30725

"The Eternal Squire" <eternalsquire@comcast.net> wrote in message
news:<J8idnb4eZ6nw8FiiRVn-gw@comcast.com>...

> I'd then create 8 class E amplifiers that put out 1/8w, 1/4w, 1/2w, 1w, 2w,
> 4w, 8w,
> and 16 watt outputs for the same signal; modulating each one as CW in
> accordance
> with the audio bit.
>
> I'd combine the outputs through a power combiner.
>
> Questions:
>
> 1) Would this scheme be possible for creating SSB by parallel switching of
> CW
> amplifiers in accordance with a digitized audio signal?

nope, you will instead need to apply simultaneous frequency modulation
to the carrier as well as amplitude modulation.

> 2) Would I need to create assymetrical power combiners to combine the
> amplitudes
> of the different signals, or could I get away with simply making a
> symmetrical
> 8-way combiner.
>

you will need an infinite way combiner, the easier way is to frequency
modulate the carrier so that it shifts to wherever you want the
carrier to be and control the envelope (this is a white lie, the
acutal explanation is a little deeper).

the dsp software required is not going to be easy. i have written a
dsp shell for the sound card, you can download from
http://farhan.net.co.nr and play with it. once i am finished with my
VHF transceiver i plan implement a hilbert transform using this shell
and make a simple SSB exciter with it.

- farhan

3810. RG-174a coax source

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 14:18:56 UTC
From: amdx <amdx@att.net>
Message-ID: <kJnxb.342252$0v4.18886890@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30726

I'm looking to purchase 100 ft or 250 ft of RG-174a coax cable.
Anyone have favorite sources for coax?

Thanks
Mike

3811. Re: RG-174a coax source

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 14:52:24 UTC
From: swells8044@aol.com
Message-ID: <20031127095224.16817.00001001@mb-m07.aol.com>
Source record: 30727

www.KITSANDPARTS.com has174u for 10 cents ft..Look under specials

3812. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 15:45:45 UTC
From: mark <mark_my_words@nospam.com>
Message-ID: <3FC61C28.A516D750@nospam.com>
Source record: 30728

I agree with BIll,

http://www.mouser.com has online pdf catalog, same day shipping fast.

http://www.allcorp.com has some good stuff also.

mark

>
>
> I wouldn't be surprised. Radio Shack's only advantage, IMO, is they're
> handy. If you don't mind mail order, you can get equal or better parts
> and FAR better selection from Mouser or Digi-Key, and probably spend
> less overall even when shipping is included. Get a catalog and give 'em
> a try.
>
> --
>

3813. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 16:03:06 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vsc82jj1hbgv24@corp.supernews.com>
Source record: 30729

Try Digi-Key or Mouser Electronics on the Internet. You can't get much more convenient than that. A few "clicks" on the their web site and 3-4 days later the parts are setting on your door step. It beats driving all over town.

3814. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 16:09:48 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FC621CC.456C355D@noDirectEmail.com>
Source record: 30730

Rick Frazier wrote:
>
> Bruce:
>
> Did you measure the voltage with the charger connected, or after you removed
> it?
> A standard 12v lead-acid automotive battery has a nominal voltage of 12.6
> volts. Even after a float charge, once the charging current is removed, the
> battery will return to about 12.6 volts fairly rapidly. Thus, the voltage
> you measured would be considered normal for a charged battery.
>
> While the trickle charger is connected to the battery, any current in excess
> of that needed to fully charge the battery is converted to heat. You will
> only read the charging voltage when the charger is actually connected and
> operating. about 10ma of the current is going into the loads you've already
> measured, with the rest going to keeping the battery at top charge.
>
> Unless you are measuring the voltage with the charger connected, you
> probably don't need to have one with more current.
>
> --Rick
>
==========

The battery measured 12.7V both with and without the charger connected.
So the charger (putting out 13.7V and 500mA) doesn't have enough juice,
er current, to change this. So right now 500mA is being converted to
heat.

This begs the question, what then is the point in regulating the charge
voltage to 13.3V (or 14.2V at freezing temperatures)? Wouldn't a
charger regulated at say 12.9V do just as well at keeping a full charge?

This comes full circle on my original thread postulation. There is NO
point in regulating the voltage, just connect a properly sized wall wart
and you're done. The proof is right here.

3815. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 18:06:16 UTC
From: normanstrong <normanstrong@comcast.net>
Message-ID: <s2rxb.323101$HS4.2813407@attbi_s01>
Source record: 30731
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

"John Robertson" <spam@flippers.com> wrote in message
news:711bsv8ohlo696802lkon2cvr4ur67bts3@4ax.com...
> Not an expert on instantaneous surges in resistors (you could ask my
> daughter - she is in third year physics ;-) but I would suggest that
> you consider using Flame-Proof resistors in this application. these
> are resistors that open internally and do not burn up your board
when
> they fail...sometimes known as a fuse resistor....
>
> John :-#)#
>
> On 24 Nov 2003 22:50:40 -0800, jason_hsu@my-deja.com (Jason Hsu)
> wrote:
>
> >It's part of a design for a T/R sense circuit for a noise
cancellation
> >device.
> >
> >I won't bore you with too many details. One thing I noticed in a
> >design I'm looking at is that 1W resistors could be subject to as
much
> >as 50W of power apiece during the time it takes for a relay to
> >respond. This response time is 7msec. The overall duty cycle will
be
> >low (well under 1%).

> >Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about
50W
> >PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for
1
> >second is also .35 Joules, which a 1W resistor should have no
trouble
> >handling. Can the resistors be damaged during that .007 seconds?

> >No, it will not be damaged.

> >Also, how much time does it take to damage a toroid? If it can
handle
> >X units of flux density continuously, how much flux density can it
> >handle for .007 seconds with a low overall duty cycle (like well
under
> >1%)?

This is an entirely different situation. The maximum flux density is
fixed by the core material, and cannot be exceeded, no matter how much
current you feed through the coil.

> >Jason Hsu, AG4DG
> >usenet AAAAATTTTT jasonhsu.com

3816. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 18:21:52 UTC
From: cornytheclown@hotmail.com
Message-ID: <8e8f59d4.0311271021.24966bbb@posting.google.com>
Source record: 30732

Mike Coslo <mcoslo@adelphia.net> wrote in message
news:<0idxb.35023$m84.4947006@news1.news.adelphia.net>...
> Howard wrote:
>
> > Recent visits to my local Radio Shack for even the most simple
> > components has left me disappointed. Recently I had the need for 5
> > 10uf electrolytics at any voltage really, and could not find them at 3
> > local stores.
> >
> > There used to be a selection of 25 or so IC's that were widely used
> > and popular...no more tho.
> >
> > Even a simple LM386 could not be found around here.
> >
> > Also, the parts are now being jammed into these ugly parts bins as if
> > to hide them from view.
> >
> > Is this the same situation where you live?
> >
> > One manager mentioned that components are no longer a real concern of
> > management and that he is under the impression that "parts" are on the
> > way out soon.
> >
> > Wouldn't that just be the way...the old local electronics places are
> > out of business, and the Shack eliminates their parts. They sure do
> > have answers, don't they?
>
> I wonder what their answer will be when the cell phone market is
> saturated. (which is starting now) I really doubt that the Shack will
> survive, since they've pinned so much on cell phones.
>
> - Mike KB3EIA -

The last time I went to rat shack the two salesmen staffing the store
descended on me like a pair of hungry vultures...when they found out I
wasnt there to buy a phone or oher electronic appliance they left me
alone. Its odd how rat shack has confined all parts to the parts bin
thing yet they sell new soldering irons and those junk tools.......
This store does seem to keep an adequete supply of their ferric
chloride in stock hough, that and he odd connector are all I buy
there.

The electronics supply house we had here, radio electric, left town
many years ago....we do have another elecronic place in a nearby town
but it sells mostly computer and telecommunications related

stuff....Th ics they do carry are all nte at nte prices.....and the selection of passives is poor...like rat shack kind of 5 resistors for a dollar something........

I honestly hate having to use a place like mouser or allied but what else can you do ???

3817. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 18:33:31 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <m09csvo83ktprt0obke7svgj82mcnpi1mf@4ax.com>
Source record: 30734

On Wed, 26 Nov 2003 01:03:11 -0500 "Bruce W...1"
<bruce@noDirectEmail.com> wrote:

>Now two weeks later I check the battery. Its voltage is 12.7V. The
>charger circuit measures 13.7V. And I measured the drain, from the
>alarm and radio, it is 10mA.

That means that there is 100 Ohms between the PS and the battery. It's likely that this is the resistance of the meter that you used to measure the 10mA, and that the actual current without the current meter was more.

But I still don't understand how you could read 13.7V at the PS and 12.7V at the battery unless there is a significant resistance between the two. Note that this resistance could be in the ground leg, too.

OTOH, holding the battery voltage at 12.7 will be just fine for long term storage. Higher voltages will keep it topped up at full charge, but they also do some long term damage and convert water to hydrogen and oxygen via hydrolysis.

You're really better off at the lower voltage, and 12.7V is just fine.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

3818. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 18:35:02 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3FC643D6.4000908@arrl.net>
Source record: 30733
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Roger Gt wrote:

> Check for wire wound resistors, they are most likely to be capable of a high
> pulse of current.

>>>Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
>>>PEP) for .007 sec?

I strongly suspect that a wire-wound resistor is totally
unsuitable for this RF application.

Dana

3819. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 19:10:16 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FC64BE9.8CB88AEC@bellatlantic.net>
Source record: 30735

"Bruce W...1" wrote:
>
> Not long ago and in another thread many of you gave me great advice on
> how to make a car battery float charger. I wanted to just connect a
> properly sized wall wart, but everyone recommended voltage regulation.
> So I connected a voltage regulator (13.6V) to a 500mA wall wart. The
> wall wart has an open-circuit voltage of 18V and is rated 500mA at 12 V.
>
> Further background, I built this charger to prevent my having to start a
> friends car once a week while they're on extended vacation.
>
> Now two weeks later I check the battery. Its voltage is 12.7V. The
> charger circuit measures 13.7V. And I measured the drain, from the
> alarm and radio, it is 10mA.
>
> The ambient temperature on average is about 40F.
>
> What went wrong? Why is the battery only 12.7V instead of 13.7?
>
> Lacking a better solution from you guys it seems we need more power,
> ugh, ugh. 2A ought to do it.
>
> Spec's say that car batteries (at room temperature) are best regulated
> at 13.3V. For 32 degrees F 14.2V is better.
>
> Yet the failure analysis remains incomplete. Where did we go wrong?
>
> Thanks for your help.

I don't know how you measured things - so I can't say for
sure - but you may not have a failure.

1) You need to measure the float charge voltage while the
charger is charging the battery. Don't know if you did that,
but 13.7 is good if you did.

2) The battery needs to be fully charged before connecting
the float charger. Don't know if it was. If the battery is
discharged and you connect your float charger and measure it,
you will see a voltage below 13.7 A discharged battery can
draw enough current to drop the output voltage of the wall
wart down below the 13.7 regulation voltage.

3) A battery removed from the float charge will show a lower
voltage than the float voltage. That is normal. So it is

possible that your charger is working properly and the battery
is being held at full charge.

3820. Re: Antenna design choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 19:17:40 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FC64DA5.E3E996F7@bellatlantic.net>
Source record: 30736

Roger Conroy wrote:
>
> Does the thickness of the material used in antenna construction make any
> difference to its performance? (Other than the obvious mechanical strength)
> I have the option of using 3mm copper rod OR 15mm Copper pipe for 2m and
> 70cm 1/4 wave groundplanes.
>
> 73
> Roger ZR3RC

Use the pipe, all other conditions being equal.

Whether hollow or solid, the larger the diameter, the
better off you are for that antenna. It is not a
thickness issue. A solid 15 mm vs a hollow 15mm diameter
offers no advantage, RF wise. But in a 15mm diameter versus
a 3mm diameter comparison, the 15mm wins every time.

3821. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 19:27:42 UTC
From: Roger Gt <Xenot@pacbell.net>
Message-ID: <Oesxb.60044$7k1.17767@newssvr25.news.prodigy.com>
Source record: 30737
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

Hi, good point. It should be Non Inductive winding of course. It has been
done!
I have two dummy loads I made this way. But they are Ni-Chrome in oil!

"Dana Myers" <k6jq@arrl.net> wrote in message
news:3FC643D6.4000908@arrl.net...
> Roger Gt wrote:
>
> > Check for wire wound resistors, they are most likely to be capable of a
high
> > pulse of current.
>
> >>>Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> >>>PEP) for .007 sec?
>
> I suspect that a wire-wound resistor is
> unsuitable for this RF application.
> Dana

3822. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 19:40:54 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FC65346.53189208@clifto.com>
Source record: 30738

cornytheclown wrote:
> The last time I went to rat shack the two salesmen staffing the store
> descended on me like a pair of hungry vultures...when they found out I
> wasnt there to buy a phone or oher electronic appliance they left me
> alone.

When I get that from a store that sells electronics (Circuit City seems famous for that), I ask the salesman a question I know he hasn't got a chance of answering, such as, "I'm looking for an AM-only radio that has a metal oxide silicon field effect transistor front-end."

You should see them run.

--
"...people can quarrel with whether we should have more troops in Afghanistan or internationalize Iraq or whatever, but it is incontestable that on the day I left office, there were unaccounted-for stocks of biological and chemical weapons." -- Bill Clinton, July 21, 2003, on the Larry King Show

3823. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 19:49:46 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FC6555A.523802E9@clifto.com>
Source record: 30739

Rick Karlquist N6RK wrote:
> No they're not expensive. Consumer electronics manufacturers
> buy them by the millions at low prices.

Consumer electronics manufacturers buy picture tubes and microwave-oven
transformers by the millions, and although they get quantity discounts,
that still doesn't make the parts inexpensive.

--
"...people can quarrel with whether we should have more troops in Afghanistan
or internationalize Iraq or whatever, but it is incontestable that on the
day I left office, there were unaccounted-for stocks of biological and
chemical weapons." -- Bill Clinton, July 21, 2003, on the Larry King Show

3824. T-R switch design help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 19:59:08 UTC
From: mike nelson <mike_nelson@acm.org>
Message-ID: <3fc6582f$1_2@athena.netset.com>
Source record: 30740

Looking for a way to switch my 100 watt transceiver between separate receive and transmit antennas, perhaps using PIN diodes. Can anyone point me to some design circuits for this application?

thanks

Mike
W8LPR

3825. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 20:03:54 UTC
From: dplatt@radagast.org
Message-ID: <vscm5a96dgvp6a@corp.supernews.com>
Source record: 30741

>The battery measured 12.7V both with and without the charger connected.
>So the charger (putting out 13.7V and 500mA) doesn't have enough juice,
>er current, to change this. So right now 500mA is being converted to
>heat.

I think there may be another interpretation possible.

What does your charger design look like? When it's in a "no load"
situation, and when you're measuring 13.7 volts, is there actually
enough load on the regulator IC's output to ensure proper regulation?
If I recall correctly, and LM317 requires a minimum of 10-20 mA of
load on its output to regulate correctly - without this, the output
voltage creeps up above what you'd expect. It's possible that under
light-to-moderate load (say, 100 mA) your regulator's output voltage
is dropping well below 13.7 and might need to be adjusted.

If you haven't already done this, try the following: stick a
reasonable resistive load on the charger (maybe 30 ohms 5 watts) so
that you're actually drawing an appreciable fraction of the charger's
normal output, and then readjust to 13.7. Also, use an ammeter to
make sure that the regulator is actually working correctly and is
truly delivering the amount of current you expect.

Oh... did you heatsink the regulator? The regulator might be limiting
the current flow (by dropping the output voltage) in order to protect
itself.

I don't think that 500 mA is being converted to heat. I think it's
actively charging the battery, which is probably at least somewhat
"run down". The time you'd see the power being dissipated as heat,
would be when the charger's output had risen up to 13.7 and the
battery was truly being "floated".

I suspect that you've looked at the situation shortly after connecting
the charger to the battery, while the charger was actively charging
the battery to overcome the previous amount of discharge. If you were
to leave the charger connected for a few hours or days, I believe
you'd see that the battery terminal voltage had risen to 13.7 volts,
and that the charger was delivering rather less than its maximum
amount of current. This would be the "battery is fully charged, and
is now being floated" state.

As an example: I have a 45-amp-hour glassmat battery, hooked to a
well-regulated charger (13.5 volts) which is powered from a 450 mA
solar panel. If I hook up the battery after a period of moderate use,
what I see is:

- Before hookup, the battery voltage is somewhere down around 12.3 volts.

- Upon hookup, the charger begins drawing maximum current from the solar panel. The battery voltage jumps up to around 12.6 volts. The charger turns on its "I am not limiting the voltage, as the load is drawing more than my input can supply" light. [If I use a 3-amp bench supply in place of the solar panel, the battery draws the full 3 amps at least briefly.]

- Gradually, over a period of an hour or more, the battery voltage rises upwards, and the current being drawn from the panel slowly decreases.

- After a few hours, the battery voltage rises to 13.5. The charger switches into "voltage regulation" mode.

- The current continues to drop off, flattening out to a few tens of mA after a while and remaining there.

I believe that if you monitor your charger and battery for a period of time, you will see a very similar pattern of behavior.

>This begs the question, what then is the point in regulating the charge >voltage to 13.3V (or 14.2V at freezing temperatures)? Wouldn't a >charger regulated at say 12.9V do just as well at keeping a full charge?

If I recall correctly: the reason for using a slightly higher voltage has to do with the way that electrical charge is distributed in a battery. My recollection is that the charge consists (conceptually) of two parts... a fairly evenly-distributed charge in the plates, and a "surface charge" on the surfaces of the plates / crystals which is present during charging.

The distributed charge is what gives you the 12.7 volts... it's the "steady state" charge within the battery. When you start driving more current into the battery, the "surface charge" appears (on the surfaces of the lead sulphide plates and crystals) as the electrochemical reactions begin to occur. If you stop driving current in, the surface charge decays away over a period of a few minutes or hours (or, quite rapidly if you start drawing current from the battery) and the battery terminal voltage drops back to 12.7 (or whatever its steady state voltage is).

The surface charge creates an additional voltage, which the charger must overcome in order to force current into the battery. If you try to use a 12.9-volt charging circuit, you won't get very much additional power pushed into the battery before the surface charge rises to 0.2 volts, the battery terminal voltage rises to 12.9 volts, and the battery stops charging. If the battery had been somewhat depleted (say, it was down to 12.3 volts), the surface charge will still jump up fairly quickly and cut down the charging rate, and it'll take a long time to "top up" the battery to full charge.

The 13.7-volt setting is, to some extent, a compromise. It's high enough to allow a battery to be trickle-charged up to full in a reasonable amount of time (it's high enough to overcome quite a bit of surface-charge backpressure), but it's not high enough to cause a fully-charged battery to begin electrolyzing the water out of its cells.

>This comes full circle on my original thread postulation. There is NO
>point in regulating the voltage, just connect a properly sized wall wart
>and you're done. The proof is right here.

The battery makers say you're in error - or, at least, oversimplifying, and taking risks with your battery. Lots of peoples' experience says likewise. Go ahead if you wish.

In certain very specific special cases, what you propose _may_ be safe. These would be the cases where the wall wart's maximum output current does not exceed the sum of [1] the static load on the battery, and [2] the amount of self-discharge current and loss-by-heating which would limit the battery's terminal voltage to no higher than about 13.7 volts. Because the self-discharge, and battery cell voltages are somewhat temperature-sensitive, I think you'd find that no single wall-wart would produce optimum results with a single battery under all circumstances.

In the more general case, one of two things is very likely to be true:

- The wall wart is smaller than ideal, and isn't capable of delivering enough current to pull the battery up to 13.7 volts in "steady state" operation. The battery will probably charge, but more slowly than would otherwise be the case.

- The wall wart is larger than ideal, and it pulls the battery up to well above the optimal float voltage. The battery begins gassing, and its life is shortened.

That's why a properly-regulated float-charging circuit is very desireable. It allows for a rapid recharge if the battery is run down (because you can use a nice, hefty DC supply) but ensures a stable floating voltage once the battery reaches steady state. And, a single such circuit can be used with a wide range of battery capacities - you don't need to carefully hand-select a wall wart to match each specific battery.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

3826. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 20:17:39 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FC65BCD.64550E31@earthlink.net>
Source record: 30742

"Clifton T. Sharp Jr." wrote:
>
> When I get that from a store that sells electronics (Circuit City seems
> famous for that), I ask the salesman a question I know he hasn't got a
> chance of answering, such as, "I'm looking for an AM-only radio that has
> a metal oxide silicon field effect transistor front-end."
>
> You should see them run.

"Which model has the best noise figure?" Or, "Can I use this to
receive SCA broadcasts?"

--
I say, the boy is so stupid that he tried to make a back up copy of his
hard drive on the Xerox machine!

Michael A. Terrell
Central Florida

3827. Re: T-R switch design help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 20:19:39 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FC65C46.2C63B5DA@earthlink.net>
Source record: 30743

mike nelson wrote:
>
> Looking for a way to switch my 100 watt transceiver between separate receive
> and transmit antennas, perhaps using PIN diodes. Can anyone point me to
> some design circuits for this application?
>
> thanks
>
> Mike
> W8LPR

If you want to use separate antennas, why not bypass the built in
switching and use two antenna connectors. No losses, no problems with
switching times, either.
--
I say, the boy is so stupid that he tried to make a back up copy of his
hard drive on the Xerox machine!

Michael A. Terrell
Central Florida

3828. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 20:50:10 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <nlocsv0f13m60kaphoho1j3l6jmggjb5p8@4ax.com>
Source record: 30744

On Wed, 26 Nov 2003 22:27:29 GMT, "Rick Karlquist N6RK"
<richard@karlquist.removethis.com> wrote:

>The tolerance of AM BCB varactors is extremely tight,
>since the front end has to track with the LO in the radio.
>Certainly far tighter tolerance than unspecified MOSFETs.

Which varactors are you referring to ?

Looking at the specifications for the BB212, which is a common AM
varactor on this side of the Pond, the relative capacitance error
between the two sections at 0.5 V is less than 3.5 %. However, the
limits for the absolute capacitance at 0.5 V is 500 - 620 pF.

>The tempco of those varactors is very low. Probably better than
>any inductor you are going to resonate it with. In the low
>100's of PPM.

BB212: 500 ppm/C at 0.5 V, 150 ppm/C at 10 V

> > To get such huge capacitance, the control voltage must be quite low.
>
>No it's not. The tuning voltage range is at least 10 volts and often
>higher. At least as high as the breakdown voltage of the gate
>oxide in a MOSFET.

The maximum tuning voltage is not the issue, the problem is at the low
control voltage area (maximum capacitance) in which the tuning voltage
to get the maximum capacitance can be as low as 0.5 V, which might be
less than the peak-to-peak voltage coming from the antenna.

>> varactor capacitance, thus, you would have to use two pairs of back to
>> back (4) varactors of 1500 pF each to get a total 1500 pF capacitance.
>
>You can get several thousand pF in one diode from Toko. 1500 pF is
>by no means the limit.

The Toko web page for varactors seems to be under construction. Do you
have the type number for this kind of beast ? This would be really
nice for some LF experiments, if the specifications are really that
good.

Paul OH3LWR

3829. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 21:14:49 UTC
From: k9sqg@aol.com
Message-ID: <20031127161449.02171.00001053@mb-m16.aol.com>
Source record: 30745

Find out the specs on the candidate resistor(s). Resistors have a maxium current and voltage rating. Even for short durations, exceeding the maximum voltage could pose a problem for you. I always opt for conservative ratings...

3830. Re: Low frequency tunable inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 21:20:08 UTC
From: Rick Karlquist N6RK <richard@karlquist.removethis.com>
Message-ID: <bUtxb.327237$Tr4.1003915@attbi_s03>
Source record: 30746

Greenweld (in the UK) has MVAM109 diodes for three
for one pound sterling on their web site.

Rick N6RK

"Clifton T. Sharp Jr." <clifto@clifto.com> wrote in message
news:3FC6555A.523802E9@clifto.com...
> Rick Karlquist N6RK wrote:
> > No they're not expensive. Consumer electronics manufacturers
> > buy them by the millions at low prices.
>
> Consumer electronics manufacturers buy picture tubes and microwave-oven
> transformers by the millions, and although they get quantity discounts,
> that still doesn't make the parts inexpensive.
>
> --
> "...people can quarrel with whether we should have more troops in
Afghanistan
> or internationalize Iraq or whatever, but it is incontestable that on the
> day I left office, there were unaccounted-for stocks of biological and
> chemical weapons." -- Bill Clinton, July 21, 2003, on the Larry King Show

3831. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 22:16:26 UTC
From: averyfineman@aol.com
Message-ID: <20031127171626.12631.00003057@mb-m28.aol.com>
Source record: 30647

In article <f45722ac.0311260950.5cb493c3@posting.google.com>,
brianburke@juno.com (Brian) writes:

>Watson A.Name - "Watt Sun, Dark Remover" <alondra101@hotmail.com> wrote in
>message news:<MPG.1a2cf33b62f76f1f989974@news.dslextreme.com>...
>>
>> But what happens if the relay fails to close in 7 mSec? OOPS!
>>
>> Or fails to close at all? BIG OOPS!
>
>I think the resistor becomes a fuse.

Brian, probably NOT for a single 7 millisecond event...unless it is one
of the less-than-quarter-Watt SMDs. Using quarter-Watt carbon
compositions (cost about 5 cents), it is very easy to prove or
disprove on the bench with a few items from the junk box.

Conventional fuses CAN be a danger in "normal" applications if
mounted horizontally. I've come across three situations where
horizontally-mounted fuses rated greater than 0.5 Amperes did
NOT fully melt-and-separate the fusible link inside. In each case
there was sufficient voltage across the gap to arc over and continue
current flow. Mounting the fuse vertically insures that a melted
fusible link separate enough for HV B+ not to arc over.

The first such incident involved the plate supply for an AN/TRC-1
VHF transmitter (FM, 70 to 100 MHz, 829 in the PA) which had
(apparently, from post-mortem by in-the-know others of more
experience than I in 1954) a problem in its plate supply transformer.
The front-panel mounted fuse (horizontal) did not fully seprate its
fusible link, the short continued, the plate supply transformer
kept heating up and eventually boiled out some of the now-melted
potting compound. Potting goo spread over some of the internal
tube multiplier stages' wiring, then cooled down to encapsulate
all that wiring. Compound had to be melted with an iron, then
picked out, little gob by little gob. Some of the carbon composition
resistors lost their color bands, those having to be repainted to
restore the coding. [TM had photos of the wiring, resistors did not
have to be removed to check values] Some gas must have been
generated inside the transformer can since it sheared off two of
the 8-32 mounting screws and bent the tough aluminum chassis
slightly. Took several weeks of one person on each shift having
to play with goo removal.

In 1959 in the Electronic Warfare Lab at Ramo-Wooldridge, one of
my tasks was the measurement of Traveling Wave Tubes (S-band)

as 5-octave output mixers. About 2 KV (?) of supply voltage. The TWTs of that time would occasionally arc over inside. A series fuse was in the B+ line but encased in a plexiglass box. On a arc-over the fuse literally exploded...the reason for the box full enclosure. Way too much voltage for that 3AG fuse type but nothing else was available then to protect the supply, no quick crowbar circuits or other things semiconductor for protection.

The last incident was an old fuse-in-the-AC-plug that seemed to be popular in the 60s to 70s (but seldom used now). Fuses were horizontal when the plug was inserted into a wall socket. Friend's house damn near caught on fire before a mains circuit breaker kicked out...but not before the plastic plug had melted enough to expose the AC mains wires. The fuses just didn't separate their links enough physically once the links melted...arc-over continued with resulting hotness and things. We slightly modified a ground-fault protector (new product for the mid-1970s) to trip-out on over-current and that worked okay before we fixed the piece of test equipment that caused the over-current on the AC. Those 3AG fuses were rated for 250 V service, should have worked. Didn't.

Len Anderson
retired (from regular hours) electronic engineer person

3832. Re: T-R switch design help

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 22:17:37 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <ivtcsvknsane3sp58ak600ps3lgotvade4@4ax.com>
Source record: 30648

On Thu, 27 Nov 2003 14:59:08 -0500, "mike nelson"
<mike_nelson@acm.org> wrote:

|Looking for a way to switch my 100 watt transceiver between separate receive
|and transmit antennas, perhaps using PIN diodes. Can anyone point me to
|some design circuits for this application?

http://www.microsemi.com/idx.asp?MN=435

Wes N7WS
|
|thanks
|
|Mike
|W8LPR
|

3833. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-27 23:59:46 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vsd407khlb15a2@corp.supernews.com>
Source record: 30649

You have a couple of potential problems with using an unregulated charger to maintain or charge a lead-acid battery. The first problem is that if the battery attempts to draw more current than the unregulated supply can handle you may overhead the transformer or other components in the supply. If on the other hand, the supply can supply more current than the maximum bulk charge rating of the battery then you may overheat and damage the battery if it is connected to the supply when it is not fully charged. The third problem results if the supply can output a voltage higher than 13.8 volts and can also supply the necessary charging current. The battery voltage will eventually climb to the supply voltage (above 13.8 volts), continue to draw charging current and boil the water out of the cells damaging the battery.

To be safe, you really need to regulate the voltage at 13.8V maximum AND limit the current to protect the battery and the charger. If you also want to get a fast charge on a discharged battery then you need a multi-state charger that will apply a higher voltage (about 14.5 V) at a limited current until the battery is almost fully charged and then switch to 13.8 V to top it off and maintain a "float" charge.

I expect your battery did not reach the no-load supply voltage because the supply was not capable of producing that voltage at the trickle current needed by the battery.

3834. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 05:32:20 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0311272132.717793a0@posting.google.com>
Source record: 30650

"Bruce W...1" <bruce@noDirectEmail.com> wrote in message
news:<3FC4421F.61BDE4DA@noDirectEmail.com>...
> Not long ago and in another thread many of you gave me great advice on
> how to make a car battery float charger. I wanted to just connect a
> properly sized wall wart, but everyone recommended voltage regulation.
> So I connected a voltage regulator (13.6V) to a 500mA wall wart. The
> wall wart has an open-circuit voltage of 18V and is rated 500mA at 12 V.
>
> Further background, I built this charger to prevent my having to start a
> friends car once a week while they're on extended vacation.
>
> Now two weeks later I check the battery. Its voltage is 12.7V. The
> charger circuit measures 13.7V. And I measured the drain, from the
> alarm and radio, it is 10mA.
>
> The ambient temperature on average is about 40F.
>
> What went wrong? Why is the battery only 12.7V instead of 13.7?
>
> Lacking a better solution from you guys it seems we need more power,
> ugh, ugh. 2A ought to do it.
>
> Spec's say that car batteries (at room temperature) are best regulated
> at 13.3V. For 32 degrees F 14.2V is better.
>
> Yet the failure analysis remains incomplete. Where did we go wrong?
>
> Thanks for your help.

Fuck a Duck , Bruce,
this is becoming increasingly metaphysical - the mental effort you
(and everyone else) is putting into debating a car battery is
ludicrous. Let me make a few points.

1. If the battery is more than 4 years old its probably stuffed or
close to it. Sad but true.

2. Go and buy a hygrometer (they are about $3 - people used them
before digital multimeters were invented) - have a look at the SG in
the cells. If its green,
its OK. Check all cells, if 1 or 2 are very different SG then its
stuffed.

3. Do a load test on the thing, turn on all the lights and see how
much the voltage drops. Leave them on for 0.5 hour, if it drops much

below 12v then its stuffed.

How much does a new battery cost anyway?.....

de VK3BFA ANdrew

3835. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 07:12:39 UTC
From: "Clifton T. Sharp Jr." <clifto@clifto.com>
Message-ID: <3FC6F567.2AA65C2E@clifto.com>
Source record: 30651

Bill Turner wrote:
> <clifto@clifto.com> wrote:
> >When I get that from a store that sells electronics (Circuit City seems
> >famous for that), I ask the salesman a question I know he hasn't got a
> >chance of answering, such as, "I'm looking for an AM-only radio that has
> >a metal oxide silicon field effect transistor front-end."
>
> Were I the salesman, I'd answer "Sir, you must be kidding. There is no
> such radio. We only carry radios with a complimentary metal oxide
> silicon field effect transistor front-end."

I'd look strangely at you and walk cautiously away. What is that, a
totem-pole front end?

Actually, though, if I ever ran into one who sounded like he might have
a chance of understanding what I was talking about, I might try to walk
him through it. He'd be too good to pass up... and I know he wouldn't
be there long. :)

--
"...people can quarrel with whether we should have more troops in Afghanistan
or internationalize Iraq or whatever, but it is incontestable that on the
day I left office, there were unaccounted-for stocks of biological and
chemical weapons." -- Bill Clinton, July 21, 2003, on the Larry King Show

3836. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 07:37:41 UTC
From: remove_ok1sip@atlas.cz
Message-ID: <5f5159fa.0311272337.7cd03229@posting.google.com>
Source record: 30652
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

> Anyway, we had problems with the 7805 regulators shutting down from
> overtemp. They were mounted on the PCB with a small heatsink.

Hi all,
overheating should not be neglected. In my professional life I encountered a device made by a famous company, which had a 7805 on a heatsink, a processor and several customer chips inside a tightly closed plastic box. All was O.K. at power-up. I was called for service after two days. The device was hot and really did not work. I let it cool down and all was O.K. again - for next two days. I was forced to remove the top cover of the box forever. The device has been working for several years now.
Proper cooling seems to be a must.

BR from Ivan OK1SIP

3837. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 08:04:12 UTC
From: Roger Conroy <rogerconroy@nospam.hotmail.com>
Message-ID: <bq6vn4$d81$1@ctb-nnrp2.saix.net>
Source record: 30653
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

The amount of time and energy expended on discussing this question by far
exceeds the cost and effort of just going ahead and frying a few of them in
a "hands-on", "live fire" destuctive test.

73
Roger
ZR3RC

"Jason Hsu" <jason_hsu@my-deja.com> wrote in message
news:f7d9a152.0311242250.6353d9c@posting.google.com...
> It's part of a design for a T/R sense circuit for a noise cancellation
> device.
>
> I won't bore you with too many details. One thing I noticed in a
> design I'm looking at is that 1W resistors could be subject to as much
> as 50W of power apiece during the time it takes for a relay to
> respond. This response time is 7msec. The overall duty cycle will be
> low (well under 1%).
>
> Can the 1W-51 ohm resistors handle this 50 RF volts 0-peak (about 50W
> PEP) for .007 sec? 50W over .007 seconds is .35 Joules. .35W for 1
> second is also .35 Joules, which a 1W resistor should have no trouble
> handling. Can the resistors be damaged during that .007 seconds?
>
> Also, how much time does it take to damage a toroid? If it can handle
> X units of flux density continuously, how much flux density can it
> handle for .007 seconds with a low overall duty cycle (like well under
> 1%)?
>
> Jason Hsu, AG4DG
> usenet AAAAATTTTT jasonhsu.com

3838. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 08:15:13 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <CBqgz$CRQwx$EA9w@ifwtech.co.uk>
Source record: 30654

Len Anderson wrote:
>>>
>>> But what happens if the relay fails to close in 7 mSec? OOPS!
>>>
>>> Or fails to close at all? BIG OOPS!
>>
>>I think the resistor becomes a fuse.
>
> Brian, probably NOT for a single 7 millisecond event...unless it is
>one
> of the less-than-quarter-Watt SMDs. Using quarter-Watt carbon
> compositions (cost about 5 cents), it is very easy to prove or
> disprove on the bench with a few items from the junk box.

Agreed - the answer lies on the bench, not here on the Internet.

Take a candidate resistor, measure its cold resistance accurately, and then 'flash' it at 50W DC or 50/60Hz by brushing wires together. Repeat this several times, and monitor the cold resistance for signs of change or burn-up. That should be a pretty good accelerated life test for the intended application. Finally - and carefully - see what happens with a longer overload.

I once tested a 2W metal-oxide resistor at 10x rated dissipation, to see how much the resistance might change. The coating burned off and the resistive element glowed bright red, but even after about a minute it showed no sign of burning out. When it had cooled down, the resistor looked a mess but its resistance was still with a few percent of the original value.

So Len is right - you couldn't rely on all types of resistor to act as a fuse if overloaded for longer than the intended few milliseconds. Indeed, the types of resistors you'd be most likely to choose to meet the original requirement (handle 50W for 7 ms) would be the least likely to burn out quickly on a longer overload.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

3839. WWII Spy or Clandestine Radio Building Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 15:33:10 UTC
From: wa4uso@aol.com
Message-ID: <20031128103310.12107.00000782@mb-m26.aol.com>
Source record: 30655

The Louisville Kentucky Homebrewers building group is sponsoring a "Retro Building Project" for the late Jan. of 2004 meeting. The club members thought it might be a FUN idea to sponsor a WWII spy radio building contest. We have all built regens, reflexs, supers, and TRFs sets, but not a period clandestine spy radio. Open to all, the contest is designed to promote (hands on radio) building fun. The sets must be built from parts that were available before 1944, be able to receive 49meters shortwave broadcast and be hidden in plan sight. For more details email WA4USO@aol.com. TNX Darrell Darby

3840. Xtals for valve tx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 16:01:39 UTC
From: SB <nospam@btinternet.com>
Message-ID: <bq7rh3$4pc$1@sparta.btinternet.com>
Source record: 30656

I would like to start building valve transmitters for 160/80/40 metres, does anyone know of any suppliers of suitable xtals for valve equipment eg. the old FT243 or HC6U types.

Thankyou. Simon G7CPN.

3841. Re: WWII Spy or Clandestine Radio Building Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 16:06:14 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <rlresvc6mm0nj5hdjlb2thivk8dm5koaul@4ax.com>
Source record: 30657

On 28 Nov 2003 15:33:10 GMT, wa4uso@aol.com (Wa4uso) wrote:

>The Louisville Kentucky Homebrewers building group is sponsoring a "Retro
>Building Project" for the late Jan. of 2004 meeting. The club members thought
>it might be a FUN idea to sponsor a WWII spy radio building contest. We have
>all built regens, reflexs, supers, and TRFs sets, but not a period clandestine
>spy radio. Open to all, the contest is designed to promote (hands on radio)
>building fun. The sets must be built from parts that were available before
>1944, be able to receive 49meters shortwave broadcast and be hidden in plan
>sight. For more details email WA4USO@aol.com. TNX Darrell Darby

What a jolly good idea!

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3842. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 16:09:41 UTC
From: wot.email.addr@which.email.addr.com
Message-ID: <40sesvktc23en7k3p6b8iv2aa6avvkqgns@4ax.com>
Source record: 30658

>While the above statement is true in a literal sense, the time spent
>discussing the issue is time well spent. Woe to any designer who learns
>his craft by "live fire" testing.

Too True.

I've been a hardware/software designer for many years, don't rely on bench tests.

Go by the manufacture specs (unless it's a one off jobby for yourself) - least you have something to fall back on then.

Bare in mind, if any component gets pretty hot, in time the pcb will become charcoal in the components immediate vicinity - unless heat sinking measures are taken.

Clive

3843. PCB exposure box

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 16:30:48 UTC
From: Dick <dick@langwang.demon.co.uk>
Message-ID: <8WvndwE4g3x$Ew7Q@langwang.demon.co.uk>
Source record: 30661

Has anyone home brewed a UV exposure box for making PC boards ?
I've got a couple of 8w UV tubes & a 0-30min timer and looking at
pictures of commercial designs I think all I have to do is:

1. Mount the tubes & timer in a light proof box.
2. Fix a sheet of glass 1-2" above them to act as a flat mount for the
photo sensitised PC board & photo master.
3. Fix a mask to the glass, blanking off all but a working area directly
above the UV tubes.
4. Make a lid for the box & fit a foam pad inside it that'll press the
PC board and master firmly down onto the sheet of glass thus stopping
those sneaky photons from getting round the corners of the PC master.

Is it as simple as this or am I missing something blindingly
obvious ?? Is 1-2" a suitable spacing between the tubes & glass plate &
will normal, thin, glass sheet be suitable ??
--
Dick
GM0MNL Fra' Auld Reekie

3844. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 16:31:47 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FC77873.659D85C5@noDirectEmail.com>
Source record: 30659

ehsjr@bellatlantic.net wrote:
>
> I don't know how you measured things - so I can't say for
> sure - but you may not have a failure.
>
> 1) You need to measure the float charge voltage while the
> charger is charging the battery. Don't know if you did that,
> but 13.7 is good if you did.
>
> 2) The battery needs to be fully charged before connecting
> the float charger. Don't know if it was. If the battery is
> discharged and you connect your float charger and measure it,
> you will see a voltage below 13.7 A discharged battery can
> draw enough current to drop the output voltage of the wall
> wart down below the 13.7 regulation voltage.
>
> 3) A battery removed from the float charge will show a lower
> voltage than the float voltage. That is normal. So it is
> possible that your charger is working properly and the battery
> is being held at full charge.
==========

The battery was fully charged when the float charging was started. The battery is almost new. The float voltage measured 12.7V with the charger connected. And the regulator is heat-sinked.

Someone outside of this thread who is more knowledgeable in this matter than I told me the following.

A float voltage of 13.3V is required to maintain a fully charged state (at room temperature). At lower voltages the battery loses charge, regardless of the output of the charger. So if the charger doesn't have enough current to keep it at 13.3V, as is the case here, then charge will be lost. If this is true then I should see a lower float voltage in the near future.

It's also become clear that regulating the voltage of an under-sized charger is pointless, because the battery never reaches a high voltage anyway.

Bob's point about overloading the charger is certainly valid. But right now it's only pulling a tiny current because the voltage differential is so small.

One conclusion can be drawn from all of this. The charger I built is inadequate for long-term care. And the wall wart chargers that are sold

for float charging are not suitable for long-term charging if they can't keep the battery at 13.3V. I'm guessing you need at least 2 Amps to do this. However an under-sized wall wart can certainly reduce the rate of discharge by compensating for external loads.

So what my home-brew charger is doing is just compensating for external loads and not adding to the battery charge in any way.

A lead-acid battery is not damaged until it falls below 12.0V. How long does it take a healthy battery to self-discharge to 12.0V? This might take a year. I don't have a feel for this at lower temperatures.

My charger will probably get the battery thru the winter, and certainly if I start the car every six weeks or so. So I think I'll just leave it at that. Thanks all for your help.

On another battery front, the gel cell in my computer UPS died of old age. Rather than replacing the battery I reconnected the UPS to a 32Ah gel cell which I keep around for emergency preparedness. This kills two birds with one stone, it keeps the big battery charged and also gives the UPS a whole lot of capacity. Now that I think about it, an old UPS might make a dynamite car battery float charger.

3845. Icom PS35 Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 18:52:01 UTC
From: Tom <TomATSBRSdotORGdotUK>
Message-ID: <3fc79aba$0$64663$65c69314@mercury.nildram.net>
Source record: 30660

Recently had an Internal PSU fail on an Icom 970. Fault was traced to a resistor going short due to some adhesive used at manufacturing becoming conductive with age? anyway resistor replaced gunk cleaned away. While repairing it was noticed the circuit has an optical switch in the start up circuit. This lost a leg when the short took place and despite repair it appears not too work.
Havent tried Icom as they seem to be quite useless, order replacement VFO assembly and received notch filter switch!

The device is a small black encapsulated unit, looks like a 4 legged black capacitor! It is Neon rather than LED according to the circuit diagram. Cant seem to find anything on it at all on the net. Appears to have been made by a company called Stuaw Kigai.

Anybody got any suggestions :)?

3846. Re: PCB exposure box

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 20:00:17 UTC
From: ON5MJ <"my call sign at skynet.be">
Message-ID: <3fc7a886$0$28923$ba620e4c@reader3.news.skynet.be>
Source record: 30662

Hi,

Glass could stop UV? Depends on the ingredients. Some are OK, others are not.

73 de ON5MJ - Jacques

3847. Re: PCB exposure box

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 20:02:44 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <bv9fsvgig39vskfdkt4l5mdcsp5ubc742i@4ax.com>
Source record: 30663

On Fri, 28 Nov 2003 16:30:48 +0000, Dick <dick@langwang.demon.co.uk>
wrote:

> Has anyone home brewed a UV exposure box for making PC boards ?
>I've got a couple of 8w UV tubes & a 0-30min timer and looking at
>pictures of commercial designs I think all I have to do is:
>
>1. Mount the tubes & timer in a light proof box.
>2. Fix a sheet of glass 1-2" above them to act as a flat mount for the
>photo sensitised PC board & photo master.
>3. Fix a mask to the glass, blanking off all but a working area directly
>above the UV tubes.
>4. Make a lid for the box & fit a foam pad inside it that'll press the
>PC board and master firmly down onto the sheet of glass thus stopping
>those sneaky photons from getting round the corners of the PC master.
>
> Is it as simple as this or am I missing something blindingly
>obvious ?? Is 1-2" a suitable spacing between the tubes & glass plate &
>will normal, thin, glass sheet be suitable ??

Basically, you are right, it is relatively simple.

Some standard glass will not pass certain bands of UV. Test first (put
a sliver of the glass partially over some sensitized material for a
standard exposure time and note any difference.)

You may not need the glass if the mask adheres well to the substrate.

You want enough spacing to get reasonably even coverage, but too much
will increase exposure time. Consistency is more important, so you can
develop a standard timing for the unit.

Consider mounting the lights to face down, as a safety precaution.
Also, you might add a microswitch and relay to prevent your box from
lighting up with the cover open. This would be a lot worse for your
eyes than a photocopier.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

3848. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 20:24:13 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <BKVQBcEt76x$EA8r@ifwtech.co.uk>
Source record: 30664

Bill Turner wrote:
>On Fri, 28 Nov 2003 08:15:13 +0000, "Ian White, G3SEK"
><G3SEK@ifwtech.co.uk> wrote:
>
>>Agreed - the answer lies on the bench, not here on the Internet.
>
>_____
>
>With all due respect Ian, I disagree. The only way to be sure a
>resistor is correctly sized for pulse power ratings is to consult the
>manufacturer. Doing a bench test may be valid for that particular
>resistor, but manufacturers are free to make changes in the way they
>make a resistor, and unless they specify pulse ratings, those changes
>may invalidate your testing.
>
>Having said that, I would agree that for Amateur Radio purposes you
>might get away with it, but bench qualification like this is shoddy
>engineering.

To find the answer to the original question, "Can a 1W resistor handle 50W for 7msec?" the only sensible way is to check the manufacturers' data for a range of different types of resistor. I agree totally with that.

But the topic then moved on. The next question was: "If there is a fault leading to the 50W power input becoming continuous, will a 1W resistor act like a fuse?" This leads to the equally important question: "And if it doesn't, what will happen instead?"

The manufacturer's data won't completely answer those questions. It may specify the time to failure; but it won't tell you *how* the component fails, and what the safety implications might be. That's something you have to find out for yourself - rather carefully - on the bench.

If it's a 1W metal oxide resistor, the answer will probably be that it's a very poor fuse... but a very good fire-lighter.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

3849. Re: PCB exposure box

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 22:31:07 UTC
From: Wim Ton <wimton@blueyonder.co.uk>
Message-ID: <M0Qxb.2310$VF6.2093@news-binary.blueyonder.co.uk>
Source record: 30665

Glass could stop UV? Depends on the ingredients. Some are OK, others are
> not.

Some plexiglass does not transmit UV either. Some types are formulated for outdoor use and have a built in UV filter. Check with a piece of white cotton if it fluorescenses (cheapo UV indicator)

Wim

3850. Re: Car battery trickle charger?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-28 22:36:53 UTC
From: Gary Schafer <gaschafer@comcast.net>
Message-ID: <hejfsvk71ujgg59pootvn1h4mlbuqjupb6@4ax.com>
Source record: 30666

On Thu, 6 Nov 2003 14:15:17 -0700, Sylvan Butler
<Znospam+noZs_0311@hpb13799Z.Zboi.hpZ.com.invalid> wrote:

>On Wed, 05 Nov 2003 18:09:46 -0500, Bruce W...1 <bruce@noDirectEmail.com> wrote:
>> mcalhoun wrote:
>>> Although their normal price is about $15, float battery chargers (wall
>>> wart, coiled cord, little black box with LED, two cords with large
>>> alligator clips on the ends) are often advertised in Harbor Freight
>>> catalogs for $7.99. I must have half a dozen of them now, keeping
>>> batteries here and there up to snuff. I've never measured them, but
>>> they seem to do a real good job, and they're hard to beat at that price!
>>>
>>> I have no connection to Harbor Freight except as a satisfied customer,
>
>Ditto to all of the above.
>
>> You don't say! Have you ever measured their voltage? Or is it written
>> on the case?
>
>Mine vary between 13.5v to 13.6v. If you open the little plastic
>box between the transformer and the battery terminals you will find
>a little adjustment that will let you tweak the voltage.
>
>I have two different styles, one with curly coiled leads and one
>with straight leads. I think the straight lead is older and has
>been obsoleted. Too bad, because they made a nice low-current
>adjustable power supply. :) The curly lead ones don't. But they
>both seem to do a fine job of keeping lead acid batts up to snuff.
>
>I have a couple on my bench. One set to 13.6v and one to 14.1v. I
>put a gel cell on the 14.1v to charge after use, then on to the
>13.6v to maintain ready for next time.
>
>I have one in the barn. I cut off the clamps and put on a pair of
>anderson powerpole connectors. A matching connector on my lawn
>tractor allows me to easily attach with no concern for polarity
>mismatch whether it is me or anyone else. I got 5 seasons from the
>last battery, which is pretty good for a lawn tractor that sits
>pretty much unused october thru april.
>
>sdb

I just picked up a couple of the float chargers from Harbor Freight.
They measure 13.55 no load. 13.55 at 130 ma, 13.4 at 175 ma, 12.9 at
230 ma, 12.8 at 250 ma.

Looks like they will only supply about 175 ma max and still be above 13.4 volts. At over 500 ma they will shut down and won't restart until the load is removed completely.

One problem I see with them is that they draw 36 ma from the battery if they are hooked up to the battery (at 12.9 battery volts) but not plugged into the wall. If you loose AC power that will quickly kill the battery!

They measure 3.6k both ways when you check the resistance but when hooked to the battery they cause much more draw than 3.6 ma.

These are the ones with the curly cords. Are these internally adjustable ?

I wonder if there is enough range to add a series diode?

Thanks
Gary K4FMX

3851. 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 06:17:53 UTC
From: hexter@blazenet.net
Message-ID: <vsgeghv38bl83@corp.supernews.com>
Source record: 30667

I do sound work at horse shows, and would like to provide my audio source to vehicles parked at the show. I have a real nice 100 milliwatt input 1.6mhz transmitter which shows about 60 milliwatts of output at 50 ohms.

I would like to build a transmitting antenna that would be 4 feet in length and having the 3/8 24 thread at the bottom so I can fasten it into my hamstick mag mount base.

I am thinking a 1 inch diameter wooden dowel 4 feet long, and wrapped evenly from bottom to top with perhaps #22 wire.

Any idea how much wire it would take to begin to act like a 50 ohm impedance at the base? Would you solenoid wind it bottom to top, or would it work better with maybe a 4 inch high multilayered coil at the bottom and 3.5 foot steel whip antenna.

I am not out to piss off the FCC, and with a mere 60 milliwatts of output power at 50 ohms, I don't think anyone beyond 300 yards will even here it. I do however want to be clearly heard on an A.M. car radio anywhere on the show grounds. There are no local stations on 1600khz, or even anywhere near it, and since these shows are only in the daytime, I won't be competing with skywave, or 50kw clear channels.

3852. Re: would like advice on idea for class E SSB Exciter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 06:34:05 UTC
From: hexter@blazenet.net
Message-ID: <vsgfetoamgtud3@corp.supernews.com>
Source record: 30668

In article <J8idnb4eZ6nw8FiiRVn-gw@comcast.com>, eternalsquire@comcast.net says...
>
>Hi,
>
>I'm considering making a class E amplifier for single-sideband output, but >from what I
>understand, modulating the plate voltage produces double-sideband. I'd like >to
>avoid that if I can.
>
>I'm thinking of taking regular audio, digitally processing it into >single-sideband using a
>soundcard, and then digitizing that to 8-bits.
>

Base audio has no sidebands, it is monoband so to speak. It does not become sideband until you modulate a carrier, remove the carrier, and possibly also remove one sideband. Even if you simulate this process in a sound card, which can be done, and you produce the 'garbly' sound, you still have 'audio' which when impressed upon your transmit carrier will still create normal double sideband modulation. The only way to get the result you are looking for would either to be taking your digitally generated single sideband and run it through a doubly balanced mixer with your intended carrier frequency, or perhaps digitally mixing your digital sound source with a digital representation of a sinewave who's repetition rate is the same as your intended carrier frequency. Your digital power output idea is a good one however.

3853. Re: 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 06:54:01 UTC
From: matt wilson <mwilson2@nospam.bigpond.net.au>
Message-ID: <doXxb.31774$aT.20591@news-server.bigpond.net.au>
Source record: 30669

Any tall light-poles nearby? You could put a tap onto one a couple of feet
up from the base if you have an antenna tuner.
100mW in for 60mW out? Doesn't sound like much of an amplifier!

"gudmundur" <hexter@blazenet.net> wrote in message
news:vsgeghv38bl83@corp.supernews.com...
> I do sound work at horse shows, and would like to provide my audio source
> to vehicles parked at the show. I have a real nice 100 milliwatt input
> 1.6mhz transmitter which shows about 60 milliwatts of output at 50 ohms.
>
> I would like to build a transmitting antenna that would be 4 feet in
length
> and having the 3/8 24 thread at the bottom so I can fasten it into my
hamstick
> mag mount base.
>
> I am thinking a 1 inch diameter wooden dowel 4 feet long, and wrapped
evenly
> from bottom to top with perhaps #22 wire.
>
> Any idea how much wire it would take to begin to act like a 50 ohm
impedance
> at the base? Would you solenoid wind it bottom to top, or would it work
better
> with maybe a 4 inch high multilayered coil at the bottom and 3.5 foot
steel
> whip antenna.
>
> I am not out to piss off the FCC, and with a mere 60 milliwatts of output
> power at 50 ohms, I don't think anyone beyond 300 yards will even here it.
> I do however want to be clearly heard on an A.M. car radio anywhere on the
> show grounds. There are no local stations on 1600khz, or even anywhere
near
> it, and since these shows are only in the daytime, I won't be competing
with
> skywave, or 50kw clear channels.
>

3854. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 06:55:41 UTC
From: hexter@blazenet.net
Message-ID: <vsggndfkm7uu7c@corp.supernews.com>
Source record: 30670

In article <f03bf94f.0311261708.65235a78@posting.google.com>, haf47@juno.comc
says...
>
>Recent visits to my local Radio Shack for even the most simple
>components has left me disappointed. Recently I had the need for 5
>10uf electrolytics at any voltage really, and could not find them at 3
>local stores.
>
>There used to be a selection of 25 or so IC's that were widely used
>and popular...no more tho.
>
>Even a simple LM386 could not be found around here.
>
>Also, the parts are now being jammed into these ugly parts bins as if
>to hide them from view.
>
>Is this the same situation where you live?
>
>One manager mentioned that components are no longer a real concern of
>management and that he is under the impression that "parts" are on the
>way out soon.
>
>Wouldn't that just be the way...the old local electronics places are
>out of business, and the Shack eliminates their parts. They sure do
>have answers, don't they?
>
>de WA2AFD

You are very correct is saying they are hanging up the parts business.
Radio Crap is an investor owned company, and they want to sell big profit
margin items, and more expensive items. How many resistors must they sell
to equal the money made on one very overpriced printer cartridge?

It has always been common knowledge that RadioShit NEVER wanted technically
knowledgable persons as employees!! They wanted SALESPERSONS employed as
salespersons. Technical persons would slow down sales by dedicating way to
much time to somebody trying to find a good replacement for a 2N404 used in
a 'radio experimenter' magazine 'build your own metronome' article from 1954.

I saw a guy with a 470mfd @ 16vdc cap required, and he asked the crappyshack
bozo if the rodeolack 470mfd @ 25vdc replacement part would work. Mister RS
Suit-n-Tie said "Oh no, it has far to much voltage, and would blow your circuit
up". If I told you I wanted to cause Mr.RS bodily harm for being so stupid
in his field, would you have helped me?

Radio Shack, a collection of techno-lackies, who all own 2.4ghz computers in their homes, and would not know a 12AX7 from a Dean's Peacocks condom.

Sadly, I have resorted to buying up everything I think I may ever want or need for the next 15 years of my experimenter life at local hamfests. Not only are experimenter parts that are big enough to see becoming harder to find, but people who know what to do with the parts are about as rare as monkeypox.

Now I will go back to my cave, and remember all the cool things I showed my blue shirts how to build using just the stuff we found while pillaging the dumpsters on the Navy base. Damn, we had some cool stuff!

Just call me Chief.

3855. Re: Xtals for valve tx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 08:51:36 UTC
From: nospam_ronayling@hotmail.com
Message-ID: <3fc85d4c.1254065@news.freeserve.co.uk>
Source record: 30671

I've just finished my valve 40mtr cw tx and been all round Europe on
it!! great fun, the best xtal supply I've found is
http://www.quartslab.demon.co.uk/
They are very helpful and very well informed, cheap and fast
from Ron g3yuh......

On Fri, 28 Nov 2003 16:01:39 +0000 (UTC), "SB" <nospam@btinternet.com>
wrote:

>I would like to start building valve transmitters for 160/80/40 metres, does
>anyone know of any suppliers of suitable xtals for valve equipment eg. the
>old FT243 or HC6U types.
>
>Thankyou. Simon G7CPN.
>

3856. Re: PCB exposure box

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 10:41:56 UTC
From: Leon Heller <aqzf13@dsl.pipex.com>
Message-ID: <3fc877f3$0$11172$cc9e4d1f@news.dial.pipex.com>
Source record: 30672

Dick wrote:

> Has anyone home brewed a UV exposure box for making PC boards ?
> I've got a couple of 8w UV tubes & a 0-30min timer and looking at
> pictures of commercial designs I think all I have to do is:
>
> 1. Mount the tubes & timer in a light proof box.
> 2. Fix a sheet of glass 1-2" above them to act as a flat mount for the
> photo sensitised PC board & photo master.
> 3. Fix a mask to the glass, blanking off all but a working area directly
> above the UV tubes.
> 4. Make a lid for the box & fit a foam pad inside it that'll press the
> PC board and master firmly down onto the sheet of glass thus stopping
> those sneaky photons from getting round the corners of the PC master.
>
> Is it as simple as this or am I missing something blindingly
> obvious ?? Is 1-2" a suitable spacing between the tubes & glass plate &
> will normal, thin, glass sheet be suitable ??

I made my own from three pieces of MDF, some wood strips and a sheet of glass. It's got the tubes etc. in the MDF base and two upright pieces of MDF with two strips of wood acting as a shelf for the glass, about 9" above the tubes, to give a bit of collimation. Glass is quite transparent to the long-wave UV used for PCBs. I just put a book on top of the board to press it down when exposing. I keep meaning to make a proper lid with a foam pressure pad, but can't really see the point as I don't use it much. It's some distance away, so I'm not bothered about getting sunburnt. 8-)

Leon

3857. Re: 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 12:20:10 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3fc88f92$0$1740$5a62ac22@freenews.iinet.net.au>
Source record: 30673

At 1.6 MHz at 4 foot long helical would be very low impedance - probably around 1 ohm or so at resonance. You would have to feed it against ground - ground losses would be 30-50 ohms, depending on your grounding mechanism. So the antenna might be a good match but radiation efficiency would be only 1-2 % as most of the power will be lost in ground resistance.

Richard

matt wilson <mwilson2@nospam.bigpond.net.au> wrote in message news:doXxb.31774$aT.20591@news-server.bigpond.net.au...
> Any tall light-poles nearby? You could put a tap onto one a couple of feet
> up from the base if you have an antenna tuner.
> 100mW in for 60mW out? Doesn't sound like much of an amplifier!
>
> "gudmundur" <hexter@blazenet.net> wrote in message
> news:vsgeghv38bl83@corp.supernews.com...
> > I do sound work at horse shows, and would like to provide my audio source
> > to vehicles parked at the show. I have a real nice 100 milliwatt input
> > 1.6mhz transmitter which shows about 60 milliwatts of output at 50 ohms.
> >
> > I would like to build a transmitting antenna that would be 4 feet in
> length
> > and having the 3/8 24 thread at the bottom so I can fasten it into my
> hamstick
> > mag mount base.
> >
> > I am thinking a 1 inch diameter wooden dowel 4 feet long, and wrapped
> evenly
> > from bottom to top with perhaps #22 wire.
> >
> > Any idea how much wire it would take to begin to act like a 50 ohm
> impedance
> > at the base? Would you solenoid wind it bottom to top, or would it work
> better
> > with maybe a 4 inch high multilayered coil at the bottom and 3.5 foot
> steel
> > whip antenna.
> >
> > I am not out to piss off the FCC, and with a mere 60 milliwatts of output
> > power at 50 ohms, I don't think anyone beyond 300 yards will even here it.
> > I do however want to be clearly heard on an A.M. car radio anywhere on the

> > show grounds. There are no local stations on 1600khz, or even anywhere
> near
> > it, and since these shows are only in the daytime, I won't be competing
> with
> > skywave, or 50kw clear channels.
> >
>
>

3858. Re: would like advice on idea for class E SSB Exciter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 12:35:20 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0311290435.2a973cc8@posting.google.com>
Source record: 30674

hexter@blazenet.net (gudmundur) wrote in message
news:<vsgfetoamgtud3@corp.supernews.com>...

> Base audio has no sidebands, it is monoband so to speak. It does not become
> sideband until you modulate a carrier, remove the carrier, and possibly also
> remove one sideband.

not true. consider that you are whistling a pure tone of 1KHz into an
SSB transmitter's input. If the SSB transmitter was tuned to 7.000MHz,
you would get just a carrier at 7.001MHz. Thus, a single tone SSB
signal is virtually indistinguishable from just a carrier.

now consider that the human voice is expressed as a number of
simultaneous pure tones superimposed over each other (easily obtained
by converting the time domain signal into frequeny domain).
Now imagine that for each of the tones, you have a separate
transmittter offsetted from the carrier by a frequency obtained by
frequency analysis and also with equivalent amplitude. this is in
effect, the SSB signal.

to rephrase, we need to modulate a carrier and then remove it because
that is seemingly the easiest way to generate SSB (but not a necessary
way).

> Even if you simulate this process in a sound card, which
> can be done, and you produce the 'garbly' sound, you still have 'audio' which
> when impressed upon your transmit carrier will still create normal double
> sideband modulation. The only way to get the result you are looking for would

there is an entirely different approach, we are advocating that we
split the signal into a number of component audio frequencies and
essentially run a carrier that is the equivalent of each of those
frequencies.

From the above example of a single tone, lets expand this to a two
tone ssb exciter. Lets imagine that such a signal can be represented
by two carriers that have relative amplitudes of the two tones and are
shifted from an imaginary carrier by amounts equivalent to their tone
frequencies.

a frequency modulated signal generates sidebands according to a bessel
function. Thus a correctly modulated FM signal will also result in two
tones being generated at two frequencies. In order to control multiple
sidebands, an envelop shaping will have to be applied to the FM
signal. The frequency modulation and the amplitude modulation can be
easily computed digitally.

What is really difficult is to accurately frequency modulate the carrier. One way is to directly generate the carrier digitally using DDS. I am not aware of any amateur effort in trying this method out. I seem to have vaguely read about it in either EMRFD or the new ARRL Handbook.

- farhan

3859. Re: 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 12:57:23 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <bqa507$87i$1@bob.news.rcn.net>
Source record: 30675

"gudmundur" <hexter@blazenet.net> wrote in message
news:vsgeghv38bl83@corp.supernews.com...
> I do sound work at horse shows, and would like to provide my audio source
> to vehicles parked at the show. I have a real nice 100 milliwatt input
> 1.6mhz transmitter which shows about 60 milliwatts of output at 50 ohms.
>
> I would like to build a transmitting antenna that would be 4 feet in
length
> and having the 3/8 24 thread at the bottom so I can fasten it into my
hamstick
> mag mount base.
>
> I am thinking a 1 inch diameter wooden dowel 4 feet long, and wrapped
evenly
> from bottom to top with perhaps #22 wire.
>
> Any idea how much wire it would take to begin to act like a 50 ohm
impedance
> at the base? Would you solenoid wind it bottom to top, or would it work
better
> with maybe a 4 inch high multilayered coil at the bottom and 3.5 foot
steel
> whip antenna.

1) 60 mW RF out for 100 mW DC input sounds like suspiciously high
efficiency.

2) To a VERY rough approximation, I'd aim to put a quarter-wave (at 1600
kHz) of wire on the dowel. That's almost 200 meters / 660 feet. I doubt
that you can fit that much on the dowel. In any case a tophat on the dowel
will partially compensate for too little wire. Even something a foot or two
in diameter might help a little.An example: a broadcast station near 1600
kHz has a tower only 67 degrees tall (less than 90 degrees / 1/4-th wave).
At the top they stick 4 or 6 or 8 10-ft-long rods straight out to the sides.
They claim this top-hat is the equivalent of 10 degrees more tower height,
bringing them up to an equivalent of 77 degrees. With this they claim to
meet the FCC's required minimum antenna radiation efficiency for their class
of station. Top-hats like this are pretty common for AM stations. Sometime
they use the top few feet of the guy wires.

3) Putting the loading coil at the bottom of the antenna is the worst
possible choice. It's the current flowing in the antenna that radiates, and
the current is highest at the feedpoint and zero at the tip, for
quarter-wave and shorter antennas. The high current points would all be
hidden in the loading coil and only the high-voltage/low-current part would

be "visible". Look at the short CB antennas. They will be have most of the turns of wire near the tip.

4) Your mag mount won't have enough capacitance to the vehicle to be a really good connection at 1600 kHz if you manage to make the antenna impedance low, like 50 ohms.

5) In any case, the impedance looking into the base of any antenna _I_ think you can fit in 4-ft length will be much higher than 50 ohms. You should build a matching network. The less wire you can fit on the antenna rod, the higher the input impedance. Look in the ARRL Antenna Book for networks for feeding short antennas on the 160 meter ham band. The coil in a matching network should be wound with rather hefty wire for low loss.

3860. Re: 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 14:28:18 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <gj8hsvk8tigo6i6d63f4uug7qcniqvlrjb@4ax.com>
Source record: 30676

On Sat, 29 Nov 2003 06:54:01 GMT, "matt wilson"
<mwilson2@nospam.bigpond.net.au> wrote:

>Any tall light-poles nearby? You could put a tap onto one a couple of feet
>up from the base if you have an antenna tuner.
>100mW in for 60mW out? Doesn't sound like much of an amplifier!

That'd be 100mW *DC* in for 60mW *RF* out! Nothing wrong with that.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3861. Re: 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 14:28:19 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <0q8hsv4gnh4tf6gcd22hpb2ofceptkt674@4ax.com>
Source record: 30677

On Sat, 29 Nov 2003 06:17:53 -0000, hexter@blazenet.net (gudmundur)
wrote:

> I do sound work at horse shows, and would like to provide my audio source
>to vehicles parked at the show. I have a real nice 100 milliwatt input
>1.6mhz transmitter which shows about 60 milliwatts of output at 50 ohms.
>
> I would like to build a transmitting antenna that would be 4 feet in length
>and having the 3/8 24 thread at the bottom so I can fasten it into my hamstick
>mag mount base.
>
> I am thinking a 1 inch diameter wooden dowel 4 feet long, and wrapped evenly
>from bottom to top with perhaps #22 wire.
>
> Any idea how much wire it would take to begin to act like a 50 ohm impedance
>at the base? Would you solenoid wind it bottom to top, or would it work better
>with maybe a 4 inch high multilayered coil at the bottom and 3.5 foot steel
>whip antenna.

You need one of Reg Edwards' utilities to work this out for you. He's
written a number of small programs for the PC that handle exactly this
kind of problem and they're available for free download. I can't
recall the URL off hand but just Google for "Reg Edwards" on the
newsgroup sci.electronics.design and that'll bring it up.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3862. FA:12AX7WXT(R),6B4, 4-400C(DUD?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 14:56:42 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <Ks2yb.355468$0v4.19103231@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30678

12AX7WXT'S-RUSSIAN NOS
RCA 6B4
4-400C PRIDE (DUD?)

SEE AT

http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

HEYTUBEGUY

3863. Re: Xtals for valve tx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 15:43:24 UTC
From: SB <nospam@btinternet.com>
Message-ID: <bqaeqsaed1@sparta.btinternet.com>
Source record: 30679

Thanks for the information Ron, I'll give them a call.

Regards Simon G7CPN.

Ron <nospam_ronayling@hotmail.com> wrote in message
news:3fc85d4c.1254065@news.freeserve.co.uk...
>
> I've just finished my valve 40mtr cw tx and been all round Europe on
> it!! great fun, the best xtal supply I've found is
> http://www.quartslab.demon.co.uk/
> They are very helpful and very well informed, cheap and fast
> from Ron g3yuh......
> On Fri, 28 Nov 2003 16:01:39 +0000 (UTC), "SB" <nospam@btinternet.com>
> wrote:
>
> >I would like to start building valve transmitters for 160/80/40 metres,
does
> >anyone know of any suppliers of suitable xtals for valve equipment eg.
the
> >old FT243 or HC6U types.
> >
> >Thankyou. Simon G7CPN.
> >
>

3864. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 16:11:22 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FC8C50F.49E45671@earthlink.net>
Source record: 30680

gudmundur wrote:
>
>
> Sadly, I have resorted to buying up everything I think I may ever want or
> need for the next 15 years of my experimenter life at local hamfests. Not
> only are experimenter parts that are big enough to see becoming harder to find,
> but people who know what to do with the parts are about as rare as monkeypox.

I rarely mention it, but I have some parts listed on my website. The
link is above, in the "Organization" line.

> Now I will go back to my cave, and remember all the cool things I showed
> my blue shirts how to build using just the stuff we found while pillaging
> the dumpsters on the Navy base. Damn, we had some cool stuff!

I nearly got myself court marshaled at Ft Greely, Ak. for grabbing
junk TV sets on their way to the base landfill to keep the base's AFRTS
TV and Radio stations on the air.

You know the drill. Zero downtime, almost everything is depot level,
or requires a traveling engineer to fly from Sacramento to patch it, and
the money comes out of your budget. I was tired of being off, more than
on the air, the poor signal Quality, and the constant equipment
failures, so I rebuilt the entire TV station and half the radio station
while I was there. I even used parts from a TV set to replace the tuner
in the old Off Air Demodulator. No way I was going to wait two years for
RCA to dig up the part and spend over $2000 for a 29 dollar
Sarkes-Tarzan TV tuner.

> Just call me Chief.

Me too (Chief Engineer) ;-)

--
I say, the boy is so stupid that he tried to make a back up copy of his
hard drive on the Xerox machine! (F. Leghorn)

Michael A. Terrell
Central Florida

3865. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 16:17:02 UTC
From: "Bruce W...1" <bruce@noDirectEmail.com>
Message-ID: <3FC8C67E.80553626@noDirectEmail.com>
Source record: 30681

Dave Platt wrote:
>
> >The battery measured 12.7V both with and without the charger connected.
> >So the charger (putting out 13.7V and 500mA) doesn't have enough juice,
> >er current, to change this. So right now 500mA is being converted to
> >heat.
>
> I think there may be another interpretation possible.
>
> What does your charger design look like? When it's in a "no load"
> situation, and when you're measuring 13.7 volts, is there actually
> enough load on the regulator IC's output to ensure proper regulation?
> If I recall correctly, and LM317 requires a minimum of 10-20 mA of
> load on its output to regulate correctly - without this, the output
> voltage creeps up above what you'd expect. It's possible that under
> light-to-moderate load (say, 100 mA) your regulator's output voltage
> is dropping well below 13.7 and might need to be adjusted.
>
> If you haven't already done this, try the following: stick a
> reasonable resistive load on the charger (maybe 30 ohms 5 watts) so
> that you're actually drawing an appreciable fraction of the charger's
> normal output, and then readjust to 13.7. Also, use an ammeter to
> make sure that the regulator is actually working correctly and is
> truly delivering the amount of current you expect.
>
> Oh... did you heatsink the regulator? The regulator might be limiting
> the current flow (by dropping the output voltage) in order to protect
> itself.
>
> I don't think that 500 mA is being converted to heat. I think it's
> actively charging the battery, which is probably at least somewhat
> "run down". The time you'd see the power being dissipated as heat,
> would be when the charger's output had risen up to 13.7 and the
> battery was truly being "floated".
>
> I suspect that you've looked at the situation shortly after connecting
> the charger to the battery, while the charger was actively charging
> the battery to overcome the previous amount of discharge. If you were
> to leave the charger connected for a few hours or days, I believe
> you'd see that the battery terminal voltage had risen to 13.7 volts,
> and that the charger was delivering rather less than its maximum
> amount of current. This would be the "battery is fully charged, and
> is now being floated" state.
>

> As an example: I have a 45-amp-hour glassmat battery, hooked to a
> well-regulated charger (13.5 volts) which is powered from a 450 mA
> solar panel. If I hook up the battery after a period of moderate use,
> what I see is:
>
> - Before hookup, the battery voltage is somewhere down around 12.3
> volts.
>
> - Upon hookup, the charger begins drawing maximum current from the
> solar panel. The battery voltage jumps up to around 12.6 volts.
> The charger turns on its "I am not limiting the voltage, as the load
> is drawing more than my input can supply" light. [If I use a 3-amp
> bench supply in place of the solar panel, the battery draws the
> full 3 amps at least briefly.]
>
> - Gradually, over a period of an hour or more, the battery voltage
> rises upwards, and the current being drawn from the panel slowly
> decreases.
>
> - After a few hours, the battery voltage rises to 13.5. The charger
> switches into "voltage regulation" mode.
>
> - The current continues to drop off, flattening out to a few tens of
> mA after a while and remaining there.
>
> I believe that if you monitor your charger and battery for a period of
> time, you will see a very similar pattern of behavior.
>
> >This begs the question, what then is the point in regulating the charge
> >voltage to 13.3V (or 14.2V at freezing temperatures)? Wouldn't a
> >charger regulated at say 12.9V do just as well at keeping a full charge?
>
> If I recall correctly: the reason for using a slightly higher voltage
> has to do with the way that electrical charge is distributed in a
> battery. My recollection is that the charge consists (conceptually)
> of two parts... a fairly evenly-distributed charge in the plates, and
> a "surface charge" on the surfaces of the plates / crystals which is
> present during charging.
>
> The distributed charge is what gives you the 12.7 volts... it's the
> "steady state" charge within the battery. When you start driving more
> current into the battery, the "surface charge" appears (on the
> surfaces of the lead sulphide plates and crystals) as the
> electrochemical reactions begin to occur. If you stop driving current
> in, the surface charge decays away over a period of a few minutes or
> hours (or, quite rapidly if you start drawing current from the
> battery) and the battery terminal voltage drops back to 12.7 (or
> whatever its steady state voltage is).
>
> The surface charge creates an additional voltage, which the charger

> must overcome in order to force current into the battery. If you try
> to use a 12.9-volt charging circuit, you won't get very much
> additional power pushed into the battery before the surface charge
> rises to 0.2 volts, the battery terminal voltage rises to 12.9 volts,
> and the battery stops charging. If the battery had been somewhat
> depleted (say, it was down to 12.3 volts), the surface charge will
> still jump up fairly quickly and cut down the charging rate, and it'll
> take a long time to "top up" the battery to full charge.
>
> The 13.7-volt setting is, to some extent, a compromise. It's high
> enough to allow a battery to be trickle-charged up to full in a
> reasonable amount of time (it's high enough to overcome quite a bit of
> surface-charge backpressure), but it's not high enough to cause a
> fully-charged battery to begin electrolyzing the water out of its cells.
>
> >This comes full circle on my original thread postulation. There is NO
> >point in regulating the voltage, just connect a properly sized wall wart
> >and you're done. The proof is right here.
>
> The battery makers say you're in error - or, at least,
> oversimplifying, and taking risks with your battery. Lots of peoples'
> experience says likewise. Go ahead if you wish.
>
> In certain very specific special cases, what you propose _may_ be
> safe. These would be the cases where the wall wart's maximum output
> current does not exceed the sum of [1] the static load on the battery,
> and [2] the amount of self-discharge current and loss-by-heating which
> would limit the battery's terminal voltage to no higher than about
> 13.7 volts. Because the self-discharge, and battery cell voltages are
> somewhat temperature-sensitive, I think you'd find that no single
> wall-wart would produce optimum results with a single battery under
> all circumstances.
>
> In the more general case, one of two things is very likely to be true:
>
> - The wall wart is smaller than ideal, and isn't capable of
> delivering enough current to pull the battery up to 13.7 volts in
> "steady state" operation. The battery will probably charge, but
> more slowly than would otherwise be the case.
>
> - The wall wart is larger than ideal, and it pulls the battery up to
> well above the optimal float voltage. The battery begins gassing,
> and its life is shortened.
>
> That's why a properly-regulated float-charging circuit is very
> desireable. It allows for a rapid recharge if the battery is run down
> (because you can use a nice, hefty DC supply) but ensures a stable
> floating voltage once the battery reaches steady state. And, a single
> such circuit can be used with a wide range of battery capacities - you
> don't need to carefully hand-select a wall wart to match each specific

> battery.
>
> --
> Dave Platt <dplatt@radagast.org> AE6EO
> Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
> I do _not_ wish to receive unsolicited commercial email, and I will
> boycott any company which has the gall to send me such ads!

==========

You may have something here. It would sure explain a lot. I need to do
some more testing. Thanks.

3866. Re: FA:12AX7WXT(R),6B4, 4-400C(DUD?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 16:45:35 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <rrihsvg1ft8bp0cj4uhtc1ljds9b2m6osa@4ax.com>
Source record: 30682

I'd like to nominate this for the 'Most Obscure Subject Line Award
2003'

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3867. Re: 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 17:16:58 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <6s4yb.21372$yM6.7899@lakeread06>
Source record: 30683

"gudmundur" <hexter@blazenet.net> wrote in message
news:vsgeghv38bl83@corp.supernews.com...
> I do sound work at horse shows, and would like to provide my audio source
> to vehicles parked at the show. I have a real nice 100 milliwatt input
> 1.6mhz transmitter which shows about 60 milliwatts of output at 50 ohms.
>
> I would like to build a transmitting antenna that would be 4 feet in
length
> and having the 3/8 24 thread at the bottom so I can fasten it into my
hamstick
> mag mount base.
>

The best range has been reported using a Part 15 antenna mounted high and
in the clear on a metal structure--20 feet of water pipe will do. Do a web
search
for "part 15 am antenna" and you will get a lot of hits.

Now, the problem with part 15 is the interpretation. Some field engineers
will
argue that the loading inductor wire length should be counted against
against
the three meter total length permitted for the antenna and "ground lead".
The
six foot "ground lead" is also subject to interpretation... If you look at
some
of the better commercial units, they use a shielded loading coil, with a
110
inch or so whip.

Pete

3868. Re: FA:12AX7WXT(R),6B4, 4-400C(DUD?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 20:52:57 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FC90713.73E7AC80@earthlink.net>
Source record: 30684

Paul Burridge wrote:
>
> I'd like to nominate this for the 'Most Obscure Subject Line Award
> 2003'

It makes about as much sense as his other ads.

--
I say, the boy is so stupid that he tried to make a back up copy of his
hard drive on the Xerox machine!

Michael A. Terrell
Central Florida

3869. Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 22:48:58 UTC
From: Bob <balbert@access1.net>
Message-ID: <ub-dnUb9EYHSv1SiU-KYhA@ecrii.com>
Source record: 30685
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

I need some of this stuff for antenna assembly. Anyone know where to get it?

For those who don't know what it is, it's a paste you get in a little can or tube that you smear on mating metals to avoid having them stick together after exposure to the elements. It's also used for soldering irons to make replacing tips easier.

I think it's molybdenum disulfide.

73, Bob

3870. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-29 22:53:58 UTC
From: "paulfriedman@comcast.net" <p.paulfriedman@comcast.net>
Message-ID: <as9yb.160445$Dw6.639217@attbi_s02>
Source record: 30686
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

"Bob" <balbert@access1.net> wrote in message
news:ub-dnUb9EYHSv1SiU-KYhA@ecrii.com...
> I need some of this stuff for antenna assembly. Anyone know where to get
> it?
>
> For those who don't know what it is, it's a paste you get in a little can
or
> tube that you smear on mating metals to avoid having them stick together
> after exposure to the elements. It's also used for soldering irons to
make
> replacing tips easier.
>
> I think it's molybdenum disulfide.
>
> 73, Bob
>
>

Bob:

http://bosunsupplies.com carries it (well,a t least one version thereof).
Bosun Supply is an excellent source for all sorts of stuff useful in ham
radio. Besides, when I order from them, I can pretend I own a 40 ft sloop.
<grin>

73

Paul AB0SI

3871. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 00:36:38 UTC
From: Richard Miles <k7rnz123usa@netscape.net>
Message-ID: <vsieslqcc53593@corp.supernews.com>
Source record: 30688
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

Any electrical parts place sells it. It is commonly known as Penetrox
or inhibitor paste. It is primarily used for aluminum wire contact with
terminal strips.

Dick K7RNZ

paulfriedman@comcast.net wrote:
> "Bob" <balbert@access1.net> wrote in message
> news:ub-dnUb9EYHSv1SiU-KYhA@ecrii.com...
>
>>I need some of this stuff for antenna assembly. Anyone know where to get
>>it?
>>
>>For those who don't know what it is, it's a paste you get in a little can
>
> or
>
>>tube that you smear on mating metals to avoid having them stick together
>>after exposure to the elements. It's also used for soldering irons to
>
> make
>
>>replacing tips easier.
>>
>>I think it's molybdenum disulfide.
>>
>>73, Bob
>>
>>
>
>
> Bob:
>
> http://bosunsupplies.com carries it (well,a t least one version thereof).
> Bosun Supply is an excellent source for all sorts of stuff useful in ham
> radio. Besides, when I order from them, I can pretend I own a 40 ft sloop.
> <grin>
>
> 73
>
> Paul AB0SI
>
>

3872. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 00:43:34 UTC
From: Bob <balbert@access1.net>
Message-ID: <ZK2dnb6m77S2oFSiU-KYIg@ecrii.com>
Source record: 30689
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

Two electronics stores and Home Depot didn't have it.

I finally found some at my auto parts store. I was told that Ham Radio Outlet had it for $8 but I only paid $3 for a decent sized tube of the stuff.

Thanks for your help, guys.

73, Bob

3873. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 00:53:56 UTC
From: Noon-Air <noon-air@comcast.net>
Message-ID: <ssKdne0Nw5I6olSiRVn-hQ@comcast.com>
Source record: 30690
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

The stuff I use is from Lawson...its simular to CopperCoat, but its 80% copper and works great. it takes very little...*maybe* a tablespoon full to do a 4 element tribander, but after 4 or 5 years in a really bad salt environment(Treasure Island in San Francisco bay), everything that had been put together with this stuff came right apart when the screws were taken out...anything that didn't get the antiseize was junk.
The stuff is expensive but worth every penny.

"Bob" <balbert@access1.net> wrote in message
news:ZK2dnb6m77S2oFSiU-KYlg@ecrii.com...
> Two electronics stores and Home Depot didn't have it.
>
> I finally found some at my auto parts store. I was told that Ham Radio
> Outlet had it for $8 but I only paid $3 for a decent sized tube of the
> stuff.
>
> Thanks for your help, guys.
>
> 73, Bob
>
>

3874. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 01:13:19 UTC
From: Clif Holland <radio.service@verizon.net>
Message-ID: <Pubyb.40$n4.11@nwrddc01.gnilink.net>
Source record: 30691
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

Automotive anti-seize is not the same as electrical.
Different purpose.
The automotive is to keep steel bolts from binding in aluminum, magnesium,
etc.
The electrical is to keep the coated materials from oxidizing while at the
same time ensuring good electrical contact.

--
Clif Holland, KA5IPF
AVVid
Authorized Kenwood and Icom Service Center
816 W Shady Grove Rd
Irving, TX 75060

1-800-214-5779
972-870-0630 (local)

"Bob" <balbert@access1.net> wrote in message
news:ZK2dnb6m77S2oFSiU-KYlg@ecrii.com...
> Two electronics stores and Home Depot didn't have it.
>
> I finally found some at my auto parts store. I was told that Ham Radio
> Outlet had it for $8 but I only paid $3 for a decent sized tube of the
> stuff.
>
> Thanks for your help, guys.
>
> 73, Bob
>
>

3875. Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 02:04:51 UTC
From: la8ak.xnd@online.no
Message-ID: <3fc93dac.14165955@news.online.no>
Source record: 30692

Hi

planning a power supply for NEC 36284 150W 2m linear amplifier with
2SC3286, see http://home.online.no/~la8ak/images/nec36284c.gif

It is only a simple psu, but using a 24VAC transformer
[http://home.online.no/~la8ak/images/4ua3.gif)

Wonder what size capacitors I should use to keep ripple minimum above
+24V?

73, Jan-Martin, LA8AK
http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

3876. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 02:19:14 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FC953C5.6DC60FF9@rica.net>
Source record: 30693

J M Noeding wrote:
>
> Hi
>
> planning a power supply for NEC 36284 150W 2m linear amplifier with
> 2SC3286, see http://home.online.no/~la8ak/images/nec36284c.gif
>
> It is only a simple psu, but using a 24VAC transformer
> [http://home.online.no/~la8ak/images/4ua3.gif)
>
> Wonder what size capacitors I should use to keep ripple minimum above
> +24V?
>
> 73, Jan-Martin, LA8AK
> http://home.online.no/~la8ak/c.htm
> --
> remove ,xnd to reply (Spam precaution!)

I think this slide applies to 60 Hz power.
http://hyperphysics.phy-astr.gsu.edu/hbase/electronic/rectct.html
--
John Popelish

3877. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 02:37:48 UTC
From: Noon-Air <noon-air@comcast.net>
Message-ID: <btadnSC4ucCdxVSi4p2dnA@comcast.com>
Source record: 30694
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

Here is a link to the Lawson stuff

http://webapp1.lawsonproducts.com/website/showItem?itemNum=59933

I have been using the same can for 20 years...a little bit goes a very long way....It works great for all kinds of other stuff too...lug nuts, exhaust manifold bolts, aluminium wire in breaker boxes etc.....

"Noon-Air" <noon-air@comcast.net> wrote in message
news:ssKdne0Nw5I6olSiRVn-hQ@comcast.com...
> The stuff I use is from Lawson...its simular to CopperCoat, but its 80%
> copper and works great. it takes very little...*maybe* a tablespoon full
to
> do a 4 element tribander, but after 4 or 5 years in a really bad salt
> environment(Treasure Island in San Francisco bay), everything that had
been
> put together with this stuff came right apart when the screws were taken
> out...anything that didn't get the antiseize was junk.
> The stuff is expensive but worth every penny.
>
> "Bob" <balbert@access1.net> wrote in message
> news:ZK2dnb6m77S2oFSiU-KYlg@ecrii.com...
> > Two electronics stores and Home Depot didn't have it.
> >
> > I finally found some at my auto parts store. I was told that Ham Radio
> > Outlet had it for $8 but I only paid $3 for a decent sized tube of the
> > stuff.
> >
> > Thanks for your help, guys.
> >
> > 73, Bob
> >
> >
>
>

3878. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 02:38:06 UTC
From: garigue <garigue@comcast.net>
Message-ID: <iKcyb.254042$mZ5.1884022@attbi_s54>
Source record: 30695
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

"Bob" <balbert@access1.net> wrote in message
news:ub-dnUb9EYHSv1SiU-KYhA@ecrii.com...
> I need some of this stuff for antenna assembly. Anyone know where to get
> it?
>
> For those who don't know what it is, it's a paste you get in a little can
or
> tube that you smear on mating metals to avoid having them stick together
> after exposure to the elements. It's also used for soldering irons to
make
> replacing tips easier.
>
> I think it's molybdenum disulfide.
>
> 73, Bob

Hi Bob ... I applied Permatex anti-seize to the bolts on my tower and the boom-mast-rotor hardware. The whole works came apart smoothly after being up for 20 plus years. The material I used between the Al junctions on the TH-6 was supplied by Hy-Gain in a little metal pill box. Likewise the stuff worked great. SS hardware used on the antenna.

God Bless 73 Tom Popovic KI3R Belle Vernon Pa

3879. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 03:54:33 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bqbplp$dd3$1@sparta.btinternet.com>
Source record: 30696

Ripple voltage across smoothing capacitors can be calculated from the amount by which they discharge, at the DC load current, during the time of a half-cycle of the power supply frequency.

For half-wave rectification, ie., a single diode plus capacitor, the capacitors are charged up once per cycle and the capacitor discharges into the DC load during the period of a whole AC cycle.

3880. Re: Can a 1W resistor handle 50W for 7msec?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 04:42:35 UTC
From: Uns Lider <unslider-usenet@miranda.org>
Message-ID: <slrnbsit9r.o4a.unslider-usenet@disorder.primate.net>
Source record: 30597
Cross-posted to: sci.electronics.design,sci.electronics.basics,sci.electronics.components,rec.radio.amateur.homebrew

On 2003-11-26, Watson A.Name - Watt Sun, Dark Remover <alondra101@hotmail.com> wrote:
> I worked for a small company that was owned by a conglomerate. The
> conglomerate said that they'd never use any of our equipment that were
> in a blue case. Which, since almost everything was in a blue case...
>
> Anyway, we had problems with the 7805 regulators shutting down from
> overtemp. They were mounted on the PCB with a small heatsink. So we
> had to ECO them by adding a few inches of wire and bolting the 7805 to
> the aluminum case, which soaked up plenty of heat. After that, no
> more weird behavior.

It wasn't WG Security Products, was it? Doesn't sound like it. A while
back I got a used video quad that they had made, and the 7805 was mounted
like that. Also, the 7805 was blown.

-- uns

3881. Re: Max nr of poles in CW-filter ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 06:04:03 UTC
From: msix@oldplato.nmia.com
Message-ID: <1070173451.306099@newshost03.voicenet.com>
Source record: 30598

Heikki wrote:
>Having built several ladder filters for SSB (8.. 10 MHz, 4 .. 8 poles)
>with BW abt. 2 kHz (mainly for TX applications) I would like to try a
>narrow filter (BW 500 or even less). One thing I am worried about is
>the insertion loss. Has anyone any experience regarding the maximum
>number of poles (= crystals) in such narrow filters. I have seen designs
>for SSB with 14 poles but some doubts exist if this would be excessive
>in a CW filter.
>73 de oh2lzi (Heikki)

Heikki - See QST for 8/78, 12/78 and 11/80 for answers.
If I have room, I put a mini trimmer cap in series with each xtal
to tune all the xtals to the exact same frequency.
This helps the bandwidth and reduces the insertion loss.
73 W7ZFB

3882. µwave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 11:16:46 UTC
From: lenx_@hotmail.com
Message-ID: <8891d193.0311300316.8ea264c@posting.google.com>
Source record: 30599

hello,
i am a student and we got a hf task for a lab project. we have to
built a low pass filter (-3dB @ 500MHz, 3th order) in microstrip,
coupled lines and interdigital. the first two we have to build and
measure, the 3th one is to calculate only. i know the last two filters
are band pass, but we should design something with highest brakepoint
at 500MHz.

now my question:
we managed to calculate the microstrip filter so that one is done and
simulated. what botters us is that we didn't get ANY sort of a course
(we have to find anything on our own) and we have no clue about the
coupled lines and even less about the interdigital filter.
there is very very little useful information to find on the web so
please can someone help me here by giving some basic
methodology/formulas for coulpled lines or interdigital filters. maybe
someone has a few pdf's or other info on his harddisk he/she could
send me?

thanks in advance
lenx

3883. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 12:03:51 UTC
From: la8ak.xnd@online.no
Message-ID: <3fc9dc3f.54767040@news.online.no>
Source record: 30600

On Sun, 30 Nov 2003 02:19:14 GMT, John Popelish <jpopelish@rica.net>
wrote:

>> planning a power supply for NEC 36284 150W 2m linear amplifier with
>> 2SC3286, see http://home.online.no/~la8ak/images/nec36284c.gif
>>
>> It is only a simple psu, but using a 24VAC transformer
>> [http://home.online.no/~la8ak/images/4ua3.gif)
>>
>> Wonder what size capacitors I should use to keep ripple minimum above
>> +24V?
>>
>> 73, Jan-Martin, LA8AK
>> http://home.online.no/~la8ak/c.htm
>> --
>> remove ,xnd to reply (Spam precaution!)
>
>I think this slide applies to 60 Hz power.
>http://hyperphysics.phy-astr.gsu.edu/hbase/electronic/rectct.html
>--
>John Popelish

thanks,
very basic, but it may be a good reply, and as quoted "They can be
modified to 50 Hz by examination of the expressions."

suppose R = U/I for this expression?

Jan-Martin
--
remove ,xnd to reply (Spam precaution!)

3884. Troughline Calculator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 14:10:53 UTC
From: Tom <tom.bratton@btinternet.com>
Message-ID: <6fujsvg11ib0k7nes9isvm06nhah08sf7r@4ax.com>
Source record: 30601

I've Googled in vain for an online calculator, or program for calculating troughline dimensions - does anyone know of one, please? The maths makes my brain hurt!

Something along the lines of this coax line calculator is what I am looking for:

http://www1.sphere.ne.jp/i-lab/ilab/tool/cx_line_e.htm

Thanks.

3885. Re: Icom PS35 Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 14:33:55 UTC
From: Frank Dinger <gm0csz.knxx6wh@ntlworld.com>
Message-ID: <bEnyb.1429$i71.522662@newsfep1-win.server.ntli.net>
Source record: 30603

> Recently had an Internal PSU fail on an Icom 970. Fault was traced to a
> resistor going short due to some adhesive used at manufacturing becoming
> conductive with age? anyway resistor replaced gunk cleaned away. While
> repairing it was noticed the circuit has an optical switch in the start up
> circuit. This lost a leg when the short took place and despite repair it
> appears not too work.
> Havent tried Icom as they seem to be quite useless, order replacement VFO
> assembly and received notch filter switch!
>
> The device is a small black encapsulated unit, looks like a 4 legged black
> capacitor! It is Neon rather than LED according to the circuit diagram.
Cant
> seem to find anything on it at all on the net. Appears to have been made
by
> a company called Stuaw Kigai.
>
> Anybody got any suggestions :)?
==========
Suggest you consider using an optocoupler with a suitable input and output
circuit added.

Not knowing the voltage levels the failed component operates at and whether
it is in an AC or DC environment,the opto-coupler's input circuit could be
tailored with a resistive network (possibly with an added diode in case of
an AC circuit) and the output circuit with a HV transistor if necessary.

Frank GM0CSZ / KN6WH

3886. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 14:39:40 UTC
From: Topaz305RK <2smoore@nemontel.net>
Message-ID: <WdadnRIyJ4etnFeiRVn-jA@vnet-inc.com>
Source record: 30602
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

May be for a different purpose but have used it on antennas for along time and have never had any problems with it. Seems to conduct just fine and will certainly let things come apart easy. Last use was on a TH6DXX, no ill side effects, still up and working without any problems. Antenna analyzer shows all is well.

3887. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 14:43:48 UTC
From: Frank Dinger <gm0csz.knxx6wh@ntlworld.com>
Message-ID: <cEnyb.1430$i71.522662@newsfep1-win.server.ntli.net>
Source record: 30605

> It is only a simple psu, but using a 24VAC transformer
> [http://home.online.no/~la8ak/images/4ua3.gif)
>
> Wonder what size capacitors I should use to keep ripple minimum above
> +24V?
=====
As a rule of thumb not less than 2000 microFarad per ampere
Hence for a 20 Amperes supply a total of 40KmicroFarad or more.

Frank GM0CSZ / KN6WH

3888. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 14:58:57 UTC
From: Frank Dinger <gm0csz.knxx6wh@ntlworld.com>
Message-ID: <dEnyb.1431$i71.522662@newsfep1-win.server.ntli.net>
Source record: 30604
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

> Hi Bob ... I applied Permatex anti-seize to the bolts on my tower and the
> boom-mast-rotor hardware. The whole works came apart smoothly after being
> up for 20 plus years. The material I used between the Al junctions on the
> TH-6 was supplied by Hy-Gain in a little metal pill box. Likewise the
stuff
> worked great. SS hardware used on the antenna.
==========
In the UK a very good stuff for outer metal protection is Finigan Waxoyl,
available from many autoparts - and hardware shops.
Living in a windswept area near seawater ,hence with a lot of salt spray ,I
use it on all bolts and nuts and galvanised metal clamps etc.
Of course it is NOT suitable to make galvanic contact between (dissimilar)
metal parts.

Frank GM0CSZ / KN6WH

3889. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 16:07:18 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <g95ksv06aaqrjd5gt9fejel384kmn1ii76@4ax.com>
Source record: 30606
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

On Sun, 30 Nov 2003 07:39:40 -0700, "Topaz305RK"
<2smoore@nemontel.net> wrote:

>May be for a different purpose but have used it on antennas for along time
>and have never had any problems with it. Seems to conduct just fine and will
>certainly let things come apart easy. Last use was on a TH6DXX, no ill side
>effects, still up and working without any problems. Antenna analyzer shows
>all is well.
>
Yes, I have used the NeverSeez conductive grease, sold for automotive
repairs, on things like car battery terminals, to resist corrosion and
enhance conductivity. It does fine there.

As long as conductivity is good, and there is no capacitance created,
it should be fine.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

3890. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 16:10:23 UTC
From: Jim Weir <jim@rst-engr.com>
Message-ID: <q85ksvcpnng7l0o3p2vaf6jc1cd5u9ud5c@4ax.com>
Source record: 30607
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

There are two varieties. One is a mix of graphite and moly in a syrupy solvent. One is a mix of copper dust and moly in a pasty solvent. Either one works well and we notice not a whit of difference in the conduction properties. In the aircraft industry, we use them rather interchangeably to coat the threads (lightly) on spark plugs so they won't pull out the helicoils in the heads when we go to change them annually, on manifold and muffler bolts so we don't have to drill them out when it comes time to work on them, and on any other thread that is likely to become corroded into place.

If necessary, you can go to an aviation supply house (Chief Aircraft, Grants Pass OR; Aircraft Spruce, Fullerton) and buy as much as you need by mail order. In a really well-stocked automotive supply house you can buy it by the dribble bottle, pint, or quart.

Jim

"Bob" <balbert@access1.net>
shared these priceless pearls of wisdom:

->I need some of this stuff for antenna assembly. Anyone know where to get
->it?
->
->For those who don't know what it is, it's a paste you get in a little can or
->tube that you smear on mating metals to avoid having them stick together
->after exposure to the elements. It's also used for soldering irons to make
->replacing tips easier.
->
->I think it's molybdenum disulfide.
->
->73, Bob
->

Jim Weir, VP Eng. RST Eng. WX6RST
A&P, CFI, and other good alphabet soup

3891. Re: ⁄wave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 18:47:10 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bqddvpmrg1@news.oregonstate.edu>
Source record: 30608

Lenx <lenx_@hotmail.com> wrote:
> we managed to calculate the microstrip filter so that one is done and
> simulated. what botters us is that we didn't get ANY sort of a course
> (we have to find anything on our own) and we have no clue about the
> coupled lines and even less about the interdigital filter.

What books does your course use? Pozar's "Microwave Electronics" book (or perhaps "Microwave and RF Design of Wireless Systems" -- there's some overlap between the two with the later typically being less theoretical and more applications oriented) is the one that immediately comes to mind for your problem.

---Joel Kolstad

3892. Re: µwave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 18:55:42 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0311301055.4baa704c@posting.google.com>
Source record: 30609

lenx_@hotmail.com (Lenx) wrote in message
news:<8891d193.0311300316.8ea264c@posting.google.com>...

> (snip...)
> now my question:
> we managed to calculate the microstrip filter so that one is done and
> simulated. what botters us is that we didn't get ANY sort of a course
> (we have to find anything on our own) and we have no clue about the
> coupled lines and even less about the interdigital filter.
> there is very very little useful information to find on the web so
> please can someone help me here by giving some basic
> methodology/formulas for coulpled lines or interdigital filters. maybe
> someone has a few pdf's or other info on his harddisk he/she could
> send me?

Why are you only looking on the web? Does your school
not have a library?

There are zillions of papers on the subject out there.
I'd start with either RF Design or IEEE Microwave Theory
and Techniques.

Laura Halliday VE7LDH "Que les nuages soient notre
Grid: CN89mg pied a terre..."
ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

3893. Re: Anti-sieze?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 19:33:53 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <PV1jGoChYky$EAll@ifwtech.co.uk>
Source record: 30610
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

Frank Dinger wrote:
>> Hi Bob ... I applied Permatex anti-seize to the bolts on my tower and the
>> boom-mast-rotor hardware. The whole works came apart smoothly after being
>> up for 20 plus years. The material I used between the Al junctions on the
>> TH-6 was supplied by Hy-Gain in a little metal pill box. Likewise the
>stuff
>> worked great. SS hardware used on the antenna.
>=====================================
>In the UK a very good stuff for outer metal protection is Finigan Waxoyl,
>available from many autoparts - and hardware shops.
> Living in a windswept area near seawater ,hence with a lot of salt spray ,I
>use it on all bolts and nuts and galvanised metal clamps etc.
>Of course it is NOT suitable to make galvanic contact between (dissimilar)
>metal parts.
>
>Frank GM0CSZ / KN6WH
>
>
This is definitely a "me too."

Waxoyl is excellent stuff - a blend of wax and oil (surprise) plus corrosion inhibitors that really work. I recently pulled out a rotating pipe mast that had been sitting in a ground socket full of Waxoyl. 10 years of condensation had turned it into more like an oil/wax/water emulsion, but the bare steel came out looking like new.

In more normal use on nuts and bolts, the oil dries out and the wax coating hardens, so it also acts as a pretty good thread-lock.

Don't know if Waxoyl is available outside of Britain... but if it isn't, it should be!

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

3894. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 19:59:56 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <DEywy5E8wky$EAlU@ifwtech.co.uk>
Source record: 30611

J M Noeding wrote:
>Hi
>
>planning a power supply for NEC 36284 150W 2m linear amplifier with
>2SC3286, see http://home.online.no/~la8ak/images/nec36284c.gif
>
>It is only a simple psu, but using a 24VAC transformer
>[http://home.online.no/~la8ak/images/4ua3.gif)
>
>Wonder what size capacitors I should use to keep ripple minimum above
>+24V?

Work it out for sure, using Duncan Munro's PSU Designer program. Follow
the link from the 'In Practice' pages:
http://www.ifwtech.co.uk/g3sek/in-prac/best-of.htm#psud

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

3895. Re: Troughline Calculator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 20:01:51 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Z0W2+YFvyky$EAkA@ifwtech.co.uk>
Source record: 30612

Tom wrote:
>I've Googled in vain for an online calculator, or program for
>calculating troughline dimensions - does anyone know of one, please?
>The maths makes my brain hurt!
>
AppCAD at www.agilent.com has that and much more.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

3896. Re: ?wave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 21:17:42 UTC
From: ON5MJ <"on5mj_no_more _spam_in_stock_sorry_"@skynet.be>
Message-ID: <3fca5ee8$0$3244$ba620e4c@reader0.news.skynet.be>
Source record: 30613

Hi

Start with this one, maybe it could help:

http://www.emclab.umr.edu/

Then try to follow the leads.

73 de ON5MJ - Jacques.

3897. National Radio Knobs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 21:42:32 UTC
From: ldaniel102@aol.com
Message-ID: <20031130164232.20279.00001352@mb-m04.aol.com>
Source record: 30614

While cleaning thru the antique electronic mess in my basement today I came across two National Radio knobs. One is the usual National grey about 5/8 in diameter and 5/8 in high with a small white spot as a indicator. The other one is new in package marked HRS-5 "Black knob". Thought I'd check first if someone can use these before I throw them away. Larry

3898. Re: ?wave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 21:57:07 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bqdp2lqgd1@news.oregonstate.edu>
Source record: 30615

Laura Halliday <marsgal42@hotmail.com> wrote:
> Why are you only looking on the web? Does your school
> not have a library?

He's probably looking because the web tends to be more efficient in its searches than any library (i.e., Google searches the contents of web pages themselves, whereas libraries are only able to search via titles or sometimes summaries) and also because the web tends to be have its eye a little more bent towards practical applications rather than strictly theoretical concerns (something that libraries are filled with!). Of course, I'd never suggest a library isn't a wonderful resource as well, just giving you some insight from someone who's spent plenty of time in both.

> There are zillions of papers on the subject out there.

Yes, but unless he uncovers one that's specifically meant to be a review of well-known subjects or tutorial in nature (such papers do of course exist, but they're few and far between given that most professional journals are aimed at publishing new research), he'll be wasting his time since it's clear he needs some pretty introductory material at this point.

Sorry if this sounds unkind, it's just that a lot of students I know have wasted tons of time trying to understand journal articles when what they really need is a good textbook.

I do like your suggestion to check out some of the trade magazines such as RF Design, however!

---Joel Kolstad

3899. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 23:06:15 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <HJuyb.266887$275.958614@attbi_s53>
Source record: 30616

Visited my brother in Atlanta.

Dropped by Radio Shack Friday afternoon (after Thanksgiving) for some 75 ohm
CATV terminators (spare ports on cable splitter)

Did not have any, manager was in (big sales day and full staff in store).
He told me if it is not in the box .. they will not reorder..
and that RS was going to fade out of the parts business at stores because of
SLOW inventory turns
(think WalMart, Home Depot and sell only volume items). Ace Hardware down
street was doing good business in these specialty items that
these stores are now walking away from (and great service).

GB

"Howard" <haf47@juno.com> wrote in message
news:f03bf94f.0311261708.65235a78@posting.google.com...
> Recent visits to my local Radio Shack for even the most simple
> components has left me disappointed. Recently I had the need for 5
> 10uf electrolytics at any voltage really, and could not find them at 3
> local stores.
>
> There used to be a selection of 25 or so IC's that were widely used
> and popular...no more tho.
>
> Even a simple LM386 could not be found around here.
>
> Also, the parts are now being jammed into these ugly parts bins as if
> to hide them from view.
>
> Is this the same situation where you live?
>
> One manager mentioned that components are no longer a real concern of
> management and that he is under the impression that "parts" are on the
> way out soon.
>
> Wouldn't that just be the way...the old local electronics places are
> out of business, and the Shack eliminates their parts. They sure do
> have answers, don't they?
>
> de WA2AFD

3900. Hand-held serial terminal

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-11-30 23:39:10 UTC
From: kb8uhu@aol.com
Message-ID: <20031130183910.16817.00001234@mb-m07.aol.com>
Source record: 30617

Greetings. I just picked up an Oyster model 4 handheld serial terminal at a surplus sale. It is about the size of an old TI calculator and appears to work. After much trial and error I got the baud rate set on it to communicate with my packet TNC. Does anyone have any documentation on this thing? I am specifically looking for the way to enter the setup mode. I dropped the company a line, but after two weeks still have not gotten a reply. I plan on using this for amateur radio as well as some work related projects. Thanks in advance. 73 de Bob W8IJG

3901. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 00:09:46 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <dmlksvscalu51gshrmgtg0adc6cn3li0k6@4ax.com>
Source record: 30618
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 30 Nov 2003 14:43:48 -0000, "Frank Dinger"
<gm0csz.knxx6wh@ntlworld.com> wrote:

>> It is only a simple psu, but using a 24VAC transformer
>> [http://home.online.no/~la8ak/images/4ua3.gif)
>>
>> Wonder what size capacitors I should use to keep ripple minimum above
>> +24V?
>=====
>As a rule of thumb not less than 2000 microFarad per ampere
>Hence for a 20 Amperes supply a total of 40KmicroFarad or more.

Aren't we forgetting something, chaps? It's for Frank to tell us the
maximum level of ripple he's prepared to tolerate. You can't give a
meaningful answer without that, can you?
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3902. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 03:03:53 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <5cyyb.17709$P7.15633@bignews6.bellsouth.net>
Source record: 30619

Bill Turner wrote:
> On Thu, 27 Nov 2003 08:32:57 -0500, "John Walton" <jdwalton@comcast.net>
> wrote:
>
>
>>I would add Allied www.alliedelec.com to that list -- their "break point"
>>for shipping is $25, they will ship via USPS Priority Mail (which is very
>>quick anyway). At any rate, who doesn't have a soft-spot in their heart for
>>old Allied with their Knight Kits from 4 decades ago!
>
>
> ____
>
> I too have a soft spot for Allied, but Mouser will ship a one cent part
> if you want, with no handling charge (or so it implies in their
> catalog). Digi-Key does have a $5 handling charge on orders less than
> $25.
>
> --
> Bill, W6WRT
>
I would also recommend Newark Electronics (think the URL is
www.newarkone.com). They have a catalog that is thicker and heavier
than the Manhattan phonebook! (And they will send you a copy for free!).
Newark has a $25 min order, but you will have no trouble filling this
(because they have so much stuff you will find to buy!). Newark drop
ships your order from their nearest (to you) warehouse, so shipping
charges are reasonable (though your order may come in several packages,
and I don't think you pay extra for that). And they take Visa,
Mastercard (and maybe even paypal!). Newark's catalog business is
almost as old as Allied's, but they are mostly a wholesale outlet (they
try and keep the retail side a secret?).

There is also Arrow Electronics and Schweber (If there is a local
Schweber, you can phone your retail order ahead, pay by credit card and
pick it up at the lobby window.) I've done business with all three of
these companies with no problems.

3903. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 03:06:19 UTC
From: Kenneth <%wa2mze%@%bellsouth%.%net%>
Message-ID: <neyyb.17719$P7.10960@bignews6.bellsouth.net>
Source record: 30620

cornytheclown wrote:
> Mike Coslo <mcoslo@adelphia.net> wrote in message
news:<0idxb.35023$m84.4947006@news1.news.adelphia.net>...
>
>>Howard wrote:
>>
>>
>>>Recent visits to my local Radio Shack for even the most simple
>>>components has left me disappointed. Recently I had the need for 5
>>>10uf electrolytics at any voltage really, and could not find them at 3
>>>local stores.
>>>
>>>There used to be a selection of 25 or so IC's that were widely used
>>>and popular...no more tho.
>>>
>>>Even a simple LM386 could not be found around here.
>>>
>>>Also, the parts are now being jammed into these ugly parts bins as if
>>>to hide them from view.
>>>
>>>Is this the same situation where you live?
>>>
>>>One manager mentioned that components are no longer a real concern of
>>>management and that he is under the impression that "parts" are on the
>>>way out soon.
>>>
>>>Wouldn't that just be the way...the old local electronics places are
>>>out of business, and the Shack eliminates their parts. They sure do
>>>have answers, don't they?
>>
>> I wonder what their answer will be when the cell phone market is
>>saturated. (which is starting now) I really doubt that the Shack will
>>survive, since they've pinned so much on cell phones.
>>
>> - Mike KB3EIA -
>
>
> The last time I went to rat shack the two salesmen staffing the store
> descended on me like a pair of hungry vultures...when they found out I
> wasnt there to buy a phone or oher electronic appliance they left me
> alone. Its odd how rat shack has confined all parts to the parts bin
> thing yet they sell new soldering irons and those junk tools.......
> This store does seem to keep an adequete supply of their ferric
> chloride in stock hough, that and he odd connector are all I buy

> there.
>
> The electronics supply house we had here, radio electric, left town
> many years ago....we do have another elecronic place in a nearby town
> but it sells mostly computer and telecommunications related
> stuff....Th ics they do carry are all nte at nte prices.....and the
> selection of passives is poor...like rat shack kind of 5 resistors for
> a dollar something........
>
> I honestly hate having to use a place like mouser or allied but what
> else can you do ???
Some local "ham radio" outlets also carry parts. There are one or two
in Fort Lauderdale and Miami that do. (PLUG... "Mike's Electronics",
and he is a discount Kenwood and Icom dealer too. Great guy.)

3904. Re: National Radio Knobs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 03:32:14 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbsldht.1si4.bit-bucket@localhost.config.com>
Source record: 30621

On 30 Nov 2003 21:42:32 GMT, LDaniel102 hath writ:
> While cleaning thru the antique electronic mess in my basement today I came
> across two National Radio knobs. One is the usual National grey about 5/8 in
> diameter and 5/8 in high with a small white spot as a indicator. The other one
> is new in package marked HRS-5 "Black knob". Thought I'd check first if
> someone can use these before I throw them away. Larry

You must not be a ham.
Hams never (shudder) throw anything away.
Their widows do....

73
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

3905. list of electronic components to start building Radio Recievers and Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 03:38:07 UTC
From: harshit <hsuri@usc.edu>
Message-ID: <bqed30$75$1@gist.usc.edu>
Source record: 30622

Qn1) Could someone recommend list of electronic components that i should stock up on for starting my radio projects?
1.1) any links of such lists on the web available ?

I wanted to order stuff from various sources like digikey etc. I dont want to be at a loss of components when i start experimenting.

3906. 443a cold cathode tube

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 04:03:30 UTC
From: beerbarrel@nospam.cox.net
Message-ID: <0bflsvs307smvinp78mkmid79mgo54ff52@4ax.com>
Source record: 30623

I've obtained a bunch of these. Are they worth anything for homebrew
use?

thanks,
Tracy

3907. Re: µwave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 04:36:45 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0311302036.19b3f4d7@posting.google.com>
Source record: 30624

"Joel Kolstad" <JKolstad71HatesSpam@Yahoo.Com> wrote in message
news:<bqdp2lqgd1@news.oregonstate.edu>...
> Laura Halliday <marsgal42@hotmail.com> wrote:
> > Why are you only looking on the web? Does your school
> > not have a library?
>
> He's probably looking because the web tends to be more efficient in its
> searches than any library (i.e., Google searches the contents of web pages
> themselves, whereas libraries are only able to search via titles or
> sometimes summaries) and also because the web tends to be have its eye a
> little more bent towards practical applications rather than strictly
> theoretical concerns (something that libraries are filled with!). Of
> course, I'd never suggest a library isn't a wonderful resource as well, just
> giving you some insight from someone who's spent plenty of time in both.

Thanks for the words-of-one-syllable-or-less explanation.
If the information isn't on the web, no search engine is
going to find it.

> > There are zillions of papers on the subject out there.
>
> Yes, but unless he uncovers one that's specifically meant to be a review of
> well-known subjects or tutorial in nature (such papers do of course exist,
> but they're few and far between given that most professional journals are
> aimed at publishing new research), he'll be wasting his time since it's
> clear he needs some pretty introductory material at this point.
>
> Sorry if this sounds unkind, it's just that a lot of students I know have
> wasted tons of time trying to understand journal articles when what they
> really need is a good textbook.

The ARRL and RSGB have published numerous books on
microwave stuff. Not only does the material tend to be
at a very practical nuts and bolts level, the references
tend to be pretty good. There are lots of others,
thugh the specialist journals like VHF Communications/
UKW-Berichte and DUBUS tend to be hard to come by.

What makes you think I don't know what being a student
is like? I'd hate to think I wasted such an obscene
amount of money on my B.Sc. and M.A.Sc. degrees. I
completed the latter in 2000, and the Internet was an
important tool. But it wasn't my *only* tool. Anybody
who thinks it is is either naive or stupid.

Laura Halliday VE7LDH "Que les nuages soient notre
Grid: CN89mg pied a terre..."
ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

3908. Re: Follow-up: Car battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 04:38:02 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FCAC571.8EF95F5F@bellatlantic.net>
Source record: 30625

"Bruce W...1" wrote:
>
> ehsjr@bellatlantic.net wrote:
> >
> > I don't know how you measured things - so I can't say for
> > sure - but you may not have a failure.
> >
> > 1) You need to measure the float charge voltage while the
> > charger is charging the battery. Don't know if you did that,
> > but 13.7 is good if you did.
> >
> > 2) The battery needs to be fully charged before connecting
> > the float charger. Don't know if it was. If the battery is
> > discharged and you connect your float charger and measure it,
> > you will see a voltage below 13.7 A discharged battery can
> > draw enough current to drop the output voltage of the wall
> > wart down below the 13.7 regulation voltage.
> >
> > 3) A battery removed from the float charge will show a lower
> > voltage than the float voltage. That is normal. So it is
> > possible that your charger is working properly and the battery
> > is being held at full charge.
> ==
>
> The battery was fully charged when the float charging was started. The
> battery is almost new. The float voltage measured 12.7V with the
> charger connected. And the regulator is heat-sinked.
>
> Someone outside of this thread who is more knowledgeable in this matter
> than I told me the following.
>
> A float voltage of 13.3V is required to maintain a fully charged state
> (at room temperature). At lower voltages the battery loses charge,
> regardless of the output of the charger. So if the charger doesn't have
> enough current to keep it at 13.3V, as is the case here, then charge
> will be lost. If this is true then I should see a lower float voltage
> in the near future.
>
> It's also become clear that regulating the voltage of an under-sized
> charger is pointless, because the battery never reaches a high voltage
> anyway.
>
> Bob's point about overloading the charger is certainly valid. But right
> now it's only pulling a tiny current because the voltage differential is

> so small.
>
> One conclusion can be drawn from all of this. The charger I built is
> inadequate for long-term care. And the wall wart chargers that are sold
> for float charging are not suitable for long-term charging if they can't
> keep the battery at 13.3V. I'm guessing you need at least 2 Amps to do
> this. However an under-sized wall wart can certainly reduce the rate of
> discharge by compensating for external loads.
>
> So what my home-brew charger is doing is just compensating for external
> loads and not adding to the battery charge in any way.
>
> A lead-acid battery is not damaged until it falls below 12.0V. How long
> does it take a healthy battery to self-discharge to 12.0V? This might
> take a year. I don't have a feel for this at lower temperatures.
>
> My charger will probably get the battery thru the winter, and certainly
> if I start the car every six weeks or so. So I think I'll just leave it
> at that. Thanks all for your help.
>
> On another battery front, the gel cell in my computer UPS died of old
> age. Rather than replacing the battery I reconnected the UPS to a 32Ah
> gel cell which I keep around for emergency preparedness. This kills two
> birds with one stone, it keeps the big battery charged and also gives
> the UPS a whole lot of capacity. Now that I think about it, an old UPS
> might make a dynamite car battery float charger.

Some points:
1) The input to the regulator must be about 2 volts above the
regulated voltage level. So, if your regulator is set for
13.7, the DC input to the regulator must be about 15.7.
Under no load, what is the DC voltage at the input to the
regulator? What is it under full load?

2) A wall wart's output voltage will sag under load - the
heavier the load, the greater the sag. The ones that don't
sag have the regulator built in. How much current is being
drawn from the regulator when it is connected to the battery?
What is the wall wart voltage sag, no load to full load?

3) If as you mentioned the voltage differential is so small
that very little current is being drawn from the charger, then
there should not be a differential of 13.7 to 12.7, no load to
full load as measured at the charger terminals that clip
on to the battery. The problem is that the phrase "very little
current" is undefined. We need the actual numbers.

Bottom line - it sounds like your wall wart may be too wimpy
for this application. Also, it would be a good idea to
post the details of the circuit. For example, do you have
a diode in the output between the regulator and the battery?

If not, how do you protect the LM317, and how do you prevent
the battery from discharging through the charger?

In your reply you mentioned:
> It's also become clear that regulating the voltage of an under-sized
> charger is pointless, because the battery never reaches a high voltage
> anyway.

It's not the regulator that's pointless, it's using an
under-sized charger in the first place, and expecting it
to keep the battery at ~13.7. When you expect a charger
to keep a battery at ~13.7, regulation is required. When
you don't care what the battery voltage is, no regulation
is required. Of course, that's no charger at all - it could
allow the voltage to go anywhere, and it disagrees with what
battery manufacturers recommend - voltage regulation for
trickle charge.

3909. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 04:41:14 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3fcac3f6$1@wobble>
Source record: 30626

Howard wrote:

> One manager mentioned that components are no longer a real concern of
> management and that he is under the impression that "parts" are on the
> way out soon.

I'm personally wondering how Radio Shack remains relevant in
the face of Best Buy and other big-box consumer electronics
outlets. In other words, I wouldn't be that surprised to see
Radio Shack stores leave business before too long.

Dana

3910. Re: µwave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 04:46:58 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FCAC7A4.550EDE10@earthlink.net>
Source record: 30627

Laura Halliday wrote:
>
>
> What makes you think I don't know what being a student
> is like? I'd hate to think I wasted such an obscene
> amount of money on my B.Sc. and M.A.Sc. degrees. I
> completed the latter in 2000, and the Internet was an
> important tool. But it wasn't my *only* tool. Anybody
> who thinks it is is either naive or stupid.
>
> Laura Halliday

I agree with you. That's why I have a library of reference and data
books that fills a small bedroom in my house. A couple thousand books,
the list time I tried to get a full count. ;-)
--
25 days!

Michael A. Terrell
Central Florida

3911. Re: Radio Shack Quitting Parts Business?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 04:50:59 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FCAC893.E20BA695@earthlink.net>
Source record: 30628

Dana Myers wrote:
>
> I'm personally wondering how Radio Shack remains relevant in
> the face of Best Buy and other big-box consumer electronics
> outlets. In other words, I wouldn't be that surprised to see
> Radio Shack stores leave business before too long.
>
> Dana

I was in the Oaks Mall in Ocala the other day where I counted six
booths selling pager and cell phones down the center of the mall, and
there were probably a couple more in some of the other stores.
--
25 days!

Michael A. Terrell
Central Florida

3912. MRF248

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 05:13:08 UTC
From: Harry <hgk@centurytel.net>
Message-ID: <3FCACDE4.F1F3378B@centurytel.net>
Source record: 30629

Looking for a matched pair of MRF248 or SRF3897
Thanks
Harry

3913. Re: 4 foot vertical for 1.6mhz 100milliwatt tx?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 05:26:14 UTC
From: Capoot <rlcap@xprt.net>
Message-ID: <vslkc98tb7d814@corp.supernews.com>
Source record: 30630

Popular Electronics magazine, Nov 1962, had a broadcast band transmitter project: "RFD 100" (housed in a rural mailbox). The center loaded vertical antenna may suit your purpose. It is constructed with two 53 inch lengths of 1/2" copper pipe with a 8" diameter by 12" long loading coil wound with 88 turns of #20 wire between. Article has generous details on construction and tune-up.
Ray
"gudmundur" <hexter@blazenet.net> wrote in message news:vsgeghv38bl83@corp.supernews.com...
> I do sound work at horse shows, and would like to provide my audio source
> to vehicles parked at the show. I have a real nice 100 milliwatt input
> 1.6mhz transmitter which shows about 60 milliwatts of output at 50 ohms.
>
> I would like to build a transmitting antenna that would be 4 feet in length
> and having the 3/8 24 thread at the bottom so I can fasten it into my hamstick
> mag mount base.
>
> I am thinking a 1 inch diameter wooden dowel 4 feet long, and wrapped evenly
> from bottom to top with perhaps #22 wire.
>
> Any idea how much wire it would take to begin to act like a 50 ohm impedance
> at the base? Would you solenoid wind it bottom to top, or would it work better
> with maybe a 4 inch high multilayered coil at the bottom and 3.5 foot steel
> whip antenna.
>
> I am not out to piss off the FCC, and with a mere 60 milliwatts of output
> power at 50 ohms, I don't think anyone beyond 300 yards will even here it.
> I do however want to be clearly heard on an A.M. car radio anywhere on the
> show grounds. There are no local stations on 1600khz, or even anywhere near
> it, and since these shows are only in the daytime, I won't be competing with
> skywave, or 50kw clear channels.
>

3914. I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 05:37:17 UTC
From: shane_d_maudiss@yahoo.com
Message-ID: <eea3eba2.0311302137.6eef1808@posting.google.com>
Source record: 30631

Is it possible that Iï¿½m an alien from Outer space or am I just a mutant?

But at least I receive music from all over the world.

3915. Re: list of electronic components to start building Radio Recievers and Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 06:57:18 UTC
From: Rick Frazier <rick@rickfrazier.com>
Message-ID: <3FCAE64E.1F39BAC7@rickfrazier.com>
Source record: 30632

First, could you answer a few questions to narrow the field a bit.

Are you primarily interested in building radios? Transmitter or receiver? Accessories? What frequency ranges? Tubes or solid state? Interfacing to computers or standalone projects? What level of experience do you have and what are you starting with?

Sounds like a lot to ask, yes, but it really does make a difference. If you go out and just start buying things, you can put several hundred or (if you go overboard) even a thousand dollars into parts without really being able to build much.

For most experimentation, a decent selection of resistors and capacitors is pretty essential, but the actual ranges of values of each is considerably different depending upon what type of projects you have in mind. Likewise, diodes, transistors and other semiconductors. There are some "standards" but it really depends upon what you are planning. These days, there are a lot of projects involving logic, and you can really spend a fortune restocking for logic projects if you don't know what you want yet...
When I started oh so many years ago, I began with a full assortment of halfway carbon composition resistors, along with a couple of capacitor assortments (disc and tubular). Now, most of the resistor values I have are quarter watt carbon film types, and the capacitor assortments comprise three or four different types and several voltage ranges. Diodes range from small signal types in germanium and silicon, along with the 4001-4004 1 amp general purpose types. For transistors, an assortment of common pap and nun devices (such as 2n2222a, 2n3906, 2n3906 and so on), plus a handful of various ICs and pampas that are used often.

Often, people that don't have a fairly well stocked "junk box" begin with kits or published magazine articles that are of particular interest, then go on from there, expanding upon the parts they purchase for each kit or published project as they go along. Whenever I make up an order for a particular repair job or project, I always add a few other things to the order to round out what I was missing the last time I had something I needed to do... It helps to reduce the average cost per part due to minimum order size or high shipping charges.

Of course, beyond just the parts will be some general equipment, such as a variable power supply or two, a decent DVM, and possibly an oscilloscope, depending upon what you are building... Don't forget to buy a good soldering station (the Welder WTCPN or other similar models come to mind), some solder wick and a good solder sucker. Having a quality, temperature controlled soldering station will make soldering so much more convenient you'll be able

to do a really good job with a lot less practice. Of course, a good quality small diameter flux cored solder is essential. Then there are hand tools like exact knives, wire strippers, diagonal cutters (dikes), needle nose pliers, tweezers, screwdrivers, nut drivers and the like. The list (seemingly) goes on and on.

Good luck!

--Rick

haricot wrote:

> Qn1) Could someone recommend list of electronic components that i should
> stock up on for starting my radio projects?
> 1.1) any links of such lists on the web available ?
>
> I wanted to order stuff from various sources like digikey etc. I dont want
> to be at a loss of components when i start experimenting.

3916. Re: ⊕wave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 08:48:51 UTC
From: samsvl@nlr.nl
Message-ID: <Xns944463D9883DBsamsvlnlrnl@137.17.128.14>
Source record: 30633

Hi Lenx,

Try to find 'Stripline Circuit Design' by Harlan Howe, Jr.

Sam

lenx_@hotmail.com (Lenx) wrote in
news:8891d193.0311300316.8ea264c@posting.google.com:

> hello,
> i am a student and we got a hf task for a lab project. we have to
> built a low pass filter (-3dB @ 500MHz, 3th order) in microstrip,
> coupled lines and interdigital. the first two we have to build and
> measure, the 3th one is to calculate only. i know the last two filters
> are band pass, but we should design something with highest brakepoint
> at 500MHz.
>
> now my question:
> we managed to calculate the microstrip filter so that one is done and
> simulated. what botters us is that we didn't get ANY sort of a course
> (we have to find anything on our own) and we have no clue about the
> coupled lines and even less about the interdigital filter.
> there is very very little useful information to find on the web so
> please can someone help me here by giving some basic
> methodology/formulas for coulpled lines or interdigital filters. maybe
> someone has a few pdf's or other info on his harddisk he/she could
> send me?
>
> thanks in advance
> lenx

3917. Re: list of electronic components to start building Radio Recievers and Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 08:52:53 UTC
From: harshit <hsuri@usc.edu>
Message-ID: <bqevh5$am4$1@gist.usc.edu>
Source record: 30634

sorry not to have been specific.
> Are you primarily interested in building radios?
> Transmitter or receiver?
I am starting with recievers.
Basically implementing projects from Experimental Methods in RF Design

> Accessories? What frequency ranges? Tubes or solid state? Interfacing
to
> computers or standalone projects? What level of experience do you have
and
> what are you starting with?
>
> Sounds like a lot to ask, yes, but it really does make a difference. If
you
> go out and just start buying things, you can put several hundred or (if
you go
> overboard) even a thousand dollars into parts without really being able to
> build much.
>
> For most experimentation, a decent selection of resistors and capacitors
is
> pretty essential, but the actual ranges of values of each is considerably
> different depending upon what type of projects you have in mind.
Likewise,
> diodes, transistors and other semiconductors. There are some "standards"
but
> it really depends upon what you are planning. These days, there are a lot
of
> projects involving logic, and you can really spend a fortune restocking
for
> logic projects if you don't know what you want yet...
> When I started oh so many years ago, I began with a full assortment of
halfway
> carbon composition resistors, along with a couple of capacitor assortments
> (disc and tubular). Now, most of the resistor values I have are quarter
watt
> carbon film types, and the capacitor assortments comprise three or four
> different types and several voltage ranges. Diodes range from small
signal
> types in germanium and silicon, along with the 4001-4004 1 amp general
purpose
> types. For transistors, an assortment of common pap and nun devices (such
as

> 2n2222a, 2n3906, 2n3906 and so on), plus a handful of various ICs and
pampas
> that are used often.
>
> Often, people that don't have a fairly well stocked "junk box" begin with
kits
> or published magazine articles that are of particular interest, then go on
> from there, expanding upon the parts they purchase for each kit or
published
> project as they go along. Whenever I make up an order for a particular
repair
> job or project, I always add a few other things to the order to round out
what
> I was missing the last time I had something I needed to do... It helps to
> reduce the average cost per part due to minimum order size or high
shipping
> charges.
>
> Of course, beyond just the parts will be some general equipment, such as a
> variable power supply or two, a decent DVM, and possibly an oscilloscope,
> depending upon what you are building... Don't forget to buy a good
soldering
> station (the Welder WTCPN or other similar models come to mind), some
solder
> wick and a good solder sucker. Having a quality, temperature controlled
> soldering station will make soldering so much more convenient you'll be
able
> to do a really good job with a lot less practice. Of course, a good
quality
> small diameter flux cored solder is essential. Then there are hand tools
like
> exact knives, wire strippers, diagonal cutters (dikes), needle nose
pliers,
> tweezers, screwdrivers, nut drivers and the like. The list (seemingly)
goes
> on and on.
>
> Good luck!
>
> --Rick
>
> haricot wrote:
>
> > Qn1) Could someone recommend list of electronic components that i should
> > stock up on for starting my radio projects?
> > 1.1) any links of such lists on the web available ?
> >
> > I wanted to order stuff from various sources like digikey etc. I dont
want
> > to be at a loss of components when i start experimenting.

>

3918. Re: list of electronic components to start building Radio Recievers and Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 08:54:31 UTC
From: harshit <hsuri@usc.edu>
Message-ID: <bqevk6$am9$1@gist.usc.edu>
Source record: 30635

> > Accessories? What frequency ranges? Tubes or solid state?
Short wave recievers as i am not a HAM right now. Solid state

> to
> > computers or standalone projects?

Standalone

3919. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 10:07:57 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <i62msv0v0qlmm5ncgp6vig66hhhade56cr@4ax.com>
Source record: 30636

On Sun, 30 Nov 2003 14:43:48 -0000, "Frank Dinger"
<gm0csz.knxx6wh@ntlworld.com> wrote:

>>planning a power supply for NEC 36284 150W 2m linear amplifier with
>>2SC3286, see http://home.online.no/~la8ak/images/nec36284c.gif

Is this really a 2m amplifier with a large number of striplines? I
guess that the amplifier would be quite bulky at such low frequencies.

Assuming 50 % efficiency, 150 W RF would require 300 W DC input power
or 12.5 A.

>> It is only a simple psu, but using a 24VAC transformer
>> [http://home.online.no/~la8ak/images/4ua3.gif)

The secondary peak voltage Vpeak will be about 1.4*24 V or about 34 V.

Since the rectifier voltage drop is at least 1 V at large currents and
there are two rectifiers in series, the voltage drop is at least 2 V,
so the peak capacitor voltage is less than 32 V.

>>
>> Wonder what size capacitors I should use to keep ripple minimum above
>> +24V?

As the lowest allowed voltage is 24 V, the capacitor voltage will drop
from 32 to 24 V (dV=8 V) between the half cycle peaks.

The hard part is to calculate when the rectifiers stop conducting
after the peak and when they start to conduct again in the next half
cycle.

The worst case capacitance could be calculated assuming that the
capacitor must deliver the current for the whole half cycle, thus 10ms
for 50 Hz full wave rectification. Since dV = I*t/C and rearranging C
= I*t/dV, thus the required capacitance would be C = 12.5 A*0.01 s / 8
V or 15.6 mF.

However, since the final capacitor voltage Vl is well below the
secondary peak voltage, the rectifiers start to conduct well before
the peak of the next half cycle. The conduction angle is given by
arcsin(Vl/Vpeak) so in this case arcsin(24 V/34 V) or arcsin(26V/34V)
= 50 degrees, if the rectifier voltage drop is included. 50 degrees is
more than 2 ms before the next peak.

Since the conducting after the previous peak occurred slightly after
the peak (due to the serial impedances in the transformer and
rectifiers), a good guess for the time when the rectifiers are not

conducting is 7,5 ms in this case.

Using this shorter storage time, the required capacitance can be recalculated as 11.7 mF or 11700 uF.

It should be noted that in this case the 8 V is the peak-to-peak ripple voltage and 24 V minimum output voltage during a cycle, which is quite appropriate if series pass regulation is used. Some design equations especially from the tube era talk about RMS ripple voltage and average DC voltage, which was more useful when a choke was used in the high voltage supply.

>=====
>As a rule of thumb not less than 2000 microFarad per ampere

That gives a voltage drop rate of 0.5 V/ms.

With discharge times from about 6 ms (60 Hz full wave) to 20 ms (50 Hz half wave) the voltage drop would be 3 .. 10 V.

If this is much or not, depends on the voltage levels used. A 3-4 V drop might be appropriate for a full wave 50/60 Hz system generating 12 Vdc, but for a 24 Vdc and higher systems a higher ripple can usually be tolerated, thus the capacitor can be reduced.

>Hence for a 20 Amperes supply a total of 40KmicroFarad or more.

Hopefully the amplifier will not consume 20 A (480 W), since the efficiency would be quite low :-).

Paul OH3LWR

3920. Re: Xtals for valve tx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 12:23:39 UTC
From: Hans Summers <Hans.Summers@Tudor.Com>
Message-ID: <bqfbsc$21f9e0$1@ID-61331.news.uni-berlin.de>
Source record: 30637

"SB" <nospam@btinternet.com> wrote in message
news:bq7rh3$4pc$1@sparta.btinternet.com...
> I would like to start building valve transmitters for 160/80/40 metres,
does
> anyone know of any suppliers of suitable xtals for valve equipment eg.
the
> old FT243 or HC6U types.

Here's my one-valve CW transmitter, produces up to 10W on 80m and 8W on 40m:
http://www.hanssummers.com/radio/cwtx/index.htm. In this circuit I have
found that modern HC49 type crystals work perfectly well. Before building
it, I was warned that HC49 crystals are too small for valve circuits and
would fracture. Fortunately I decided to give it a go anyway, and have not
yet had a crystal fracture. Some have suggested that this may be due to the
DC blocking capacitor in series with the crystal (see my circuit diagram).

Quartzlab charge £7.50 per crystal (minimum order £10). A cheaper way is to
buy a bunch of standard value crystals and lower them by painting the
crystal surface with felt tip pen, see my page about it:
http://www.hanssummers.com/radio/penning/index.htm. In this way it would be
possible to build up a bank of crystals covering a segment of the band.
3.579 (TV colour burst) crystals are available almost anywhere extremely
cheaply, and I found it easy to lower it by 30KHz. 3.560 crystals are also
available, it's the 80m QRP calling frequency. See the links page on the QRP
website http://www.gqrp.com for some suppliers. Similarly 7.030 (Europe) /
7.040 (US) is the 40m QRP calling frequency, and they can be easily lowered
to anywhere down to 7.000.

My TX has 4 relay switched crystals: 3.558, 3.560, 7.010 and 7.030. All are
(or were originally) HC49. After 2 years and over 400 QSO's, no fracturing.

73
Hans G0UPL
http://www.HansSummers.com

3921. Re: Troughline Calculator

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 13:01:40 UTC
From: Tom <tom.bratton@btinternet.com>
Message-ID: <tuemsvg8o7bqnig4ql987mpjde3j72gn12@4ax.com>
Source record: 30638

On Sun, 30 Nov 2003 20:01:51 +0000, "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
wrote:

>AppCAD at www.agilent.com has that and much more.

Excellent! Many thanks, Ian

Tom

3922. Re: ?wave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 14:51:03 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <bqfkh1$d26$1@news.oregonstate.edu>
Source record: 30497

Laura Halliday <marsgal42@hotmail.com> wrote:
> If the information isn't on the web, no search engine is
> going to find it.

Of course. I was stating why the web appeared to be the OP's first choice (and why it arguably should be anyone's these day). I think you were the one implying it was his only choice! (And perhaps it was...)

> The ARRL and RSGB have published numerous books on
> microwave stuff.

Good point. Searching the web will, of course, come up with hits from ARRL and RSGB's web sites though!

> What makes you think I don't know what being a student
> is like?

What makes you think I think that?

> I'd hate to think I wasted such an obscene
> amount of money on my B.Sc. and M.A.Sc. degrees. I
> completed the latter in 2000, and the Internet was an
> important tool. But it wasn't my *only* tool. Anybody
> who thinks it is is either naive or stupid.

Really? Without knowing what your degrees were in, I'd say it's naive to assume the Internet _couldn't_ be your only research tool. Although it's still certainly quite uncommon, I'm sure I could find you some computer science/computer engineering students who have graduated in the past few years (maybe even in 2000 :-)) that never once visited a brick and mortar library throughout their program. I'd also predict this will become increasingly common in the next few decades as more and more publications end up in electronic libraries (sometimes _only_ in electronic libraries!).

---Joel

3923. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 15:12:23 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@Dev.Null>
Message-ID: <MPG.1a34fa3272db373e989b3e@192.168.42.131>
Source record: 30639

In article <eea3eba2.0311302137.6eef1808@posting.google.com>,
shane_d_maudiss@yahoo.com says...

> Is it possible that I m an alien from Outer space or am I just a mutant?
>
> But at least I receive music from all over the world.

What, simultaneously? That's gotta make for one whopper of a
headache. ;-)

Odd that you should mention antennas on one's head. I've seen a
couple of hams mount an SO239 through the top of a hard hat, glue
aluminum foil connected to the shield side on the inner surface, and
attach a 2m or 440 flexi-whip to the topside for use with their
handheld. It apparently works pretty well, but it's not something I
would choose to do.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

3924. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 15:34:22 UTC
From: mikea@mikea.ath.cx
Message-ID: <bqfn1u$6ss$5@puck.litech.org>
Source record: 30640

Dr. Anton Squeegee <SpammersAreVermin@dev.null> wrote:
> In article <eea3eba2.0311302137.6eef1808@posting.google.com>,
> shane_d_maudiss@yahoo.com says...

> > Is it possible that I?m an alien from Outer space or am I just a mutant?
> >
> > But at least I receive music from all over the world.

> What, simultaneously? That's gotta make for one whopper of a
> headache. ;-)

> Odd that you should mention antennas on one's head. I've seen a
> couple of hams mount an SO239 through the top of a hard hat, glue
> aluminum foil connected to the shield side on the inner surface, and
> attach a 2m or 440 flexi-whip to the topside for use with their
> handheld. It apparently works pretty well, but it's not something I
> would choose to do.

Shiny side out, Anton?

I've also seen more than a few folks put a GPS antenna inside a hat
or cap, so that the only thing showing is the lead down to the GPS.

It takes _all_ kinds, as the saying runs.

--
Why would burglars need to look for a back door when they can climb
in through the Windows?
-- Norman L. DeForest

3925. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 16:08:03 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FCB6747.54C2AFAC@earthlink.net>
Source record: 30641

"Dr. Anton Squeegee" wrote:
>
> In article <eea3eba2.0311302137.6eef1808@posting.google.com>,
> shane_d_maudiss@yahoo.com says...
>
> > Is it possible that Iï¿½m an alien from Outer space or am I just a mutant?
> >
> > But at least I receive music from all over the world.
>
> What, simultaneously? That's gotta make for one whopper of a
> headache. ;-)
>
> Odd that you should mention antennas on one's head. I've seen a
> couple of hams mount an SO239 through the top of a hard hat, glue
> aluminum foil connected to the shield side on the inner surface, and
> attach a 2m or 440 flexi-whip to the topside for use with their
> handheld. It apparently works pretty well, but it's not something I
> would choose to do.
>
> --
> Dr. Anton Squeegee

Don't forget the battery powered AM tube radio built on a pith
helmet, with the tubes sticking out the top! ;-) I think it was Bill
Morris who posted a picture on news:alt.binaries.radio.pictures a couple
months back.
--
24 days!

Michael A. Terrell
Central Florida

3926. Re: MRF248

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 17:14:08 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <6WKyb.11815$O42.4747973@newsfep2-win.server.ntli.net>
Source record: 30642

"Harry" <hgk@centurytel.net> wrote in message
news:3FCACDE4.F1F3378B@centurytel.net...
> Looking for a matched pair of MRF248 or SRF3897
==========
Mainline Electronics - Leicester ,UK might still have them . In one of
their not too recent catalogues a matched pair MRF248 is priced GBP89.70
,equivalent to approx US$ 126 .-
Suggest you check via sales@mainlinegroup.co.uk or tel: 0044 116 286 5303
fax: 0044 116 286 7797

Frank GM0CSZ / KN6WH

3927. Re:MRF248 matched pair

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 17:34:55 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <1ZKyb.11816$O42.4749534@newsfep2-win.server.ntli.net>
Source record: 30643

Looking for a matched pair of MRF248 or SRF3897
==========
Mainline Electronics - Leicester ,UK might still have them . In one of
their not too recent catalogues a matched pair MRF248 is priced GBP89.70
,equivalent to approx US$ 126 .-
Suggest you check via sales@mainlinegroup.co.uk or tel: 0044 116 286 5303
fax: 0044 116 286 7797

Frank GM0CSZ / KN6WH

3928. HF Test Bench Project

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 22:44:38 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <qvPyb.20760$lF6.10973@nwrdny01.gnilink.net>
Source record: 30644

My little project ,which started out to be a software-controlled HF sweep set, has taken on a life of its own. Although I'm calling it an HF Scalar Network Analyzer, it is now much more. The unit supplies unregulated 12V and regulated 5V to the circuit under development. The software system now has an analog meter panel that measures the DC output voltages, the DC output current, and also the DC voltage measured by a set of plug-in test probes. I'm going to start calling it the "HF Test Bench". It's all built from inexpensive off-the-shelf sub-assemblies. The power comes from the software.

If you're interested in seeing what I'm doing, check out my web site at: http://mysite.verizon.net/jdrocci/.

You can download my latest demo software package and get a feeling for how exciting this project has become.

3929. Re: Icom PS35 Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 23:23:44 UTC
From: Tom <TomATSBRSdotORGdotUK>
Message-ID: <3fcbcd80$0$64734$65c69314@mercury.nildram.net>
Source record: 30646

Think it is 110V after a resistor. Think its 300v before. The problem is it is contained in an area that is very small and surrounded by other components. Opted to strip the device and will try and find what exactly, has gone up in smoke! Maybe repair existing one. Would have hoped gareth or one of his cronnies would have given me their expert guidence, they always witter on about, but nope :(Oh well. Thanks to the two people that have emailed me. The guy with the 2.4Ghz units can you resend your email as it got deleted by mistake :(, before I got to reply. Bit over zealous with delete trying to get rid of SPAM!

Tom
M3CBZ

"Frank Dinger" <gm0csz.knxx6wh@ntlworld.com> wrote in message
news:bEnyb.1429$i71.522662@newsfep1-win.server.ntli.net...
> > Recently had an Internal PSU fail on an Icom 970. Fault was traced to a
> > resistor going short due to some adhesive used at manufacturing becoming
> > conductive with age? anyway resistor replaced gunk cleaned away. While
> > repairing it was noticed the circuit has an optical switch in the start
up
> > circuit. This lost a leg when the short took place and despite repair it
> > appears not too work.
> > Havent tried Icom as they seem to be quite useless, order replacement
VFO
> > assembly and received notch filter switch!
> >
> > The device is a small black encapsulated unit, looks like a 4 legged
black
> > capacitor! It is Neon rather than LED according to the circuit diagram.
> Cant
> > seem to find anything on it at all on the net. Appears to have been made
> by
> > a company called Stuaw Kigai.
> >
> > Anybody got any suggestions :)?
> ==
> Suggest you consider using an optocoupler with a suitable input and output
> circuit added.
>
> Not knowing the voltage levels the failed component operates at and
whether
> it is in an AC or DC environment,the opto-coupler's input circuit could be
> tailored with a resistive network (possibly with an added diode in case
of
> an AC circuit) and the output circuit with a HV transistor if necessary.

>
> Frank GM0CSZ / KN6WH
>
>

3930. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 23:25:16 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <h1hnsvgl1p6umb325uf0ls29i0mdfh6ffn@4ax.com>
Source record: 30645

On Mon, 1 Dec 2003 15:34:22 +0000 (UTC), mikea@mikea.ath.cx (Mike
Andrews) wrote:

>Dr. Anton Squeegee <SpammersAreVermin@dev.null> wrote:
>> In article <eea3eba2.0311302137.6eef1808@posting.google.com>,
>> shane_d_maudiss@yahoo.com says...
>
>> > Is it possible that I?m an alien from Outer space or am I just a mutant?
>> >
>> > But at least I receive music from all over the world.
>
>> What, simultaneously? That's gotta make for one whopper of a
>> headache. ;-)
>
>> Odd that you should mention antennas on one's head. I've seen a
>> couple of hams mount an SO239 through the top of a hard hat, glue
>> aluminum foil connected to the shield side on the inner surface, and
>> attach a 2m or 440 flexi-whip to the topside for use with their
>> handheld. It apparently works pretty well, but it's not something I
>> would choose to do.
>
>Shiny side out, Anton?
>
>I've also seen more than a few folks put a GPS antenna inside a hat
>or cap, so that the only thing showing is the lead down to the GPS.

In 'Amateur Radio Techniques' by Pat Hawker (RSGB publications)
there's a design called a 'titfer' for a hat antenna for 2m operation.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3931. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 23:44:05 UTC
From: aokd5fxt@aol.com
Message-ID: <20031201184405.20350.00001210@mb-m04.aol.com>
Source record: 30547

I had a friend that I used to like to run around with. He always had some good C & W music for me..... sometimes reception was better than others though.

Bill

3932. Re: Building a psu for linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-01 23:53:05 UTC
From: la8ak.xnd@online.no
Message-ID: <3fcbb154.3261158@news.online.no>
Source record: 30548

If it helps....,
the amplifier is shown on http://home.online.no/~la8ak/d24.htm
but I've written text the text in Norwegian since material is
available for radio clubs in this area. But at least it is some
pictures and circuit diagram for the amplifier

73 LA8AK

On Mon, 01 Dec 2003 12:07:57 +0200, Paul Keinanen <keinanen@sci.fi>
wrote:

>On Sun, 30 Nov 2003 14:43:48 -0000, "Frank Dinger"
><gm0csz.knxx6wh@ntlworld.com> wrote:
>
>>>planning a power supply for NEC 36284 150W 2m linear amplifier with
>>>2SC3286, see http://home.online.no/~la8ak/images/nec36284c.gif
>
>Is this really a 2m amplifier with a large number of striplines? I
>guess that the amplifier would be quite bulky at such low frequencies.
>
>Assuming 50 % efficiency, 150 W RF would require 300 W DC input power
>or 12.5 A.
>
>>> It is only a simple psu, but using a 24VAC transformer
>>> [http://home.online.no/~la8ak/images/4ua3.gif)
>
>The secondary peak voltage Vpeak will be about 1.4*24 V or about 34 V.
>
>Since the rectifier voltage drop is at least 1 V at large currents and
>there are two rectifiers in series, the voltage drop is at least 2 V,
>so the peak capacitor voltage is less than 32 V.
>
>>>
>>> Wonder what size capacitors I should use to keep ripple minimum above
>>> +24V?
>
>
>As the lowest allowed voltage is 24 V, the capacitor voltage will drop
>from 32 to 24 V (dV=8 V) between the half cycle peaks.
>
>The hard part is to calculate when the rectifiers stop conducting
>after the peak and when they start to conduct again in the next half
>cycle.
>
>The worst case capacitance could be calculated assuming that the

>capacitor must deliver the current for the whole half cycle, thus 10ms
>for 50 Hz full wave rectification. Since dV = I*t/C and rearranging C
>= I*t/dV, thus the required capacitance would be C = 12.5 A*0.01 s / 8
>V or 15.6 mF.
>
>However, since the final capacitor voltage Vl is well below the
>secondary peak voltage, the rectifiers start to conduct well before
>the peak of the next half cycle. The conduction angle is given by
>arcsin(Vl/Vpeak) so in this case arcsin(24 V/34 V) or arcsin(26V/34V)
>= 50 degrees, if the rectifier voltage drop is included. 50 degrees is
>more than 2 ms before the next peak.
>
>Since the conducting after the previous peak occurred slightly after
>the peak (due to the serial impedances in the transformer and
>rectifiers), a good guess for the time when the rectifiers are not
>conducting is 7,5 ms in this case.
>
>Using this shorter storage time, the required capacitance can be
>recalculated as 11.7 mF or 11700 uF.
>
>It should be noted that in this case the 8 V is the peak-to-peak
>ripple voltage and 24 V minimum output voltage during a cycle, which
>is quite appropriate if series pass regulation is used. Some design
>equations especially from the tube era talk about RMS ripple voltage
>and average DC voltage, which was more useful when a choke was used in
>the high voltage supply.
>
>>=====
>>As a rule of thumb not less than 2000 microFarad per ampere
>
>That gives a voltage drop rate of 0.5 V/ms.
>
>With discharge times from about 6 ms (60 Hz full wave) to 20 ms (50 Hz
>half wave) the voltage drop would be 3 .. 10 V.
>
>If this is much or not, depends on the voltage levels used. A 3-4 V
>drop might be appropriate for a full wave 50/60 Hz system generating
>12 Vdc, but for a 24 Vdc and higher systems a higher ripple can
>usually be tolerated, thus the capacitor can be reduced.
>
>>Hence for a 20 Amperes supply a total of 40KmicroFarad or more.
>
>Hopefully the amplifier will not consume 20 A (480 W), since the
>efficiency would be quite low :-).
>
>Paul OH3LWR
>

--
remove ,xnd to reply (Spam precaution!)

3933. Data for MSA0304 MMIC

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 00:34:24 UTC
From: la8ak.xnd@online.no
Message-ID: <3fcbdd98.14595583@news.online.no>
Source record: 30549

Hi

have some problems to find data for MMIC MSA0304,
only need to know the bias resistor for Vcc=9V and/or 12V, IP3 and
gain

need it for a general purpose noise source with MPS918 to cover
500-25000kHz band for selectivity tests. The reason for using this old
device is that I already got some douzens

what sort of narrow band noise evel could I expect in a 1kHz BW from
MPS918 emitter-base-junction noise source?

73 es hpe hr fm u sn de
Jan-Martin, LA8AK
http://home.online.no/~la8ak/d.htm
--
remove ,xnd to reply (Spam precaution!)

3934. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 02:23:54 UTC
From: Jack Twilley <jmt+usenet@twilley.org>
Message-ID: <863cc4ufd1.fsf@duchess.twilley.org>
Source record: 30550

```
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

>>>>> "Mike" == Mike Andrews <mikea@mikea.ath.cx> writes:

[... cranial antenna discussion elided ...]

Mike> I've also seen more than a few folks put a GPS antenna inside a
Mike> hat or cap, so that the only thing showing is the lead down to
Mike> the GPS.

I wanted to do this, but the woman of the moment imposed her fashion
veto. I settled for mounting the antenna on the top of my backpack,
and it worked fine and didn't scare the children.

Mike> It takes _all_ kinds, as the saying runs.

D'accord.

Jack.
- --
Jack Twilley
jmt at twilley dot org
http colon slash slash www dot twilley dot org slash tilde jmt slash
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.2.3 (FreeBSD)

iD8DBQE/y/e/GPFSfAB/ezgRAhfdAKDEfIjx5640+ECm8EyBBGgPBET1hwCg54tA
LbR/3LPYgIPE0MG9YU3N++I=
=2DBd
-----END PGP SIGNATURE-----
```

3935. any yahoo groups for RF design

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 02:27:15 UTC
From: harshit <hsuri@usc.edu>
Message-ID: <bqgta1ggh1@gist.usc.edu>
Source record: 30551

is any one aware of any good mail based (like yahoogroups) groups for RF /HAM design?

3936. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 03:01:36 UTC
From: mikea@mikea.ath.cx
Message-ID: <bqgvaf$18q$1@puck.litech.org>
Source record: 30552

Jack Twilley <jmt+usenet@twilley.org> wrote:
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1

> >>>>> "Mike" == Mike Andrews <mikea@mikea.ath.cx> writes:

> [... cranial antenna discussion elided ...]

> Mike> I've also seen more than a few folks put a GPS antenna inside a
> Mike> hat or cap, so that the only thing showing is the lead down to
> Mike> the GPS.

> I wanted to do this, but the woman of the moment imposed her fashion
> veto. I settled for mounting the antenna on the top of my backpack,
> and it worked fine and didn't scare the children.

> Mike> It takes _all_ kinds, as the saying runs.

> D'accord.

But ... but if you put it on your backpack, then it winds up looking
like one of the backpack GPSen from the Ashtech or Trimble catalog!
Where's the fun in _that_?

Now, if you mount one of the high-$, high-precision Trimble or Ashtech
GPS antennas, complete with planar choke-ring array, on or under your
hat, _that_ qualifies as well out on the tinfoil-hat axis. I wonder if
my Garmin 76 will talk to one of those, and where I can get one cheap.

--
I saw part of a telecast of some Wagner opera or other on TV one time. It took
two characters the best part of an hour to say "Oh! Hello!" to each other. At
that point I turned it off, even though I was in grave danger of missing the
first five or six minutes of "How're you doing?" -- Dave Brown

3937. Re: Data for MSA0304 MMIC

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 03:14:37 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3fcc012b$1@wobble>
Source record: 30553

J M Noeding wrote:
> Hi
>
> have some problems to find data for MMIC MSA0304,
> only need to know the bias resistor for Vcc=9V and/or 12V, IP3 and
> gain
>
> need it for a general purpose noise source with MPS918 to cover
> 500-25000kHz band for selectivity tests. The reason for using this old
> device is that I already got some douzens

The MSA-0304 is identical to the Mini-Circuits MAR-3 part.

Have a look at http://www.minicircuits.com/dg03-170.pdf

MAR-3SM
12.5dB@100MHz gain
+23.0dBm IP3
Operating current and voltage: 35mA 5.00V

Dana K6JQ

3938. Kidnapped US Citizen; Female, 19, Blonde, blue eyes, 5'10, Slight British Accent

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 05:22:44 UTC
From: WilliamWallaceHEARTKEEPER@hotmail.com
Message-ID: <8ee2f9d9.0312012122.6c8a22b0@posting.google.com>
Source record: 30554

[request hammers help]

Requesting help in gaining the release of a kidnapped United States Citizen who is being held in Romania and other locations against her will.

Information regarding this young lady can be found at:

http://www.PrincessOfRomania.com/

A rough outline has begun to be constructed of the past two years of her life with links that may help investigators generate leads to where she currently is being held so that more localized strategies can be initiated to secure her release:

http://www.PrincessOfRomania.com/princess_diaries.html

All help is appreciated. There is also a small banner that can be used to link to this site if you find it in your heart to place it somewhere on your websites:

http://forum.princessofromania.com/viewtopic.php?t=9

THANK YOU!

ericka ashley visconte
hohenzollern
sigmaringen
caradja
principesa
romaniei
monarhia

3939. Re: PCB exposure box

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 10:19:11 UTC
From: Dick <dick@langwang.demon.co.uk>
Message-ID: <XWUttuBfcGzEwX@langwang.demon.co.uk>
Source record: 30560

Thanks for all suggestions, think I've enough info to get the project
finished.
--
Dick
GM0MNL Fra' Auld Reekie

3940. Re: HF Test Bench Project

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 11:02:36 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <r0posv07bpqvc9oa6t5keamj0po3f2228n@4ax.com>
Source record: 30555

On Mon, 01 Dec 2003 22:44:38 GMT, "W3JDR" <joe@roccis.com> wrote:

>My little project ,which started out to be a software-controlled HF sweep
>set, has taken on a life of its own. Although I'm calling it an HF Scalar
>Network Analyzer, it is now much more. The unit supplies unregulated 12V and
>regulated 5V to the circuit under development. The software system now has
>an analog meter panel that measures the DC output voltages, the DC output
>current, and also the DC voltage measured by a set of plug-in test probes.
>I'm going to start calling it the "HF Test Bench". It's all built from
>inexpensive off-the-shelf sub-assemblies. The power comes from the software.
>
>If you're interested in seeing what I'm doing, check out my web site at:
>http://mysite.verizon.net/jdrocci/.

Very interesting. What do you estimate a final kit of parts would cost
and what does your NA lack that an HP or Tek one doesn't?
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3941. Re: I have antennas on my head

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 11:59:46 UTC
From: farhan@hotfoon.com
Message-ID: <8331b126.0312020359.3edbd4fc@posting.google.com>
Source record: 30556

in the late seventies, i bought my first book on electronics. i bought it because it was cheap, it was cheap because it came from the erstwhile russia. it was a really excellent book called 'entertaining electronics'. i really rocked.

one of the more interesting stories was that of a man who went to his shrink saying that he was hearing voices in his head asking him to buy something or the other. after a while, he started reporting news, weather and sports! at this point, the shrink realised that this dude was actually able to hear radio broadcasts. they seem to be improving with age, literally.

an investigation releaved that he had a recent tooth-capping done. the tooth-cap was slightly oxidised and the nerve-end formed a cats whiskers which was direclty pumping AM broadcasts into his nervous system! i don't know if the story was interesting, but it compelled me to read the entire chapter on holes and electrons.

- farhan

3942. Re: µwave filter design (help needed)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 13:34:35 UTC
From: lenx_@hotmail.com
Message-ID: <8891d193.0312020534.5be2095e@posting.google.com>
Source record: 30557

thanks to all for the reply.
my school has indeed a library where we had a look some time ago.
there's a whole rack full of books on RF design, but most of them that
cover stripline or microstrip are bulky things full of formulas we
don't need.
we're not really looking for such thing, we are looking for a way to
solve the problem with pencil and caculator, esprecially for the
interdigital filter cos we have no clue about that.

so far we started from a 3th order filter with lumped elements and
then converted it to a structure with kuroda elements.
now what we need to find out is how to calculate the dimensions of the
coupled line filter and the interdigital filter, given the kuroda
filter structure. we already managed to do this for the filter with
stubs (the most easy one probably :-)

3943. Publications for Ham Homebrew Projects ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 14:43:01 UTC
From: Keyboard In The Wilderness <KIYW@zilch.net>
Message-ID: <Sx1zb.639$yf.54@fed1read01>
Source record: 30558

Any one know of Publications for Ham Homebrew Projects ??
Perhaps an out of the USA publication ??

Post ur answer here please as I must remain anon these days (long Story)
--
73 From The Wilderness Keyboard

3944. Re: Kidnapped US Citizen; Female, 19, Blonde, blue eyes, 5'10, Slight British Accent

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 16:49:26 UTC
From: Lou DeChris <bit-bucket@config.com>
Message-ID: <slrnbspgkl.31im.bit-bucket@localhost.config.com>
Source record: 30559

On 1 Dec 2003 21:22:44 -0800, William Wallace][hath writ:

> ... who is being held in Romania and other locations ....

That must hurt.

3945. Re: Publications for Ham Homebrew Projects ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 19:23:45 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vspplun1fe6m8a@corp.supernews.com>
Source record: 30561

The Homebrewer http://www.amqrp.org
Bacon Bits (online) http://www.mpna.com/fpqrp/
Sprat http://www.gqrp.com
QQ also has a lot of homebrew in it, although that's not it's focus
(http://www.qrparci.org)

..

"Keyboard In The Wilderness" <KIYW@zilch.net> wrote in message
news:Sx1zb.639$yf.54@fed1read01...
> Any one know of Publications for Ham Homebrew Projects ??
> Perhaps an out of the USA publication ??
>
> Post ur answer here please as I must remain anon these days (long Story)
> --
> 73 From The Wilderness Keyboard
>
>

3946. my Yahoo Group..Earlshamradio..some interesting homebrew/ant/component discussion

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-02 22:32:13 UTC
From: ve3ab@mail.mondenet.com
Message-ID: <3fcd11a3.1297062@news.mondenet.com>
Source record: 30562

You are welcome to come and view or participate in my Yahoo Group.
Earlshamradio. There are 23 members..note: im the only one posting so
far..an interesting article and eznec analysis of my end fed W8JK
antenna..some pictures and files and sketches.
I just bought a digital camera and ..when i get some sunny weather..im
going to snap some pics of my antennas.
also..how to build a homebrew solder fumes remover..(very inexpensive
and fairly effective). One of the big discussions I am trying to
KINDLE..regards.
STANDARD ELECTRONICS COMPONENTS..HOW STANDARD IS STANDARD?
I have some observations and discussions..and I would certainly
welcome many more. 73 Earl VE3aB

3947. Re: Antenna design choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 00:52:38 UTC
From: Hulen Smith <clay1952@cmaaccess.com>
Message-ID: <3fcd466f$0$9409$2c56edd9@news.cablerocket.com>
Source record: 30564

>
> Use the pipe, all other conditions being equal.
>
> Whether hollow or solid, the larger the diameter, the
> better off you are for that antenna. It is not a
> thickness issue. A solid 15 mm vs a hollow 15mm diameter
> offers no advantage, RF wise. But in a 15mm diameter versus
> a 3mm diameter comparison, the 15mm wins every time.

Assuming you shorten the elements and you want to sacrifice (small) gain
for bandwidth !!!

WB5UOI

3948. Re: Publications for Ham Homebrew Projects ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 01:00:42 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <Kwazb.33196$yM6.31131@lakeread06>
Source record: 30563

"Keyboard In The Wilderness" <KIYW@zilch.net> wrote in message
news:Sx1zb.639$yf.54@fed1read01...
> Any one know of Publications for Ham Homebrew Projects ??
> Perhaps an out of the USA publication ??
>
> Post ur answer here please as I must remain anon these days (long Story)
> --
> 73 From The Wilderness Keyboard
>
>

look for early issues of 73 and Ham Radio. Electric Radio has some
interesting stuff. Not much in the current mainline journals, I fear..

Pete

3949. Noise source level? was "Re: Data for MSA0304 MMIC"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 03:07:26 UTC
From: la8ak.xnd@online.no
Message-ID: <3fcd5222.109979492@news.online.no>
Source record: 30565

On Mon, 01 Dec 2003 19:14:37 -0800, Dana Myers <k6jq@arrl.net> wrote:

>The MSA-0304 is identical to the Mini-Circuits MAR-3 part.
>
>Have a look at http://www.minicircuits.com/dg03-170.pdf
>
>MAR-3SM
>12.5dB@100MHz gain
>+23.0dBm IP3
>Operating current and voltage: 35mA 5.00V
>
>Dana K6JQ

tnx.
Tried check some noise generator descriptions, although I plan to use
e-b junction of MPS918 and found this good 25 years ago, but I
couldn't find any indication of the RF output level from different
types of sources.
Some noise bridge sources may have an amplifier because - to adjust to
null you need at least 40dB more signal than heard into the RX at zero

My purpose is checking selectivity to compare different boatanchor
receivers in different modes, and I need at least 1mV, so an MSA0304
or two doesn't seem to give sufficient gain...

73
Jan-Martin
http://home.online.no/~la8ak/e.htm
--
remove ,xnd to reply (Spam precaution!)

3950. Re: Publications for Ham Homebrew Projects ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 11:27:42 UTC
From: Freddie <brianNOSPAM86@iquest.net>
Message-ID: <OMjzb.2302$Qd6.691@newsread1.news.atl.earthlink.net>
Source record: 30566

QST has been known to have many good homebrew articles over the years.

Plus the other mags/newsletters mentioned above.

I bought the whole SPRAT collection at Dayton for like $15 a couple of years ago, so much homebrew in there you can't get it all done.

"Keyboard In The Wilderness" <KIYW@zilch.net> wrote in message news:Sx1zb.639$yf.54@fed1read01...
> Any one know of Publications for Ham Homebrew Projects ??
> Perhaps an out of the USA publication ??
>
> Post ur answer here please as I must remain anon these days (long Story)
> --
> 73 From The Wilderness Keyboard
>
>

3951. Re: Publications for Ham Homebrew Projects ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 11:49:16 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <K7kzb.18$9P2.8@newsfep1-gui.server.ntli.net>
Source record: 30567

> I bought the whole SPRAT collection at Dayton for like $15 a couple of
years
> ago, so much homebrew in there you can't get it all done.
==========
SPRAT (G-QRP Club) issue 1 through 109 is available on CD ROM from Club
Sales.. www.gqrp.com
Should be one of the best Christmas presents for any AR Home Brewer.

Frank GM0CSZ / KN6WH

3952. Tubes FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 12:20:30 UTC
From: Tom Hix w4th <w4th@hotmail.com>
Message-ID: <vsrl8j3b7bqh5d@corp.supernews.com>
Source record: 30568

I have the following tubes for sale. The tubes are all brand new in their boxes. The tubes carry a one year warranty.
Pair Taylor 3-500zg tubes $250 new in box
4 Svetlana 811a tubes $89.95 new in box
4 Taylor 572b tubes $189.95 new in box
Svetlana Gs-35b with matching socket and chimney $189.95
Pair Svetlana 4cx800a $190 new in box
Pair Svetlana 4cx400a $180 new in box
I will personally guarantee these tubes to be in perfect new condition. You wont find any better tubes than these. Shipping is extra.
Thanks
Tom....w4th
w4th@hotmail.com

--
Tom's Tubes: g3sek triode/tetrode boards & kits. tubes at wholesale prices.
http://www.tomstubes.com

3953. Heat sinking SMPS devices

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 14:42:53 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <QLmdnUJUqvVsaFCiRVn-iw@comcast.com>
Source record: 30569

I just got in some of the SMT version of the D44H11 and D45H11 -- MJD44H11's from ON-Semi -- in a 369A-13 type case. While I created a chip outline in my CAD program to accomodate the new pad outlines, I am perplexed at how to actually heat-sink and mount them -- the devices on the AavidThermalloy web page would seem to require a cutout and pair of slots in the PCB AND a "heat spreader" so that the device rests flat with the board and that the Emitter and Base come into contact with the pads and align with the PCB.

Can anyone point me in the right direction for assembly? Looks like the usual suspects (Mouser) carry D-PAK heat sinks which would work, but I'd like a bit more information.

3954. Re: Antenna design choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 16:20:03 UTC
From: Roger Conroy <rogerconroy@nospam.hotmail.com>
Message-ID: <bql2fsjjs1@ctb-nnrp2.saix.net>
Source record: 30570

"Hulen Smith" <clay1952@cmaaccess.com> wrote in message
news:3fcd466f$0$9409$2c56edd9@news.cablerocket.com...
>
> >
> > Use the pipe, all other conditions being equal.
> >
> > Whether hollow or solid, the larger the diameter, the
> > better off you are for that antenna. It is not a
> > thickness issue. A solid 15 mm vs a hollow 15mm diameter
> > offers no advantage, RF wise. But in a 15mm diameter versus
> > a 3mm diameter comparison, the 15mm wins every time.
>
> Assuming you shorten the elements and you want to sacrifice (small) gain
> for bandwidth !!!
>
> WB5UOI
>

Would you care to explain that? Where does shortening the elements come into
it?

I'm not really looking for gain - these antennas are meant to be "cloud
warmers",
want to connect with ISS and whatever sats are reachable. There may even
be balloon "sats" in my future!
I'm way too broke right now for a high gain, multi yagi, steerable, beam
assembly.

Now here comes the complication...

Would I keep the bandwidth advantage if I use 3mm for the radials and 15mm
for the radiator? The reason being easy costruction - solder the rods into
the chassis mounting holes on the SO239. Putting some kind of flange and
"nipple" on the 15mm pipe to get it into the socket centre-pin seems to be
not insurmountable.

73
Roger ZR3RC

3955. Re: Noise source level? was "Re: Data for MSA0304 MMIC"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-03 17:39:36 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3fce1d68$1@wobble>
Source record: 30571

J M Noeding wrote:
> On Mon, 01 Dec 2003 19:14:37 -0800, Dana Myers <k6jq@arrl.net> wrote:
>
>
>
>>The MSA-0304 is identical to the Mini-Circuits MAR-3 part.
>>
>>Have a look at http://www.minicircuits.com/dg03-170.pdf
>>
>>MAR-3SM
>>12.5dB@100MHz gain
>>+23.0dBm IP3
>>Operating current and voltage: 35mA 5.00V

> My purpose is checking selectivity to compare different boatanchor
> receivers in different modes, and I need at least 1mV, so an MSA0304
> or two doesn't seem to give sufficient gain...

I suppose you could use one or two more MPS918s in an untuned
amplifier configuration before a MAR-3. You don't need gain
flatness, do you? The MAR-3 should give you a well-defined,
well-matched 50ohm output, since you have 'em you might try
using one.

Dana

3956. FS: lots of audio and RF tubes ...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 00:25:28 UTC
From: servis_za_elektroniku@yahoo.com
Message-ID: <71725543.0312031625.47d3a086@posting.google.com>
Source record: 30572
Cross-posted to: rec.audio.tubes,rec.audio.marketplace,alt.guitar.amps,rec.radio.swap,rec.radio.amateur.homebrew

... on Ebay (www.ebay.com). Search by seller user name anke_dragan

3957. FA: Building an amplifier? You NEED this transformer! On Ebay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 01:55:41 UTC
From: GS <greatsurplus@hotmail.com>
Message-ID: <d3675303b7aa21505a1fa8297cff3c2d@news.meganetnews.com>
Source record: 30573
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.swap,rec.radio.amateur.homebrew

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3061837029

Very heavy duty power transformer on chassis. All the makings of
a great homebrew linear amplifier. 6 suitable (although 10 year old)
caps on a plexi board underneath. Full transformer specs and photo
of schematic on the top of it at the above link. It's a brute - shipping
weight will be around 50 pounds, almost all of it the transformer.

Thanks for looking.

3958. RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 03:55:19 UTC
From: pdrunen@aol.com
Message-ID: <20031203225519.12189.00000152@mb-m05.aol.com>
Source record: 30574

Hi Group,

My wavetek sig gen covers 100KHz to 512 MHz and puts out about 10mW. I need a simple circuit to cover HF which will boost this up to 500mW. I would like to try out the signal generator as a low power CW transmitter.

I have a few CBs around that I could use the RF amp to get me on 10 meter but I am not sure of the drive level. I am not sure if this amp would work below 24 MHz without re-tuning.

Anyone have a simple wideband circuit that could cover 3.5 to 28 MHz?

de KJ4UO

3959. Re: Noise source level? was "Re: Data for MSA0304 MMIC"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 04:09:15 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <Lryzb.27555$n56.11111@newsread1.news.pas.earthlink.net>
Source record: 30575

I have built a noise source using a series of amplifier modules, similar to the MSA-0304.

It is essentually flat in frequency response up to several hundred MHz, which I needed for my application. Granted, it took quite a few stages, built in a couple of boxes to avoid any chance of instability due to the high gain.

I did have to pay attention to the total integrated power, to keep the output stage from distorting the noise, but for some sort of Rx bridge, it would have more than enough drive.

Jim Pennell
N6BIU

3960. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 04:36:45 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@Dev.Null>
Message-ID: <MPG.1a3859bcff466a87989b4d@192.168.42.131>
Source record: 30576

In article <20031203225519.12189.00000152@mb-m05.aol.com>,
pdrunen@aol.com says...

> Hi Group,
>
> My wavetek sig gen covers 100KHz to 512 MHz and puts out about 10mW. I need a
> simple circuit to cover HF which will boost this up to 500mW. I would like to
> try out the signal generator as a low power CW transmitter.

This is not something I would recommend. While the theory is that
good RF test equipment should have better spectral purity, and lack of
harmonics, than the radio gear it's testing, my experiences with Wavetek
along these lines have not been good.

> Anyone have a simple wideband circuit that could cover 3.5 to 28 MHz?

My gut reaction is that "Simple" and "Wideband" do not go together
in this context as far as a clean signal is concerned. Suggest examining
the 'Radio Amateur's Handbook' and 'RF Design for the Radio Amateur' (I
think that's the title) for design considerations.

I still think that, if you want to just do a simple QRP CW
transmitter, you'd be better off going with one of the existing designs
in one of those two books (or similar such pubs).

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

3961. Re: tda1572 oscillator configuration

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 11:06:17 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <JyEzb.387309$0v4.19700077@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30577

I discovered that you can inject a signal into pin 14 of this chip, removing the necessity for fiddling with the internal oscillator. The internal oscillator is great for LC circuits.....you merely place the tuned circuit between pins 13 and 14, and it flies!
You just have to set the injection level so that the buffered signal at pin 12 is right around 320mV p-p.

Pete

Pete KE9OA <n.gianakopoulos@worldnet.att.net> wrote in message news:rGawb.318398$0v4.18465154@bgtnsc04-news.ops.worldnet.att.net...
> One thing that I forgot to mention.....if there is enough interest in
> that spreadsheet, I will post it up on my website.
>
> Pete
>
> J M Noeding <la8ak.xnd@online.no> wrote in message
> news:3fc006a9.38341880@news.online.no...
> > On Sat, 22 Nov 2003 20:03:42 GMT, "Pete KE9OA"
> > <n.gianakopoulos@worldnet.att.net> wrote:
> >
> > >Has anybody used the oscillator section of the tda1572 with a crystal
> type
> > >of configuration. I looked at the tda1072 application note in one of my
> old
> > >data books, and I don't see how that circuit would even oscillate. I
know
> > >that it can be done, because the Linn Kudos FM/AM tuner does this with
> the
> > >chip's on-board oscillator.
> >
> > 20-30 years ago TBA120 (Texas SN76660N) was a popular device and used
> > in several numerous applications in Europe, particularly in Germany
> > and Nederland, some of these constructions were published in the
> > "Elektor" magazine (believe the original was Dutch),
> > among the applications I remember:
> >
> > RF mixer
> > phase detector
> > product detector
> > audio mixer
> > oscillators on audio as well as RF
> > syncronous AM detector
> > etc

> > It is no real principal difference between devices like TDA1047,
> > TBA120, NE/SA604, NE614, TDA1576, TBA120, S041P, MC1357P so if you
> > have the schematic of the inner functions, find the phase relation
> > between the limiter input pins and quadrature output connections you
> > should be able to make an xtal oscillator
> >
> > I wrote some note to Radcom (G3VA) about TBA120 applications 20 years
> > ago, but cannot remember today which applications I tested, believe it
> > was found a maximum frequency around 15MHz.
> > The later devices are designed for low-power with low maximum
> > frequency, while the older like Motorola MC1357P (not MC3357) has been
> > used as 70MHz ATV demodulator and was published in such magazine
> > around 1984, one MC1357P was also used as RF limiter. But if your
> > device is a low-poer-type, it might not operate at high enough
> > frequency where you have an xtal to connect.
> > Believe I have some applications on one of my pages, but lack the
> > index, so I'll have to use google to search on my own pages, hi
> >
> > 73
> > Jan-Martin, LA8AK
> > http://home.online.no/~la8ak/c.htm
> > --
> > remove ,xnd to reply (Spam precaution!)
>
>

3962. Re: Publications for Ham Homebrew Projects ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 11:24:18 UTC
From: Freddie <brianNOSPAM86@iquest.net>
Message-ID: <CPEzb.3593$Oe5.1622@newsread2.news.atl.earthlink.net>
Source record: 30578

I agree 100% - absolutely one of the very best Amateur Radio CD collections ever put together.

One other that is very good are the CD collections of "Ham Radio" magazine being sold by the ARRL.

"Frank Dinger" <gm0cszx.xkn6wh@ntlworld.com> wrote in message news:K7kzb.18$9P2.8@newsfep1-gui.server.ntli.net...
> > I bought the whole SPRAT collection at Dayton for like $15 a couple of
> years
> > ago, so much homebrew in there you can't get it all done.
> ==========
> SPRAT (G-QRP Club) issue 1 through 109 is available on CD ROM from Club
> Sales.. www.gqrp.com
> Should be one of the best Christmas presents for any AR Home Brewer.
>
> Frank GM0CSZ / KN6WH
>
>
>

3963. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 12:19:10 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <bqn8jq$3sn$1@maud.ifi.uio.no>
Source record: 30579

> My wavetek sig gen covers 100KHz to 512 MHz and puts out about 10mW. I need a
> simple circuit to cover HF which will boost this up to 500mW. I would like to
> try out the signal generator as a low power CW transmitter.

I did something similar when I first was licenced in 2001, but I would not recommend it now.

I used my Leader LSG-216 signal generator as a VFO followed by a 1 Watt amplifier that I put together myself. It worked and I had several QSO's with it, but after several RST xx8 reports I found that the signal generator had hum modulation and some jitter. I have later learnt that this is almost inherent in a synthesizer which covers a large frequency range. It has very large VCO gain: MHz/Volts - change in frequency per change in voltage in order to cover the large frequency range. But this also makes it very sensitive to noise in the control voltage.

As a signal generator, i.e. a tool for aligning circuits and so on, this is not a problem.

Sverre LA3ZA
www.qsl.net/la3za

3964. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 12:35:06 UTC
From: Ghost writer <Spamfree@Spamfree.com>
Message-ID: <_RFzb.38759$A%3.521833@ord-read.news.verio.net>
Source record: 30580

"Sverre Holm" <la3za.0junk4me@qsl.net> wrote in message
news:bqn8jq$3sn$1@maud.ifi.uio.no...
> > My wavetek sig gen covers 100KHz to 512 MHz and puts out about 10mW. I
> need a
> > simple circuit to cover HF which will boost this up to 500mW. I would
> like to
> > try out the signal generator as a low power CW transmitter.
>
> I did something similar when I first was licenced in 2001, but I would not
> recommend it now.
>
> I used my Leader LSG-216 signal generator as a VFO followed by a 1 Watt
> amplifier that I put together myself. It worked and I had several QSO's
with
> it, but after several RST xx8 reports I found that the signal generator
had
> hum modulation and some jitter. I have later learnt that this is almost
> inherent in a synthesizer which covers a large frequency range. It has
very
> large VCO gain: MHz/Volts - change in frequency per change in voltage in
> order to cover the large frequency range. But this also makes it very
> sensitive to noise in the control voltage.
>
> As a signal generator, i.e. a tool for aligning circuits and so on, this
is
> not a problem.
>
>
> Sverre LA3ZA
> www.qsl.net/la3za
>
>

One must wonder about another "possible" problem as well. If even a fraction of transmitted RF were to get back into the sig gen, it may upset the balance as well causing any sort of problems. Much like when RF gets back into a Power Supply situated close by - creates hum and so on - on the signal. Some Sig Gens may not have enough shielding to protect from this. Their shielding may very well prevent signals from leaking OUT when testing from it's own source, but not designed to fight off Transmitted RF getting back into it. I'm not saying those things WILL happen, but certainly possible. Otherwise, the idea is interesting and I'm sure many others unmentioned have thought of or have actually tried it. I being one.

On another note along these lines, though I didn't see it or hear it, I heard a ham on 2 meters once who claimed to take a Bearcat scanner - a 250 model I believe.. and used it in much the same manner... I'd love to have seen and heard it up close. G.W.

3965. Re: A New Concept: Virtual Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 13:38:36 UTC
From: Stewart Bryant <stbryant@cisco.com>
Message-ID: <1070545051.516267@sj-nntpcache-5>
Source record: 30581
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.amateur.policy,rec.radio.shortwave,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc

We have been running a community receiver for the
136KHz band for a couple of years in the UK.

A number of amateurs had trouble with noise on the
band (TV, a data ciruit into a hospital and a
mobile phone base-station with faulty SM PSUs just
to name three).

We have a receiver located in a quite part of Crawley
(at our radio club station), and this relays the
whole of the 136Khz band on 2m (135.4KHz = 144.9854MHz)

This is done with an FT-847 running in satellite
mode with the two IFs linked together. We get
quite good coverage over the SE, and good dynamic range.
We are proposing as an experiment to try relaying
a 6KHz segment of the CW segment of 40m band for a
few weeks to get a better feel on the dynamic range
issues.

The system is MB7LF and is licienced as a data
system.

73

Stewart G3YSX

3966. Re: list of electronic components to start building Radio Recievers and Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 14:09:09 UTC
From: "Master of the universe and supreme ruler of all living beings (and I have permission from my wife to be so)." <john.smith@micro$oft.com>
Message-ID: <bqnil3lft1@newstree.wise.edt.ericsson.se>
Source record: 30583

> Qn1) Could someone recommend list of electronic components that i should
> stock up on for starting my radio projects?
> I wanted to order stuff from various sources like digikey etc. I dont want
> to be at a loss of components when i start experimenting.

A range of the most common resistor values from 10R to 10M. A total of 500 pcs can already be bought as a "kit" from many shops.

A range of common caps from 10pf to 220uf, but not all that many values. Perhaps a few of each decade (10p, 100p, 1n, 10n, 100n, 1u, 10, 100u) with a few extra in the range of 10p to 100p and 1n to 47n (values used for tuning/filtering).

A slack handfull of general purpose transistors, such as BC547 (NPN) and BC557 (PNP).

Op amps - 741, 324, 358, 386.

A good tip is to visit your local dump. A telly, a VCR and the odd defunct transistor radio can be a goldmine, especially for mains transformers, coils, tuning caps, pots and even hook-up wire.

MOST IMPORTANT - A catalogue from your local radio component supplier. You can't stock everything. The above will alllow you to assemble a few simple circuits, but for anything decent you will still have to buy/beg/borrw or ...

Don't forget to ask them for their PDF library on CD. The catalogues usually give you loads of circuits, pinouts and data. If you are going to spend $15 on a small selection of components, do what you have done here and hint that you are going to buy loads of stuff, build loads of projects, and they usually give you all sorts of freebies.

BR Harry

3967. Henry Radio 2000D- 3cx3000 RF Generator, i

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 14:12:04 UTC
From: w3fjj@aol.com
Message-ID: <20031204091204.21465.00000100@mb-m23.aol.com>
Source record: 30582

Hi,
I recently picked up a Henry Radio 2000D Rf Generator, complete
unit, solid stater driver, and 3cx3000 amplifier, High bvoltage power supply.
It was used in sputtering system, at 13.56 mhz.

Im looking to convert it to amateur use. If anybody out there has
already done so, I be interested in hearing from you, Im sure I
can do it, but I wouldn't mind some useful hints, and not recreate the
wheel totally. .

thanks- Chuck (W3FJJ)

3968. xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 18:54:09 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBF4ED01.875D%outhouse@midcoast.com>
Source record: 30584

I have an unknown crystal I wanted to test for its frequency.

On qsl net I found a test circuit to do just that (I think it is basically a broadband amp).
Initially when I hocked the circuit up on my breadboard the crystal seemed to oscillate at around 27 MHZ.
Then I built the little circuit on a permanent board and now the crystal oscillates at about 9 MHZ and at this point I start to ask myself what am I measuring here. And what assures me that 9 MHZ is the fundamental?

I would appreciate if anybody could shed some light on crystal testing.

Uwe

3969. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 20:32:26 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vsv6iul0gcda55@corp.supernews.com>
Source record: 30585

Your first osc got an overtone and the second the fundamental of 9 MHz and
the the 3rd overtone is 27MHz. It could also be a lower frequency like 3 or
1.5 MHz so listen for these frequencies. The 3rd or other overtones are
slightly higher than an odd multiple of the fundamental!
hank wd5jfr
"Uwe Langmesser" <outhouse@midcoast.com> wrote in message
news:BBF4ED01.875D%outhouse@midcoast.com...
> I have an unknown crystal I wanted to test for its frequency.
>
> On qsl net I found a test circuit to do just that (I think it is basically
a
> broadband amp).
> Initially when I hocked the circuit up on my breadboard the crystal seemed
> to oscillate at around 27 MHZ.
> Then I built the little circuit on a permanent board and now the crystal
> oscillates at about 9 MHZ and at this point I start to ask myself what am
I
> measuring here. And what assures me that 9 MHZ is the fundamental?
>
> I would appreciate if anybody could shed some light on crystal testing.
>
> Uwe
>

3970. New CW Paddle Kit Offered

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 21:01:45 UTC
From: haf47@juno.com
Message-ID: <f03bf94f.0312041301.463df32a@posting.google.com>
Source record: 30586

Hello there,

For those who have not heard of it yet, I'd like to make you aware of a spiffy new CW Paddle kit being offered by the AZ ScQRPions Radio Club.

This is a little sweetheart made completely of brass and is quite good looking. The price cannot be beat...just $25 shipped in the US.

Pictures can be seen by going to the AMQRP site and clicking on the ScQRPions under "December features."

http://www.amqrp.org

Although I haven't received mine yet, it appears that putting it together should take no more than 2 or 3 hours, and most of the time will probably be spent on polishing the brass.

Happy Holidays to all de WA2AFD

3971. Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 23:21:07 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <9tfvsvcfl40ouko3tpkdlj05krqlvbaof4@4ax.com>
Source record: 30587
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hi all,

I need to wind 180nH inductor for a parallel tuned circuit I'm
building, since the 180nH factory-made chokes I have don't look up to
the job power-handling wise. This coil needs to handle about 90mA p-p/
500mW maximum dissipation sine current and I've allowed 3 ohms for
series resistance.
Can anyone give me some steer on dimensions, number of turns, core
type and so on? Thanks,

p.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3972. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-04 23:26:32 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FCFC2D3.18EA0CA@rica.net>
Source record: 30588
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> Hi all,
>
> I need to wind 180nH inductor for a parallel tuned circuit I'm
> building, since the 180nH factory-made chokes I have don't look up to
> the job power-handling wise. This coil needs to handle about 90mA p-p/
> 500mW maximum dissipation sine current and I've allowed 3 ohms for
> series resistance.
> Can anyone give me some steer on dimensions, number of turns, core
> type and so on? Thanks,

Here are the basic formulas for air core coils. 3 ohms sounds pretty
high for such a small inductance.

--
John Popelish

3973. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 01:16:48 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bqoma0$k7r$1@hercules.btinternet.com>
Source record: 30589
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

For a very complete analysis of performance, including power handling
capacity, of solenoid coils of all proportions, dimensions and number of
turns, download in a few seconds and run immediately program SOLNOID3 from
website below.

....
Regards from Reg, G4FGQ
For Free Radio Design Software go to
http://www.btinternet.com/~g4fgq.regp
....

3974. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 01:30:27 UTC
From: Winfield Hill <Winfield_member@newsguy.com>
Message-ID: <bqon3j02ose@drn.newsguy.com>
Source record: 30590
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

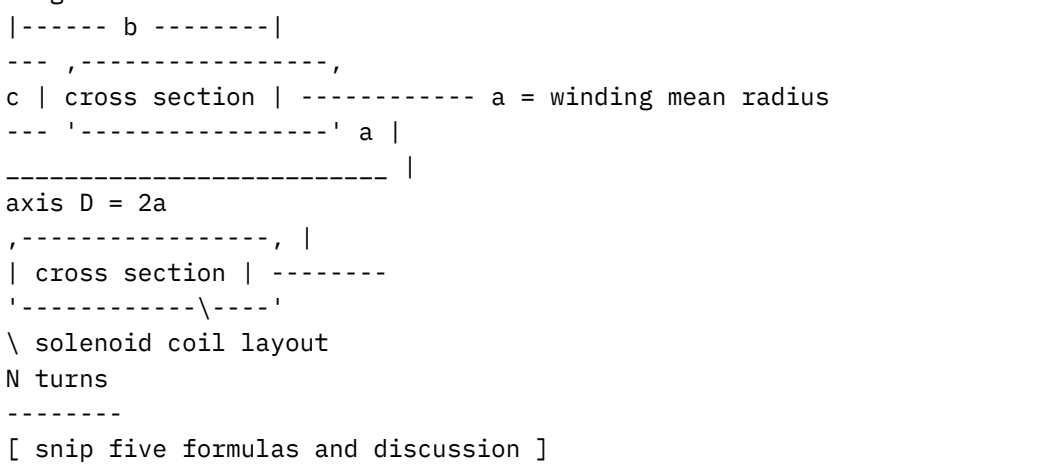
Paul Burridge wrote...
>
> I need to wind 180nH inductor for a parallel tuned circuit I'm
> building, since the 180nH factory-made chokes I have don't look
> up to the job power-handling wise. This coil needs to handle about
> 90mA p-p / >500mW maximum dissipation sine current and I've allowed
> 3 ohms for series resistance. Can anyone give me some steer on
> dimensions, number of turns, core type and so on? Thanks,

As John has said, that's a very low inductance that should not
present any problems at such a low power level. But perhaps for
a more detailed answer you can tell us the frequencies your coil
will experience. At high frequencies skin and proximity effects
dominate, and these can be evaluated with an Rac/Rdc ratio. If
a ferrite is used its high-frequency core loss can also be modeled
as an inductor resistance.

Do you have any special size constraints? Unless you really need
a miniature size, an air core may be best for 180nH. You can use
the Wheeler equation to experiment with different coil designs.

I'll add some new grist for the mill, with a copy of a portion of
a posting I made 28 Dec 1997, about air-coil inductance equations.

Throughout the discussion we'll use the same dimensional system, based
on the drawing below. Here and in the 14 formulas below, N = turns,
a = mean radius, b = length, and c = winding thickness, and all are
in inches, unless otherwise stated.



[snip five formulas and discussion]

To simplify our lives, Wheeler empirically derived his popular
single-layer solenoid equation, using Nagaoka's equation and
tables. Wheeler's equation is shown below in two different ways.

```
a N^2 a^2 N^2 / 10 b
(6) L = ---------- = -------------- uH / inch
9 + 10 b/a 1 + 0.9 a/b
```

Wheeler says this equation is accurate to about 1% for long coils, or
any coils with (b/a > 0.8). [Confirmed with extensive measurements I
made and posted on s.e.d.] It's easy to solve this equation for N.

A simple re-arrangement adds the concept of winding pitch. This can be
very useful, in part because a low-winding-height multilayer coil can
be treated as a single-layer coil with a higher winding pitch.

```
a^2 p N 1
(7) L = -------- * ---------------- uH / inch
10 1 + 0.9 a p / N
```

Here p is my turn-density pitch parameter, in turns/inch. Incidentally,
this makes clear that for long coils, once you pick a coil-winding pitch,
the inductance scales by N, rather than by N^2. Of course, the length
scales as well. Now solving for N isn't as easy. I get,

```
10 b
(8) N =~ ----- ( 1 + 9 a^3 p^2 / 100 L ) turns
p a^2
```

Alan Fowler pointed out a version of Wheeler's equation, claimed more
accurate, in F. Langford-Smith's "The Radiotron Designer's Handbook,"
1942. In the 3rd edition only, the work of Esnault-Pelterie is detailed,
a Frenchman who followed the "des savants japonais" (i.e. Nagaoaka) for
his derivation of a simple Wheeler-like formula with a claimed accuracy
of 0.1% for values of diameter/length between 0.2 and 1.5. Rearranging,

```
a^2 N^2 / 9.972 b
(9) L = -------------------- uH / inch
0.9949 + 0.9144 (a/b)
```

[snip more formulas and stuff]

OK, there you have a small panaply of equation forms to select from.

(7) is easier to use than it appears at first glance. Let's design
a coil for you. We'll pick wire size #22, which has a diameter of
0.020 inches, prompting us to pick a winding-spacing of 0.04 inches,
or a 25 turns/in pitch. Inspired by a small art brush in my pencil
cup, we'll pick a coil diameter of 0.2", so equation (7) reduces to

```
. 0.01 25 N 1
. L = --------- * ----------------- uH / inch
. 10 1 + 0.9 0.1 25 / N
.
```

```
. 1
. = 0.025" N * ------------ uH / in
. 1 + 2.25/N
```

This formula is more simple than it appears, because the second term approaches unity for coils of more than 10 - 20 turns.

The first term says a 180nH coil requires about 180/25 = 7 turns, so we'll try N = 9, and get L = 225nH * 0.8 = 180nH, right on the money.

That's a 9-turn coil 0.2" in diameter and 0.36" long. It uses less than six inches of wire, has a DC resistance of about 0.008 ohms, and can handle very high DC currents.

Plugging our coil into equation (6) as a test, we have a = 0.1" and b = 0.36" and N = 9, so we get L = 8.1 / (9 + 36) = 0.180 uH, bingo.

Thanks,
- Win

whill_at_picovolt-dot-com

3975. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 02:21:34 UTC
From: Jim Pennell <NoSpam@killspam.com>
Message-ID: <OYRzb.29117$n56.6897@newsread1.news.pas.earthlink.net>
Source record: 30591

Generally, a crystal is a fundamental frequency below about 15 MHz...

Above that, the quartz crystal starts to be thin enough to make it fragile and prone to being broken. There are ways to make a fundamental up to a hundred MHz or so, but these are usually very expensive crystals and pretty rare.

So, it is most likely that the 27 MHz was the third overtone of the 9 MHz fundamental frequency.

==========

A broadband amplifier type of oscillator may have enough gain, and perhaps a parasitic resonance or so to make it tend to run on an overtone frequency. Generally, build a good circuit on a solid ground and keep the feedback loop set up for low gain on the feedback.

Excessive gain in the system will tend to cause 'strange' results and your experience is not all that surprising.

==========

Given that Citizens band frequency crystals used to be fairly common, I would guess this is what you have.

Jim Pennell
N6BIU

3976. Re: Looking for an omni-direction FM Transmitter antenna...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 04:05:26 UTC
From: Herman Tibbs <htibbs@woh.rr.com>
Message-ID: <auTzb.109$%P6.103@fe1.columbus.rr.com>
Source record: 30592

I highly recommend a J-Pole antenna for FM. I have used them on 2m and 70cm without disappointment. Even with 200mW I can hit repeaters some distance away. They can be scratch made from copper tubing (if you can solder your water pipes you can make this one). I am thinking of one for 6M to run 52.525.

They are 5/8 wave and you get a respectable gain. Just make sure to feed it with RG8 or 9913.

You can compute your requirements and see a model at
http://www.packetradio.com/jpol.htm.
Hope this helps. E-mail me if you have any questions.

"Patrick" <braincambre500@yahoo.com> wrote in message
news:85a87c6c.0311182057.44de2f1c@posting.google.com...
> Hello all,
>
> I would like to build the best all around omni-directional antenna,
> that would have a good gain, in the FM broadcast band.
>
> Any thoughts would be commended.
>
> Sincerely,
>
> Patrick Cambre

3977. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 06:56:52 UTC
From: "Master of the universe and supreme ruler of all living beings (and I have permission from my wife to be so)." <john.smith@micro$oft.com>
Message-ID: <bqpdmj$ff5$1@newstree.wise.edt.ericsson.se>
Source record: 30594
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

http://w1.859.telia.com/~u85920178/begin/calc-00.htm

About 1/2 way down the pageare calculators that may be of interest.

3978. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 07:01:12 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3fd02dd3$1$1746$5a62ac22@freenews.iinet.net.au>
Source record: 30593

I thought the Leader Sig Gens were free running and not very stable. Maybe
it is a new model.
If you simply want a CW TX, why not build the VFO as well?
There are plenty of designs around.
If you do want to use the RF gen , you could always follow it with a low
pass filter.

Richard

Sverre Holm <la3za.0junk4me@qsl.net> wrote in message
news:bqn8jq$3sn$1@maud.ifi.uio.no...
> > My wavetek sig gen covers 100KHz to 512 MHz and puts out about 10mW. I
> need a
> > simple circuit to cover HF which will boost this up to 500mW. I would
> like to
> > try out the signal generator as a low power CW transmitter.
>
> I did something similar when I first was licenced in 2001, but I would not
> recommend it now.
>
> I used my Leader LSG-216 signal generator as a VFO followed by a 1 Watt
> amplifier that I put together myself. It worked and I had several QSO's
with
> it, but after several RST xx8 reports I found that the signal generator
had
> hum modulation and some jitter. I have later learnt that this is almost
> inherent in a synthesizer which covers a large frequency range. It has
very
> large VCO gain: MHz/Volts - change in frequency per change in voltage in
> order to cover the large frequency range. But this also makes it very
> sensitive to noise in the control voltage.
>
> As a signal generator, i.e. a tool for aligning circuits and so on, this
is
> not a problem.
>
>
> Sverre LA3ZA
> www.qsl.net/la3za
>
>

3979. HELP:Matjaz Vidmar S53MV Wideband VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 07:54:14 UTC
From: "R. Soetedjo" <robi@u.washington.edu>
Message-ID: <Pine.A41.4.58.0312042351380.557198@mead11.u.washington.edu>
Source record: 30595

Hi,

Can somebody help me to get a copy of Matjaz Vidmar Wideband VCO articles
in VHF Communications?

tnx
rob

3980. Re: Philips BGA2031/1 MMIC variable gain amps

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 08:59:40 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <0OXzb.153001$Ec1.6033939@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30596
Cross-posted to: sci.electronics.design,sci.research.careers,sci.physics.relativity,rec.ham-radio,rec.radio.amateur.homebrew

I've picked up a few of those kinds of things over the
years.....the imaginary terms are so large, that you can't
really tune many of them below a few hundred MHz.

Pete

Steve Ratzlaff <steveratz@eoni.com> wrote in message
news:3FC0F1B8.9D61E7E@eoni.com...
> Make sure you read the data sheet first if you're thinking these might
> make good general purpose amps! Those MMICs are only for the cellular
> frequency range--minimum freq of 800MHz.
> Steve AA7U
>
> Pete KE9OA wrote:
> >
> > Aren't those dollar a pound surplus sales great?
> >
> > Pete
> >
> > Mike Adams <adams@ftdsb.com> wrote in message
> > news:3FBEDF80.70109@ftdsb.com...
> > > Distributors, Contract Manufacturers, OEMs, or microwave circuitry
> > > designers, this message may be of interest to you.
> > >
> > > If you have a current or future need for Philips BGA2031/1 MMIC's, you
> > > should check out the deal at:
> > >
> > > http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2574612712
> > >

3981. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 10:51:15 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <keo0tvc9oh2iklgc02ovqaqp4la21e36sh@4ax.com>
Source record: 30447
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On 4 Dec 2003 17:30:27 -0800, Winfield Hill
<Winfield_member@newsguy.com> wrote:

> As John has said, that's a very low inductance that should not
> present any problems at such a low power level. But perhaps for
> a more detailed answer you can tell us the frequencies your coil
> will experience. At high frequencies skin and proximity effects
> dominate, and these can be evaluated with an Rac/Rdc ratio. If
> a ferrite is used its high-frequency core loss can also be modeled
> as an inductor resistance.

Thanks, Win! You're a diamond. John's formulae didn't appear on his
post for some reason, but you've given me the info I need to start
winding and be slap in the ball park right away. Great.
BTW, the factory inductors I have already are only about the size of
the newest half-watt resistors, so I was reluctant to chance it. I
know things keep getting smaller and somehow seem to defy the laws of
physics, but just call me old fashioned. :-)
Thanks again.

P.

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

3982. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 11:04:02 UTC
From: Sverre Holm <la3za.0junk4me@qsl.net>
Message-ID: <bqpon5bdu1@maud.ifi.uio.no>
Source record: 30448

The LSG-216 is a PLL synthesizer type generator that covers approximately
0.1-30 MHz and 80-110 MHz with FM stereo and AM modulation.

Sverre
LA3ZA

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3fd02dd3$1$1746$5a62ac22@freenews.iinet.net.au...
> I thought the Leader Sig Gens were free running and not very stable. Maybe
> it is a new model

> > I used my Leader LSG-216 signal generator as a VFO

3983. inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 14:57:34 UTC
From: James W <change-to-jw22-at-trlp-dot-com@trlp.com>
Message-ID: <3FD09CDE.1010302@trlp.com>
Source record: 30449

Consider a simple inductive cicuit with a 1v(p-to-p) AC source at 1Hz,and an inductor with Z=1ohm.

The inductors value would be 1ohm=2*pi*1Hz*L, so L= 1/2pi

Looking at the standard Voltage and Current drawings, we see current lagging voltage by 90degrees.

Here's my problem. At 90 degrees, the applied voltage is 1volt. The current is zero. di/dt is 1, and we know that the cemf V=(di/dt)L=1/2p Volts.

So... why if applied V is 1v and cemf is less than 1v do we have a current of zero?

I've got the sneaky feeling that I'm trying to add apples and oranges.

My assumption was that the reason the current lags the voltage is the back emf is being added to (subtracted from) the applied voltage to give us the instantaneous voltage that then drives the instantenous current, but perhaps this whole theory is wrong.

HELP!!

3984. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 15:35:07 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD0A5D7.D8CF5DA1@rica.net>
Source record: 30450
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
> ...John's formulae didn't appear on his
> post for some reason,

I hate it when I find a page and forget to paste the link:
http://www.qsl.net/wa7zcz/area2/page34.html
from (remember this old book of electronic data?):
http://www.qsl.net/wa7zcz/area2/t_of_c.html
--
John Popelish

3985. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 15:37:15 UTC
From: Ian Buckner <Ian_Buckner@agilent.com>
Message-ID: <1070638637.943693@cswreg.cos.agilent.com>
Source record: 30451
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
news:keo0tvc9oh2iklgc02ovqaqp4la21e36sh@4ax.com...
> On 4 Dec 2003 17:30:27 -0800, Winfield Hill
> <Winfield_member@newsguy.com> wrote:
>
> > As John has said, that's a very low inductance that should not
> > present any problems at such a low power level. But perhaps for
> > a more detailed answer you can tell us the frequencies your coil
> > will experience. At high frequencies skin and proximity effects
> > dominate, and these can be evaluated with an Rac/Rdc ratio. If
> > a ferrite is used its high-frequency core loss can also be modeled
> > as an inductor resistance.
>
> Thanks, Win! You're a diamond. John's formulae didn't appear on his
> post for some reason, but you've given me the info I need to start
> winding and be slap in the ball park right away. Great.
> BTW, the factory inductors I have already are only about the size of
> the newest half-watt resistors, so I was reluctant to chance it. I
> know things keep getting smaller and somehow seem to defy the laws
of
> physics, but just call me old fashioned. :-)
> Thanks again.
>
> P.
>
>
> --
>
> "I expect history will be kind to me, since I intend to write it."
> -
Winston Churchill
>
Paul, I really don't think you need to wind your own. For example,
a Coilcraft 1008CS 180nH part is rated at 620mA rms:

http://www.coi1craft.com/1008cs.cfm

The "trick" is that the dissipation is a function of the series
resistance, which is very low (0.77 ohms) as long as the core
doesn't saturate.

If you want to get really silly, their "Spring" inductors are rated
at 3A rms.

Regards
Ian

3986. FA: Classic 1930's-40's Desk Phone, 6-button, Fully Operational and Original

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 15:43:09 UTC
From: gregortasman@yahoo.com
Message-ID: <f49f2ef7.0312050743.3d93ef8@posting.google.com>
Source record: 30452

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2208140590

500 Style Key Set Desk Phone, Western Electric Co. Bell System F1
Handset

Black plastic body with Bakelite F1 handset, all fully operational and
in excellent condition. Fully restored to peak operation.

FREE Shipping - U.S. or Canadian Delivery Only

Thanks for looking.

3987. Kenwood TH-F7E and 9K6 Packet Radio Help please!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 16:11:00 UTC
From: tomjay@web.de
Message-ID: <46e6ec0b.0312050811.2ec657@posting.google.com>
Source record: 30453

Hi all,
A friend of mine recently I wanted to start Packet Radio with a
Kenwood TH-F7E and TNC with 9K6.It works fine on receiving but has
trouble with transmitting. It can not get any connect although PTT
works fine and the TNC also works with another radio.
It seems there is something wrong with the outgoing signal of the
TH-F7E.Maybe the gain is too low?
Anybody experienced the same problem with that handheld from Kenwood?
Any help would be greatly appreciated!
Thanks and 73 from Tom, DL2HRF

3988. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 16:54:19 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD0B866.B92930BC@rica.net>
Source record: 30454

James W wrote:
>
> Consider a simple inductive cicuit with a 1v(p-to-p) AC source at
> 1Hz,and an inductor with Z=1ohm.
>
> The inductors value would be 1ohm=2*pi*1Hz*L, so L= 1/2pi
>
> Looking at the standard Voltage and Current drawings, we see current
> lagging voltage by 90degrees.
>
> Here's my problem. At 90 degrees, the applied voltage is 1volt. The
> current is zero. di/dt is 1,
(snip)

Tell me how you arrived at this di/dt.

--
John Popelish

3989. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 17:17:36 UTC
From: James W <change-to-jw22-at-trlp-dot-com@trlp.com>
Message-ID: <3FD0BDB0.3000204@trlp.com>
Source record: 30455

at the 90deg point, the I curve is crossing the zero point. It's a sine wave. Sine waves of amplitude 1 have a slope of 1 at the zero crossing, no?

- jim

John Popelish wrote:
> James W wrote:
>
>>Consider a simple inductive cicuit with a 1v(p-to-p) AC source at
>>1Hz,and an inductor with Z=1ohm.
>>
>>The inductors value would be 1ohm=2*pi*1Hz*L, so L= 1/2pi
>>
>>Looking at the standard Voltage and Current drawings, we see current
>>lagging voltage by 90degrees.
>>
>>Here's my problem. At 90 degrees, the applied voltage is 1volt. The
>>current is zero. di/dt is 1,
>
> (snip)
>
> Tell me how you arrived at this di/dt.
>

3990. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 17:55:50 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD0C6D3.F8763799@rica.net>
Source record: 30456

James W wrote:
>
> at the 90deg point, the I curve is crossing the zero point. It's a sine
> wave. Sine waves of amplitude 1 have a slope of 1 at the zero crossing, no?

No. If the period is 1 and the peak to peak amplitude is 1, the only
way the slope could be 1 would be if it were a saw tooth wave.

--
John Popelish

3991. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 18:11:04 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000115.0065f8a5@btinternet.com>
Source record: 30457

Hi,

John is right, di/dt isn't equal to one here. You are mixing
up seconds and degrees.

Cheers - Joe

3992. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 18:24:24 UTC
From: James W <change-to-jw22-at-trlp-dot-com@trlp.com>
Message-ID: <3FD0CD58.3000509@trlp.com>
Source record: 30458

John,

It's been a while (20 years) since I took calculus, but I'm pretty sure
the slope of a sine wave at the zero crossing is +-1.

What value do you believe the slope to be?

John Popelish wrote:
> James W wrote:
>
>>at the 90deg point, the I curve is crossing the zero point. It's a sine
>>wave. Sine waves of amplitude 1 have a slope of 1 at the zero crossing, no?
>
>
> No. If the period is 1 and the peak to peak amplitude is 1, the only
> way the slope could be 1 would be if it were a saw tooth wave.
>

3993. Re: HELP:Matjaz Vidmar S53MV Wideband VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 18:28:52 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a3a6e42952007d3989692@news-central.giganews.com>
Source record: 30459

In article <Pine.A41.4.58.0312042351380.557198@mead11.u.washington.edu>,
robi@u.washington.edu says...
> Hi,
>
> Can somebody help me to get a copy of Matjaz Vidmar Wideband VCO articles
> in VHF Communications?
>
> tnx
> rob

I've got this one from the 4/98 issue:

http://www.speakeasy.org/~jmiles1/microwav.pdf

Haven't read it yet, but it's in my queue.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

3994. Large roller inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 18:52:07 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vt1kuss9smdc92@corp.supernews.com>
Source record: 30460

I have a big roller inductor made by E.F.Johnson model 226-5. It would make a great coil for the homebrew linear as it could easily take 5kw and has enough inductance for 10 through 80 meters. It is a beautiful silver plated coil in excellant shape that measures 13.5 inches from one end of the shaft to the other and the coil is 3.5 inches in diameter. It measures 8.5 inches from end to end of the insulated plates which holds the coil itself. Very heavy duty construction, just a little too big for my needs. You can go to this website to see pictures on it: http://photos.yahoo.com/rob34115 and look at Rob`s photos. There are three pictures of it and some electrolytic caps and parts for a HV power supply I am selling. Please make me a reasonable offer on these items!
WB8VWI Rob

3995. Re: Large roller inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 19:39:08 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <bqqmss$og7$1@sparta.btinternet.com>
Source record: 30461

You forgot to specify by far the most important characteristic - the inductance.

At least you could give the number of turns. Otherwise it's a pig in a poke.

Please allow a prospective customer to decide what bands can be tuned.

3996. Re: PCB exposure box

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 19:53:53 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBF64C7E.8862%outhouse@midcoast.com>
Source record: 30462

in article 8WvndwE4g3x$Ew7Q@langwang.demon.co.uk, Dick at
dick@langwang.demon.co.uk wrote on 11/28/03 11:30 AM:

> Has anyone home brewed a UV exposure box for making PC boards ?
> I've got a couple of 8w UV tubes & a 0-30min timer and looking at
> pictures of commercial designs I think all I have to do is:
>
> 1. Mount the tubes & timer in a light proof box.
> 2. Fix a sheet of glass 1-2" above them to act as a flat mount for the
> photo sensitised PC board & photo master.
> 3. Fix a mask to the glass, blanking off all but a working area directly
> above the UV tubes.
> 4. Make a lid for the box & fit a foam pad inside it that'll press the
> PC board and master firmly down onto the sheet of glass thus stopping
> those sneaky photons from getting round the corners of the PC master.
>
> Is it as simple as this or am I missing something blindingly
> obvious ?? Is 1-2" a suitable spacing between the tubes & glass plate &
> will normal, thin, glass sheet be suitable ??

I use regular 2-3 mm window glass, I place the pcb board with the artwork on
my washing machine (nice flat white surface, good in low light), cover it
with the glass and place the light, a 12 cm long unit, on two wooden blocks
about 6 cm above the PCB board.
Hit the switch, leave the room and come back when the time is up.
For large boards I have to shift the lamp every few minutes for an even
exposure.

I have done quite a few exposures this way and would recommend this
primitive appraoch before I set out to build anything. Experience will then
guide you how to do your "final" exposure box.
Besides, my approach is dirt cheap and dissappears completely when I am
done, nothing much to store.

regards Uwe

3997. Re: Large roller inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 20:08:46 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vt1pekjrtt3t12@corp.supernews.com>
Source record: 30463

rob34 wrote:

> I have a big roller inductor made by E.F.Johnson model 226-5. It would
> make a great coil for the homebrew linear as it could easily take 5kw
> and has enough inductance for 10 through 80 meters. It is a beautiful
> silver plated coil in excellant shape that measures 13.5 inches from one
> end of the shaft to the other and the coil is 3.5 inches in diameter. It
> measures 8.5 inches from end to end of the insulated plates which holds
> the coil itself. Very heavy duty construction, just a little too big for
> my needs. You can go to this website to see pictures on it:
> http://photos.yahoo.com/rob34115 and look at Rob`s photos. There are
> three pictures of it and some electrolytic caps and parts for a HV power
> supply I am selling. Please make me a reasonable offer on these items!
> WB8VWI Rob

As can be seen from the pictures there is 14 turns at 3.5 inches in diameter which is more than enough inductance for 10-80 meters. I am not sure what the actual inductance is, you might be able to go to a website with the model number and get the exact specs. WB8VWI Rob

3998. Help an old Ten-Tec tranceiver argonaut II in a homebrew transverter project

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 20:29:51 UTC
From: Peter PE1CUO <dedigitalestedenservice@xs4all.nl>
Message-ID: <3fd0eb64$0$207$e4fe514c@news.xs4all.nl>
Source record: 30464

Having made a new transverters for 2, 70 and 23. and planning to use it with a older sw-tranceiver using for MF covering 20-30 Mhz.
So that I have on 70 and 23 a coverage of 10 MHz and the advantage of the MHz digit to be corresponding with the actual freq in use en having the front end tuneble.
So tuned to 20.000 MHz i430.000 and 21 Mhz= 431.000 etc.

Now a days you find, I thought, on the web for every tranceiver a Mod to release the TX out of the ham band
I had in my mind to make the switching following the idea when the transverters are engaged, tx out of ham band is released and when tranverters are switched off or not connected the out of band TX-band tx is blocked to prevent transmitting out of the band, to prevent me of doing something wrong.
Having still left a not big digital Ten-Tec tranceiver, an Argonaut II (535) seems be a little sister of an Delta II (536). which nice having adjustable bandpass and bandwith.
Before the operation of starting to buils the transverters I already had a look in the manul and there they say it is an easy job expanding it for full coverage TX.
It's a very nice rig on hf and would provide me with a very MF for my trnsverters
Made everything ready for the receiving side, it really works very nice.
Coming to transmit part I provided a low level 10 mW drive output to my transverters.
So now I started looking on the web for mods, for the tx frq expansion, I could find mods for nearly every trade mark you can think of, but not for the Ten-Tec and certainly not for Argonaut/Delta II.

Tried to get it from Ten-Tec, but no luck so far..

Beside this, I am looking for information about the commandset and the communication protocall to make a little program to control it from a homebrew webserver stamp processor.
They were selling an interface 305 to connect a computer and the information was only packed to the interface 305 they were selling in the past, as this item also being discontinued, I also have trouble finding this info.
The hardware interface is according to info on the web Icom compatible, making an inferface should be a problem, but on the software side I could find any real info for things like a command set etc.
Now can only use it to transmit from 438 to 440 and simular on 23 cm and on 2 m I can use it at all.
So I am about to break up the rig and build my own logic for thing, not being able to find this info, (I tried finding out looking at the printbord and the schematic but even these differ and could find the right solution)

So who can help me with this modification and info on the software side?

Peter, pe1cuo

For responses by e-mail please use <mycall>@qsl.net

3999. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 20:53:27 UTC
From: James W <change-to-jw22-at-trlp-dot-com@trlp.com>
Message-ID: <3FD0F047.5040100@trlp.com>
Source record: 30465

Well, I wish I could do a good drawing here... but
If we assume that at 0deg, voltage is zero, then, at 90 degrees, voltage
is max. With a perfect inductor, current lags voltage by 90 degrees, so
current is 0. Current is a sine wave. So.. why isn't di/dt==1 at this point?

Joe McElvenney wrote:
> Hi,
>
> John is right, di/dt isn't equal to one here. You are mixing
> up seconds and degrees.
>
>
> Cheers - Joe
>
>

4000. Re: Large roller inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 21:10:06 UTC
From: James W <change-to-jw22-at-trlp-dot-com@trlp.com>
Message-ID: <3FD0F42E.9080708@trlp.com>
Source record: 30466

Assuming that core is mostly air... this would be ~ 18 uH

rob34 wrote:
> rob34 wrote:
>
>> I have a big roller inductor made by E.F.Johnson model 226-5. It would
>> make a great coil for the homebrew linear as it could easily take 5kw
>> and has enough inductance for 10 through 80 meters. It is a beautiful
>> silver plated coil in excellant shape that measures 13.5 inches from
>> one end of the shaft to the other and the coil is 3.5 inches in
>> diameter. It measures 8.5 inches from end to end of the insulated
>> plates which holds the coil itself. Very heavy duty construction, just
>> a little too big for my needs. You can go to this website to see
>> pictures on it: http://photos.yahoo.com/rob34115 and look at Rob`s
>> photos. There are three pictures of it and some electrolytic caps and
>> parts for a HV power supply I am selling. Please make me a reasonable
>> offer on these items! WB8VWI Rob
>
> As can be seen from the pictures there is 14 turns at 3.5 inches in
> diameter which is more than enough inductance for 10-80 meters. I am not
> sure what the actual inductance is, you might be able to go to a website
> with the model number and get the exact specs. WB8VWI Rob

4001. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 22:54:05 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000116.001ca700@btinternet.com>
Source record: 30467

Hi,

You have declared a frequency of 1Hz (i.e. one cycle per
second) for your source.

OK, now draw a sine wave with a triangular wave of the same
peak amplitude inside it. You should be able to see that the
initial slope (di/dt) of the triangle is much greater than one
amp per second, in fact it is four times that since it reaches
its peak in a quarter of a second. Now look at the sine wave - at
the crossing it is steeper than the triangle.

Cheers - Joe

4002. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-05 23:10:45 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD11099.680314A0@rica.net>
Source record: 30468

James W wrote:
>
> John,
>
> It's been a while (20 years) since I took calculus, but I'm pretty sure
> the slope of a sine wave at the zero crossing is +-1.
>
> What value do you believe the slope to be?

The sine wave voltage was specified as 1 volt peak to peak (+- .5
volt) The impedance of the inductor was specified as 1 ohm. So
current peaks at +- .5 amp. A sine wave that has a peak value of +-
.5 and a period of 1 unit of time has a peak slope of pi/sec or
2*pi*(peak amplitude)/period.

--
John Popelish

4003. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 01:16:49 UTC
From: James W <change-to-jw22-at-trlp-dot-com@trlp.com>
Message-ID: <3FD12E01.6080601@trlp.com>
Source record: 30469

John and Joe are obviously correct... and I... am an idiot.

Gentlemen, thanks for helping... it took me a while.. but now I've got it..

- jim

John Popelish wrote:
> James W wrote:
>
>>Consider a simple inductive cicuit with a 1v(p-to-p) AC source at
>>1Hz,and an inductor with Z=1ohm.
>>
>>The inductors value would be 1ohm=2*pi*1Hz*L, so L= 1/2pi
>>
>>Looking at the standard Voltage and Current drawings, we see current
>>lagging voltage by 90degrees.
>>
>>Here's my problem. At 90 degrees, the applied voltage is 1volt. The
>>current is zero. di/dt is 1,
>
> (snip)
>
> Tell me how you arrived at this di/dt.
>

4004. Re: inductor properties query

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 02:16:34 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD13C2C.DB4A3D19@rica.net>
Source record: 30470

James W wrote:
...
> Gentlemen, thanks for helping... it took me a while.. but now I've got it..

Glad to help.
--
John Popelish

4005. Re: HELP:Matjaz Vidmar S53MV Wideband VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 05:47:19 UTC
From: marsgal42@hotmail.com
Message-ID: <d42b5a72.0312052147.3cfa6e83@posting.google.com>
Source record: 30471

"R. Soetedjo" <robi@u.washington.edu> wrote in message
news:<Pine.A41.4.58.0312042351380.557198@mead11.u.washington.edu>...

> Can somebody help me to get a copy of Matjaz Vidmar Wideband VCO articles
> in VHF Communications?

Why not just buy the relevant back issues from the
publishers of VHF Communications?

Am I missing something? Wouldn't be the first time... :-(

Laura Halliday VE7LDH "Que les nuages soient notre
Grid: CN89mg pied a terre..."
ICBM: 49 16.05 N 122 56.92 W - Hospital/Shafte

4006. Re: Xtals for valve tx.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 13:15:03 UTC
From: SB <nospam@btinternet.com>
Message-ID: <bqskom$j8u$1@titan.btinternet.com>
Source record: 30472

> Here's my one-valve CW transmitter, produces up to 10W on 80m and 8W on
40m:
> http://www.hanssummers.com/radio/cwtx/index.htm. In this circuit I have
> found that modern HC49 type crystals work perfectly well. Before building
> it, I was warned that HC49 crystals are too small for valve circuits and
> would fracture. Fortunately I decided to give it a go anyway, and have not
> yet had a crystal fracture. Some have suggested that this may be due to
the
> DC blocking capacitor in series with the crystal (see my circuit diagram).
>
> Quartzlab charge £7.50 per crystal (minimum order £10). A cheaper way is
to
> buy a bunch of standard value crystals and lower them by painting the
> crystal surface with felt tip pen, see my page about it:
> http://www.hanssummers.com/radio/penning/index.htm. In this way it would
be
> possible to build up a bank of crystals covering a segment of the band.
> 3.579 (TV colour burst) crystals are available almost anywhere extremely
> cheaply, and I found it easy to lower it by 30KHz. 3.560 crystals are also
> available, it's the 80m QRP calling frequency. See the links page on the
QRP
> website http://www.gqrp.com for some suppliers. Similarly 7.030 (Europe) /
> 7.040 (US) is the 40m QRP calling frequency, and they can be easily
lowered
> to anywhere down to 7.000.
>
> My TX has 4 relay switched crystals: 3.558, 3.560, 7.010 and 7.030. All
are
> (or were originally) HC49. After 2 years and over 400 QSO's, no
fracturing.
>
> 73
> Hans G0UPL
> http://www.HansSummers.com

Hello Hans,

Thankyou very much for the information regarding the xtals, I have been to
your site many times to admire the equipment you build and is it that which
has inspired me to build a piece or pieces of valve equipment.

Thankyou again,

Simon G7CPN.

4007. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 15:16:48 UTC
From: fmmck@aol.com
Message-ID: <20031206101648.21489.00000183@mb-m23.aol.com>
Source record: 30473

<< Initially when I hocked the circuit up on my breadboard the crystal seemed to oscillate at around 27 MHZ.
Then I built the little circuit on a permanent board and now the crystal oscillates at about 9 MHZ and at this point I start to ask myself what am I measuring here. And what assures me that 9 MHZ is the fundamental? >>

Uwe-

As has been pointed out, you probably have a crystal from an old CB set, designed to operate on its third overtone. At one time CB sets were sold with only a few channels. You purchased transmit and receive crystals for the channels of your choice, to supplement the one that was supplied with the radio.

How do you know the 9 MHz is NOT an overtone? The observation that crystals usually only operate at an odd overtone, might lead you to believe this. For a 9 MHz overtone, the fundamental would likely be at 9/3, 9/5 or 9/7. There may be odd multiples of these frequencies that fall near the observed 27 MHz frequency, but they would be relatively high multiples.

One way to tell would be to incorporate tuning components to select a desired frequency. If the crystal will oscillate with tuning set to 9, 27 and 45 MHz but not at 3, 1.8 or 1.286 MHz, then it is reasonable to assume 9 is the fundamental.

73, Fred, K4DII

4008. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 15:34:33 UTC
From: fmmck@aol.com
Message-ID: <20031206103433.21489.00000184@mb-m23.aol.com>
Source record: 30474

<< I need to wind 180nH inductor for a parallel tuned circuit I'm building, >>

Paul-

I suggest you find some stiff wire, wind about five turns using a pencil as a form, and stretch or compress it to tune the circuit.

If you want a more stable inductor, then wind it on a high value, one or two watt resistor. Once the desired inductance is set, put some kind of varnish (coil dope) on it to hold the winding in place.

73, Fred, K4DII

4009. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 18:39:16 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <1v54tv88upabdo39vmj6oeuod7d30dsrdq@4ax.com>
Source record: 30475
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 5 Dec 2003 15:37:15 -0000, "Ian Buckner"
<Ian_Buckner@agilent.com> wrote:

>Paul, I really don't think you need to wind your own. For example,
>a Coilcraft 1008CS 180nH part is rated at 620mA rms:
>
>http://www.coi1craft.com/1008cs.cfm
>
>The "trick" is that the dissipation is a function of the series
>resistance, which is very low (0.77 ohms) as long as the core
>doesn't saturate.
>
>If you want to get really silly, their "Spring" inductors are rated
>at 3A rms.

Thanks, Ian, but it only took about 15 seconds to wind the coil
according to Win's spec and more importantly, winding my own enables
me to take a tap off it, which I believe may be necessary in this app.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4010. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 18:39:18 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <hn64tvkckul0isb351srcemdas3kolfli3@4ax.com>
Source record: 30476
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Fri, 05 Dec 2003 08:38:18 -0800, Bill Turner <noway@nohow.com>
wrote:

>As you may know, the inductance of a coil is not a fixed value, but
>varies dramatically with frequency.

Er, you mean *reactance* of a coil varies dramatically with frequency,
don't you?
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4011. slugged inductor windings

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 19:55:46 UTC
From: TC Dufresne <tdufresne@neb.rr.com>
Message-ID: <6vqAb.108838$Vu6.99863@twister.rdc-kc.rr.com>
Source record: 30477

OK
What if a hypothetical homebrewer needed to create a slugged coil inductor for his homebrew receiver, and he wondered how many turns he would need to create a nominal inductance of 4.5uH?
Suppose he found a ceramic form at Antique Electrical , a 1 5/8" size that was just perfect? (copy this in your browser)
http://www.tubesandmore.com/images/inv/P-C210.GIF
Where would that hypothetical homebrewer find how many windings he'd need?
Most of the formulae he (that hypothetical homebrewer) found was directed it appeared to larger coils, like for crystal radio main coils.
Can anyone point that hypothetical homebrewer to the right formulae?
Thanks (on behalf of the hypothetical homebrewer)
Tom

4012. Re: slugged inductor windings

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 20:44:59 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD23FFA.429F4E5@rica.net>
Source record: 30478

TC Dufresne wrote:
>
> OK
> What if a hypothetical homebrewer needed to create a slugged coil inductor
> for his homebrew receiver, and he wondered how many turns he would need to
> create a nominal inductance of 4.5uH?
> Suppose he found a ceramic form at Antique Electrical , a 1 5/8" size that
> was just perfect? (copy this in your browser)
> http://www.tubesandmore.com/images/inv/P-C210.GIF
> Where would that hypothetical homebrewer find how many windings he'd need?
> Most of the formulae he (that hypothetical homebrewer) found was directed it
> appeared to larger coils, like for crystal radio main coils.
> Can anyone point that hypothetical homebrewer to the right formulae?
> Thanks (on behalf of the hypothetical homebrewer)
> Tom

Not counting the slug, this might serve:
http://www.qsl.net/wa7zcz/area2/page34.html

--
John Popelish

4013. Re: Kenwood TH-F7E and 9K6 Packet Radio Help please!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 21:19:54 UTC
From: CB_Oktopus_ <LA3xma@broadpark.no>
Message-ID: <3fd248e4@news.broadpark.no>
Source record: 30479

Tom Juelich wrote:
> Hi all,
> A friend of mine recently I wanted to start Packet Radio with a
> Kenwood TH-F7E and TNC with 9K6.It works fine on receiving but has
> trouble with transmitting. It can not get any connect although PTT
> works fine and the TNC also works with another radio.
> It seems there is something wrong with the outgoing signal of the
> TH-F7E.Maybe the gain is too low?
> Anybody experienced the same problem with that handheld from Kenwood?
> Any help would be greatly appreciated!
> Thanks and 73 from Tom, DL2HRF

There is a setup in the meny for 9k6 or 1k2 transmitting try that. It
set the switching speed between tx and rx.

73 LA3XMA

4014. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 21:24:11 UTC
From: maxfoo <maxfooHeadFromButt@punkass.com>
Message-ID: <sqh4tv0dofiku2vutv3r6hgesmfn8s1m9v@4ax.com>
Source record: 30480
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 06 Dec 2003 13:09:02 -0800, Bill Turner <noway@nohow.com> wrote:

>On Sat, 06 Dec 2003 18:39:18 +0000, Paul Burridge
><pb@osiris1.notthisbit.co.uk> wrote:
>
>>>As you may know, the inductance of a coil is not a fixed value, but
>>>varies dramatically with frequency.
>>
>>Er, you mean *reactance* of a coil varies dramatically with frequency,
>>don't you?
>
>____
>
>Er, no I don't. They both vary with frequency.
>
>If the inductance did NOT vary with frequency, the X sub L vs F plot
>would be linear. In reality, it is anything but linear.

X sub L is inductive reactance, yes that varies with freq.
L is the fixed value inductance.

though there is some parasitic capacitance between windings that does effect the
resonant freq. a bit. www.coilcraft.com gives guidelines to this.

Remove "HeadFromButt", before replying by email.

4015. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 21:39:51 UTC
From: Winfield Hill <Winfield_member@newsguy.com>
Message-ID: <bqtib701pvg@drn.newsguy.com>
Source record: 30482
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote...
>
> Er, no I don't. They both vary with frequency.
>
> If the inductance did NOT vary with frequency, the X sub L
> vs F plot would be linear. In reality, it is anything but linear.

We're talking a small air-coil here. As SRF is approached the
reactance does depart from the expected linear plot, but that's
because one should have considered X_C as well. Say, you're not
talking about an exotic high-frequency region where the physical
diameter of a coil may drop slightly due to proximity effect?
Sheesh!

Thanks,
- Win

whill_at_picovolt-dot-com

4016. HP 8640B LF ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-06 21:48:50 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vt4jmi19bufl21@corp.supernews.com>
Source record: 30481

I've got an HP 8640B Opt 2, and am quite satisfied with it's performance but
this one doesn't go below 500KHz since it doesn't have Opt 1. I have
several choices and would like some user opinions if anyone has a
comparison. I can buy an HP 11710B down converter which will divide the 50
to 61 MHz band down to 10 KHz thru 11 MHz or an HP 11710A that divides 5 to
5.5 MHz to 5 KHz thru 500 KHz. The HP 11710 A&B are quite differnt in size,
appearnce and I wonder if the B is that much that I should only consider it?
In addition, I could try to find an HP 8640B with Opt 1 that includes an
internal audio oscillator that covers 20 Hz to 600 KHz, and sell my unit.
But I don't think I'd have phase lock available which is nice but probably
not mandatory. I'm not sure how the Opt 1 works with the attenuator.
At the present time I'm using a HP 606A a sizeable beast
that goes down to 50 Kc. I also have an HP 3586C which is quite good
as a Sig Gen, I got it becasue I wanted to listen to LF! So I is it an
11710,
an Opt 1 trade or something else, I wouldn't mind recovering some space!
Any user experience with these units appreciated.
thanks
hank wd5jfr

4017. Optimising transmitter radiated power

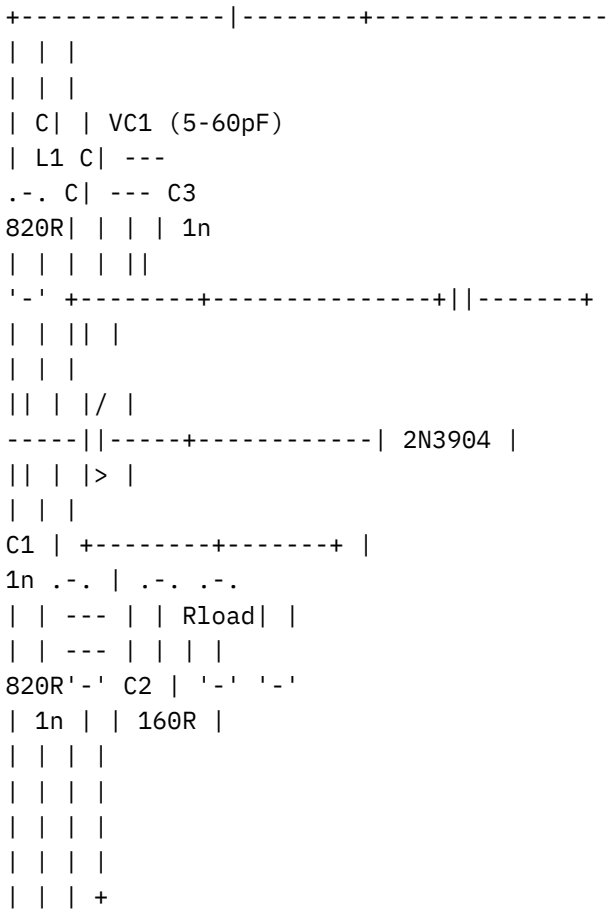
Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 00:43:14 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <5qt4tv8779s1hd6s6rb8u2fsb3o417ir6l@4ax.com>
Source record: 30483

Hi gang,

I've just developed a three stage RF amplifier for 40Mhz and the final PA stage is shown below. The maximum power transfer occurs when the load resistor has a value of 140 ohms whereupon it dissipates a thumping 475mW of RF power! All well and good, but I need to radiate as much of that power as I can - with only a telescopic whip antenna. So I snip the load resistor out of circuit and the following questions arise:

Where do I take the feed point to the antenna from? I realise I don't have a hope in hell of matching 140 ohms without an "L network" or whatever, but is that really necessary? Could I get away with taking the antenna feed direct from a tap off the tank coil?

I only *need* 50mW ERP so am not *too* bothered about losing most of the useful power.



```
+----------------------+-------+-----------------+----
gnd

created by Andyï¿½s ASCII-Circuit v1.24.140803 Beta www.tech-chat.de

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill
```

4018. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 00:43:16 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <las4tv44i1s2bm4e7m9r4dfal7bch4te4i@4ax.com>
Source record: 30484

On 04 Dec 2003 03:55:19 GMT, pdrunen@aol.com (PDRUNEN) wrote:

>Hi Group,
>
>My wavetek sig gen covers 100KHz to 512 MHz and puts out about 10mW. I need a
>simple circuit to cover HF which will boost this up to 500mW. I would like to
>try out the signal generator as a low power CW transmitter.

I'm not familiar with this particular model, but my own experiences
with other signal generators lead me to believe that they are very
poor singal sources for this type of application. The main problem
AISI is freqency drift. You may get some reasonable stability after an
hour-or-so's settling down, but many people with whom you wish to
communicate via CW will be using *very* narrow filtering and will
constantly lose your signal if they don't repeatedly re-tune.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4019. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 00:43:17 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <qrs4tvk21ggdcukj3bnstbmnu1gmidd6di@4ax.com>
Source record: 30485
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 06 Dec 2003 13:09:02 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Sat, 06 Dec 2003 18:39:18 +0000, Paul Burridge
><pb@osiris1.notthisbit.co.uk> wrote:
>
>>>As you may know, the inductance of a coil is not a fixed value, but
>>>varies dramatically with frequency.
>>
>>Er, you mean *reactance* of a coil varies dramatically with frequency,
>>don't you?
>
>____
>
>Er, no I don't. They both vary with frequency.
>
>If the inductance did NOT vary with frequency, the X sub L vs F plot
>would be linear. In reality, it is anything but linear.

I'm still none the wiser. Unless you're taking into account stray
inductance from the leads, of course. But the *body* of the inductor
by itself must surely be of a fixed inductance. One does not come
across coils rated at "3uH @ 150Mhz.", for example!
Are you talking about the impact of stray L from the lead-lengths?

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4020. Re: HP 8640B LF ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 01:06:57 UTC
From: fmmck@aol.com
Message-ID: <20031206200657.21513.00000203@mb-m23.aol.com>
Source record: 30486

<< I've got an HP 8640B Opt 2, and am quite satisfied with it's performance but this one doesn't go below 500KHz since it doesn't have Opt 1. >>

<< But I don't think I'd have phase lock available which is nice but probably not mandatory. I'm not sure how the Opt 1 works with the attenuator. >>

Hank-

I'm not that familiar with the specs, but it looks like the lowest band on the 8640B is 250 to 500 KHz, regardless of option.

The variable audio oscillator option has its own output level adjustment, but I don't think it is calibrated like the main RF output. It certainly doesn't go through the main attenuator except as modulation on the RF! I'm not sure, but the variable audio oscillator's output may be 600 Ohms rather than 50.

When I've tried adjusting the frequency on the variable audio oscillator, I've found it touchy. You definitely do NOT have phase lock on that oscillator. It would be fine for use with AM and FM modulation, but not the greatest as an LF RF signal where accuracy is a bit more important.

I can see using it with sufficient output to drive the counter's external input, but with an external attenuator to set the impedance and level for your application. It might work, but I wouldn't be happy with such an arrangement!

73, Fred, K4DII

4021. Gates Radio amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 01:25:36 UTC
From: amdx <amdx@att.net>
Message-ID: <kkvAb.405350$0v4.20017443@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30487

I am repairing a Gates Radio Co. amplifier, it is labeled,
Power Amplifier
Model # 992-1715-001
Serial # 73-1184-004
Power Amplifer may be misleading, I suspect the
output is less than 10 watts.
I'm looking for a schematic or info leading me to a schematic.
Would you have any information?

Thanks
Mike

4022. Re: HP 8640B LF ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 02:27:38 UTC
From: mikea@mikea.ath.cx
Message-ID: <bqu36q$i74$1@puck.litech.org>
Source record: 30488

Fred McKenzie <fmmck@aol.com> wrote:
> << I've got an HP 8640B Opt 2, and am quite satisfied with it's performance but
> this one doesn't go below 500KHz since it doesn't have Opt 1. >>

> << But I don't think I'd have phase lock available which is nice but probably
> not mandatory. I'm not sure how the Opt 1 works with the attenuator. >>

> Hank-

> I'm not that familiar with the specs, but it looks like the lowest band on the
> 8640B is 250 to 500 KHz, regardless of option.

The low end on mine, with options 1, 2, and 3, is just above 447 kHz.
That appears to be the designed low end, so that the 8640B could be
used for IF alignment.

There's an option that controls whether the _high_ end is 512 MHz or
1024 MHz, but that's different.

--
"#@^&*^(@#$!!"
"What?"
"We've been decoding a 'Make Money Fast' chain letter for the last month!"
"Those Bastards!" -- george william herbert, in rasfw

4023. Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 05:01:57 UTC
From: Skip <Skip@none.co>
Message-ID: <bmlaa1-no2.ln1@oceanwide.co.nz>
Source record: 30489

Hello List,

I am looking for a source for a Zener Diode. I am building an HF Amplifier using a GS-35b and the schematic I'm using to build the amp calls for a 36v 50w zoner diode for bias. Here in New Zealand there does not seem to be anyone with anythings close to what I need.

Also, would it be possible to string a few lower volt watt zeners together to come up with a close value to what is needed?

Thanks for the help

Skip..

4024. Re: HP 8640B LF ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 05:42:51 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FD2BDB2.6074A826@earthlink.net>
Source record: 30490

Henry Kolesnik wrote:
>
> I've got an HP 8640B Opt 2, and am quite satisfied with it's performance but
> this one doesn't go below 500KHz since it doesn't have Opt 1. I have
> several choices and would like some user opinions if anyone has a
> comparison. I can buy an HP 11710B down converter which will divide the 50
> to 61 MHz band down to 10 KHz thru 11 MHz or an HP 11710A that divides 5 to
> 5.5 MHz to 5 KHz thru 500 KHz. The HP 11710 A&B are quite differnt in size,
> appearnce and I wonder if the B is that much that I should only consider it?
> In addition, I could try to find an HP 8640B with Opt 1 that includes an
> internal audio oscillator that covers 20 Hz to 600 KHz, and sell my unit.
> But I don't think I'd have phase lock available which is nice but probably
> not mandatory. I'm not sure how the Opt 1 works with the attenuator.
> At the present time I'm using a HP 606A a sizeable beast
> that goes down to 50 Kc. I also have an HP 3586C which is quite good
> as a Sig Gen, I got it becasue I wanted to listen to LF! So I is it an
> 11710,
> an Opt 1 trade or something else, I wouldn't mind recovering some space!
> Any user experience with these units appreciated.
> thanks
> hank wd5jfr

Can you use a function generator, or a test oscillator like the H-P
651 for frequencies below the lower limit on the H-P 8640? it is
something that comes in handy for other things anyway. The test
oscillator would stack on the 8640, its in the same style H-P cabinet.

--
19 days!

Michael A. Terrell
Central Florida

4025. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 06:00:15 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD2C21D.C9CEB495@rica.net>
Source record: 30491

Skip wrote:
>
> Hello List,
>
> I am looking for a source for a Zener Diode. I am building an HF
> Amplifier using a GS-35b and the schematic I'm using to build the amp
> calls for a 36v 50w zoner diode for bias. Here in New Zealand there
> does not seem to be anyone with anythings close to what I need.
>
> Also, would it be possible to string a few lower volt watt zeners
> together to come up with a close value to what is needed?
>
> Thanks for the help
>
> Skip..

5 each 7.5 volt 10 watt zeners in series might work. Or you might
build a power transistor circuit that current amplifies a small 35
volt zener. It all depends on the details of the circuit. That is
one hell of a bias zener.

--
John Popelish

4026. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 06:17:34 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <htUoYsA+Xs0$EAyL@ifwtech.co.uk>
Source record: 30492

Skip wrote:
>Hello List,
>
>I am looking for a source for a Zener Diode. I am building an HF
>Amplifier using a GS-35b and the schematic I'm using to build the amp
>calls for a 36v 50w zoner diode for bias. Here in New Zealand there
>does not seem to be anyone with anythings close to what I need.
>
> Also, would it be possible to string a few lower volt watt zeners
>together to come up with a close value to what is needed?

A simple shunt regulator using a TL431 and a pass transistor will give adjustable voltage and better regulation than a large zener diode, and is actually cheaper.

There's a lot of information on my website, at:
http://www.ifwtech.co.uk/g3sek/boards [some commercial content]

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'

4027. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 10:24:02 UTC
From: John Devereux <jd1@devereux.me.uk>
Message-ID: <ekvhq62l.fsf@devereux.me.uk>
Source record: 30493
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner <noway@nohow.com> writes:

> On 6 Dec 2003 13:39:51 -0800, Winfield Hill
> <Winfield_member@newsguy.com> wrote:
>
>> We're talking a small air-coil here.
>
> Doesn't matter what kind of coil; all coils have a non-linear plot of
> either inductance vs frequency OR reactance vs frequency. ALL coils.

Well, just about anything is "non-linear" if you measure it accurately
enough! But is it really true that the *inductance* of a "small air
coil" is "dramatically" non-linear with frequency as you stated?

--

John Devereux

4028. Re: Optimising transmitter radiated power

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 10:48:56 UTC
From: wot.email.addr@which.email.addr.com
Message-ID: <nb16tv0asbocohcuch54p9hpr4nfh48n0h@4ax.com>
Source record: 30494

Make c3 (1n) a variable cap too.

Clive

4029. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 11:03:54 UTC
From: Terry Pinnell <terrypinDELETE@dial.pipexTHIS.com>
Message-ID: <4226tvc79da7pkbf3hn5943hfvis2oe3tv@4ax.com>
Source record: 30495
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

John Devereux <jd1@devereux.me.uk> wrote:

>Bill Turner <noway@nohow.com> writes:
>
>> On 6 Dec 2003 13:39:51 -0800, Winfield Hill
>> <Winfield_member@newsguy.com> wrote:
>>
>>> We're talking a small air-coil here.
>>
>> Doesn't matter what kind of coil; all coils have a non-linear plot of
>> either inductance vs frequency OR reactance vs frequency. ALL coils.
>
>Well, just about anything is "non-linear" if you measure it accurately
>enough! But is it really true that the *inductance* of a "small air
>coil" is "dramatically" non-linear with frequency as you stated?

Intuitively I'd have thought the answer was plainly No, but I'm certainly not technically savvy enough to be confident about that. But I strongly suspect that the thread is already ovedue an unambiguous definition of 'inductance'. Where's John Woodgate when you really need him...<g>.

--
Terry Pinnell
Hobbyist, West Sussex, UK

4030. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 11:55:35 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <16o5tv0h4post1v2iimnomlcpqq6eun48p@4ax.com>
Source record: 30496
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 06 Dec 2003 17:32:58 -0800, Bill Turner <noway@nohow.com>
wrote:

>Actually, one does come across such coils. All coils have a frequency
>where they become a parallel resonant circuit, due to the capacitance
>between windings. And oddly enough, *above* that parallel resonant
>frequency, they become capacitive. Yes, you read that right, they
>actually act like a capacitor, believe it or not.

This is only an artefact if you try to determine the inductance of an inductor by measuring the reactance of that component at some specified frequency. The inductive reactance (Xl=2*pi*f*L) will grow in a linear way towards a positive value depending of the frequency.

Since the parasitic capacitances are present, the negative capacitive reactance (Xc=-1/(2*pi*f*C) will complicate the situation. When approaching resonance in a parallel resonant circuit, the reactance goes to +infinity, switching rapidly to -infinity as the resonance frequency has been passed and slowly approach the linear drop of the negative capacitance at frequencies far above resonance.

One can still argue that the inductance and inductive reactance are as well as the capacitance and the capacitive reactance are still there as separate entities, but we can not measure them separately from terminals of the coil. Thus, this is an artefact of the measurement method.

Thus, the inductance should be measured at a low frequency to avoid the capacitive reactance. On the other hand the capacitance should be measured at a high frequency well above resonance to avoid the effects of the inductance. Or just measure the inductance at a low frequency and determine the capacitance from the resonance frequency and inductance.

While inductance and capacitance are frequency independent, the resistance of a coil will vary with frequency due to the skin effect, since at higher frequencies, the conductivity of the inner part of the conductor is not used.

Paul OH3LWR

4031. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 12:21:04 UTC
From: Winfield Hill <Winfield_member@newsguy.com>
Message-ID: <bqv5vg0jlm@drn.newsguy.com>
Source record: 30499
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote...
>
> Yes, it really is true. If you graph the reactance vs frequency of any
> coil, starting just above DC, it will rise in a near-linear fashion for
> a while, but will begin to steepen and when approaching the
> self-resonant frequency, will quickly rise to maximum, and at that point
> will suddenly drop to the opposite (negative, or capacitive) extreme and
> then diminish back to near zero as the frequency continues to increase.
> At that self-resonant frequency, the coil is behaving like a parallel
> resonant circuit, which of course it is, due to the parasitic
> capacitance between each winding. This parasitic capacitance is
> unavoidable and ALL coils exhibit this characteristic. The truly
> strange thing is that above the self-resonant frequency, the coil
> actually behaves exactly like a capacitor, believe it or not.

Bill, it's one thing to say a coil's reactance is non-linear, but it's another to assert its inductance varies with frequency. As I responded before, the inductance of air coils varies very little with frequency. I know this having made many types of air coils to verify the standard inductance formulas, and precisely measured them over a 60Hz to 50MHz range. Earlier in the thread I pointed out the effects of SRF (self-resonant frequency), due to the coil's parallel capacitance. It's not useful to my thinking to characterize those two components as one part, and it's little surprise one gets into trouble when attempting to do so. A similar statement can be made at very low frequencies where the dc resistance exceeds the reactance, and the coil is best considered as two separate parts in series.

The capacitance and dc resistance are both simple and rather obvious considerations, with straightforward solutions. In contrast, a subtle and difficult issue in air coils is modeling Q or loss vs frequency.

The concept of ac resistance is often used for loss, and is expressed as a ratio to the dc resistance, Rac/Rdc. Predicting that ratio is the tough part, including not only the well-understood skin effect, but also the relatively obscure and often larger proximity effect. Further complications enter if one uses multiple wires, and how they are wound, or if one uses any of the many types of litz wire.

Thanks,
- Win

whill_at_picovolt-dot-com

4032. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 12:24:04 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <ktmdnQO1AK3_hk6iRVn-sQ@comcast.com>
Source record: 30498

or an LM317HVT with PASS transistor

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:htUoYsA+Xs0$EAyL@ifwtech.co.uk...
> Skip wrote:
> >Hello List,
> >
> >I am looking for a source for a Zener Diode. I am building an HF
> >Amplifier using a GS-35b and the schematic I'm using to build the amp
> >calls for a 36v 50w zoner diode for bias. Here in New Zealand there
> >does not seem to be anyone with anythings close to what I need.
> >
> > Also, would it be possible to string a few lower volt watt zeners
> >together to come up with a close value to what is needed?
>
> A simple shunt regulator using a TL431 and a pass transistor will give
> adjustable voltage and better regulation than a large zener diode, and
> is actually cheaper.
>
> There's a lot of information on my website, at:
> http://www.ifwtech.co.uk/g3sek/boards [some commercial content]
>
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
>

4033. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 12:31:56 UTC
From: Winfield Hill <Winfield_member@newsguy.com>
Message-ID: <bqv6js0l8r@drn.newsguy.com>
Source record: 30500
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Keinanen wrote...
>
> While inductance and capacitance are frequency independent,
> the resistance of a coil will vary with frequency due to the
> skin effect, since at higher frequencies, the conductivity of
> the inner part of the conductor is not used.

Skin effect applies equally around the periphery of each wire,
what you've described above is the more serious proximity effect.

Thanks,
- Win

whill_at_picovolt-dot-com

4034. Experimenter's HF Lab System

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 14:34:47 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <bUGAb.1157$kz2.639@nwrdny01.gnilink.net>
Source record: 30501

My homebrew experimenter's HF lab system is near completion. Check out my web site for details:
http://mysite.verizon.net/jdrocci/index.html

Joe
W3JDR

4035. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 14:45:48 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <KQsyXOIc0z0EAI@ifwtech.co.uk>
Source record: 30502

Bill Turner wrote:
>On Sun, 7 Dec 2003 07:24:04 -0500, "John Walton" <jdwalton@comcast.net>
>wrote:
>
>>or an LM317HVT with PASS transistor
>
The original question was about a zener diode, ie a shunt regulator. I wasn't aware that a 317 plus a transistor could be configured to emulate a zener... can it?

The TL431 certainly can.

>_____
>
>If you're going to use such things, you must protect them against
>inadvertent arcs. One good arc and they will be history.

Normally an arc from the B+ supply of a grounded-grid triode is no threat to the cathode bias device. Arcs inside the tube will ground out to the grid, and external arcs to the chassis; and then the current flows back to B-minus. The cathode and the bias device are not part of that current path, so the bias device is not at risk.

The exception is if an internal arc is severe enough to burn right though the grid (I've seen that in a mesh-grid tube) or if the current is high enough to drive the local grid potential positive. Then some of the arc current - perhaps tens of amps, peak - will flow down through the cathode. In such extreme cases, no bias device is likely to survive... at least, not without some additional protection.

That's why, whatever bias device you use, an 80-cent varistor connected from cathode to chassis is a very good investment.

> A big, fat
>zener on the other hand, is relatively immune to such abuse.

"Relatively" in this context is hard to judge. In most cases, the bias device survives because it wasn't actually under threat - see above. If a device does fail, it's only guesswork to say how a different bias device would have fared in the same amplifier.

A more reliable picture emerges from a larger number of amplifiers. There are more than 350 Triode Boards out in the field, with tubes ranging from the 2C39 to the 3CXP5000, and they all use basically the same TL431/TIP147 circuit protected by a varistor. Between them, these boards have seen a lot of arcs, and there's no indication that the bias circuit is notably fragile. Certainly there are occasional failures -

but in those cases it seems likely that a big, fat zener wouldn't have
survived either.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4036. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 15:42:19 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <60f6tv8iphsgvb7e7u91qv5st4b76j05nd@4ax.com>
Source record: 30503
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sat, 06 Dec 2003 17:32:58 -0800, Bill Turner <noway@nohow.com>
wrote:

>Actually, one does come across such coils. All coils have a frequency
>where they become a parallel resonant circuit, due to the capacitance
>between windings. And oddly enough, *above* that parallel resonant
>frequency, they become capacitive. Yes, you read that right, they
>actually act like a capacitor, believe it or not.

Yes, I'm sure no one here disputes that coils behave like capacitors
above their SRF and capacitors behave like coils above the SRF. That's
not news. And it's to do with the *reactance* of the part, not its
inductance. AIUI, inductance is pretty much stable over the frequency
spectrum. You appear to be the only person here who claims otherwise.

>Now, if you are always working with relatively small coils at relatively
>low frequencies, you will probably never see this effect. But if you
>ever have access to a $10,000 HP sweep impedance meter, hook up your
>favorite coil and see just what I'm talking about. You will never look
>at coils the same way again. :-)

That's *reactance* giving rise to that effect, not inductance!

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4037. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 15:53:25 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <ofednWuaGJY20U6iRVn-hA@ctc.net>
Source record: 30504
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

>
> > Bill, it's one thing to say a coil's reactance is non-linear, but it's
> > another to assert its inductance varies with frequency.
>
> Both statements are true and easily provable. A simple air core coil
> which measures one microhenry at a low frequency may have an inductance
> of several millihenries (or even henries) when near its self resonant
> frequency. It's a simple law of physics; there is no way around it.
> And *above* the self-resonant frequency, the choke actually behaves like
> a capacitor, believe it or not.
>
>
> > As I responded
> > before, the inductance of air coils varies very little with frequency.
>
> That statement is true only at relatively low frequencies. Get near the
> self-resonant frequency of an air core coil and you'll find otherwise.
> Designers using relatively large coils over a wide frequency range run
> into this problem all the time. As I mentioned in another post, the
> classic example for Amateur Radio is the plate choke in a tube type
> amplifier. Designing such a choke that has enough inductance to work
> over the entire HF spectrum without self-resonances is nearly
> impossible. Many amplifier designers don't even try; they just switch
> inductance in and out of the choke depending on frequency.
>

Youall seem to be hitting all around the 'problem'. A coil has 3 components, the resistance of the wire, the inductance, and the stray capacitance. As the frequency is changed from DC to low AC to RF each component has more or a less effect on how it acts in a circuit. The actual value of each does not change, just the effect on an external circuit.

For small coils at DC the reisitance is the major item that will be seen by an external circuit. At low to medium frequencies the inductance will be the major factor. At very high frequencies the capacitance may be the major factor. At self resonant frequencies , the tuned circuit effect takes over.

4038. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 15:54:05 UTC
From: John Devereux <jd1@devereux.me.uk>
Message-ID: <8ylor5cy.fsf@devereux.me.uk>
Source record: 30505
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner <noway@nohow.com> writes:

> On Sun, 07 Dec 2003 10:24:02 +0000, John Devereux <jd1@devereux.me.uk>
> wrote:
>
>>Well, just about anything is "non-linear" if you measure it accurately
>>enough! But is it really true that the *inductance* of a "small air
>>coil" is "dramatically" non-linear with frequency as you stated?
>
> ----------
>
> Yes, it really is true. If you graph the reactance vs frequency of any
> coil, starting just above DC, it will rise in a near-linear fashion for
> a while, but will begin to steepen and when approaching the
> self-resonant frequency, will quickly rise to maximum, and at that point
> will suddenly drop to the opposite (negative, or capacitive) extreme and
> then diminish back to near zero as the frequency continues to increase.

No, you are talking about the *reactance* ("reactive impedance"). We
have been talking about the *inductance* ! They are not the same
thing.

If you model a real-world "coil" as a perfect capacitor in parallel
with a perfect, *fixed*, inductor, it will behave as you
describe. (Well you need a resistor too if you don't want infinite
"Q"!)

> At that self-resonant frequency, the coil is behaving like a parallel
> resonant circuit, which of course it is, due to the parasitic
> capacitance between each winding. This parasitic capacitance is
> unavoidable and ALL coils exhibit this characteristic. The truly
> strange thing is that above the self-resonant frequency, the coil
> actually behaves exactly like a capacitor, believe it or not.

Real "Inductors" do indeed have a self-capacitance too, which will
make the component deviate from that of an ideal inductor in the way
that you describe. But this in itself does not make the inductance
(i.e. the inductive part of the reactance), vary.

<SNIP>

--

John Devereux

4039. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 16:06:02 UTC
From: John Devereux <jd1@devereux.me.uk>
Message-ID: <4qwcr4t1.fsf@devereux.me.uk>
Source record: 30506
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner <noway@nohow.com> writes:

> On 7 Dec 2003 04:21:04 -0800, Winfield Hill
> <Winfield_member@newsguy.com> wrote:
>
>> Bill, it's one thing to say a coil's reactance is non-linear, but it's
>> another to assert its inductance varies with frequency.
>
> Both statements are true and easily provable. A simple air core coil
> which measures one microhenry at a low frequency may have an inductance
> of several millihenries (or even henries) when near its self resonant
> frequency.

No, it does not. I'm afraid you are using the word "inductance" in a
different way from everyone else :)

> It's a simple law of physics; there is no way around it.
> And *above* the self-resonant frequency, the choke actually behaves like
> a capacitor, believe it or not.

Yes, because at high frequencies the current goes through the
capacitance of the coil rather than the *fixed* inductance.

(Uh, by the way, you do know who you are arguing with, right?)...

--

John Devereux

4040. Ovenaire Model OSC-85-11

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 16:12:32 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <M9GdncvmLZ7uzE6iRVn-jg@comcast.com>
Source record: 30507
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components,sci.electronics.equipment,sci.electronics.repair

Does anybody have, or know where I can get, the
spec.'s and pin-out for an old Ovenaire model
OSC-85-11 10MHz oven controlled oscillator module?
It came out of an old junk Fluke model 7261A
frequency counter, and I don't have a manual for
that either to look for the pin-out.

--
Leland C. Scott
KC8LDO

ARRL Member
NCI Member

Charter member of the
Lawrence Technological University
Wireless Society W8LTU

4041. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 16:36:58 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD35759.5A7BA042@rica.net>
Source record: 30508
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote:

> Both statements are true and easily provable. A simple air core coil
> which measures one microhenry at a low frequency may have an inductance
> of several millihenries (or even henries) when near its self resonant
> frequency. It's a simple law of physics; there is no way around it.
> And *above* the self-resonant frequency, the choke actually behaves like
> a capacitor, believe it or not.

Now you have gone and said something that is simply not true. The
small inductor has a nearly fixed inductance with a parallel with a
nearly fixed capacitance. The combined impedance of these two fixed
reactances produces a nonlinear impedance, but there is nothing about
that impedance that implies a large change in either the inductance or
capacitance of the combination, at least not until you get to so high
a frequency that the winding is a significant fraction of a cycle
long. The rise in impedance near resonance does not exhibit the same
phase shift that between voltage and current that a large inductance
would have.

--
John Popelish

4042. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 16:40:12 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD3581B.4E642981@rica.net>
Source record: 30509
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote:

> Not only can you *not* measure them separately, they can not be
> physically separated either, since the parasitic capacitance is always
> present between adjacent windings. I would not call it an artifact of
> the measurement method, but rather an artifact of the coil itself.

Agreed.
>
> The inductance should be measured at whatever frequency you plan to use
> the inductor, whether a single frequency or a wide band of frequencies.
> Otherwise you risk a nasty surprise. To measure a coil at low frequency
> and then label it as a "one microhenry" coil, for example, is asking for
> trouble when that "one microhenry" coil is used at a higher frequency.
> To be accurate, when you specify inductance you must also specify the
> frequency of measurement.

Agreed. One usually specifies an inductor that is measured at a
higher frequency than the one being used.

(snip)

--
John Popelish

4043. Re: Optimising transmitter radiated power

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 16:49:58 UTC
From: fmmck@aol.com
Message-ID: <20031207114958.04265.00000329@mb-m29.aol.com>
Source record: 30510

<< Where do I take the feed point to the antenna from? I realise I don't have a hope in hell of matching 140 ohms without an "L network" or whatever, but is that really necessary? Could I get away with taking the antenna feed direct from a tap off the tank coil? >>

Paul-

You could use a tap, or add a winding to the coil. If it could be assumed that the antenna was 50 Ohms, the impedance ratio needed would appear to be 140/50, or 2.8. Therefore turns ratio would be 2.8 * 2.8, or almost 8:1. In other words, if the coil had 8 turns, the 50 Ohm tap would be at one turn.

With a second winding, the capacitor would not be needed to block DC. However, it would be a good idea to include a variable capacitor as Clive suggested, to tune out any series reactance.

Remember that the telescopic whip is only one half of the antenna system. You need some kind of counterpoise (ground) to balance it.

73, Fred, K4DII

4044. Anybody have a 10M rig not being used?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 16:54:38 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <kVIAb.1696$tU6.2650@reggie.win.bright.net>
Source record: 30511

Looking for one (maybe two) Uniden HR2510 single band 10M rigs. Intended use as I.F. rig for microwave transverters. I need to build two complete systems so I'll have somebody to talk to! (I already have one 2510 for my use, need another for the other end. Would also consider the HTX-100 Radio Shark rig...

Thanks!

--
Scott N0EDV
Gotta Fly or Gonna Die
http://corbenflyer.tripod.com
Building RV-4

4045. general radio gr 1452

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 17:29:08 UTC
From: Atlas <shf@pandora.eb>
Message-ID: <ErJAb.851$aS.165132614@hestia.telenet-ops.be>
Source record: 30512

Hello,

does anyone have some information about a general radio GR-1452 programmable attenuator with max 79 dB of attenuation?
What is the frequency range an what is the maximum input level.
I can get my hand on one of those,but i want to know if it suits my needs.

I want to use is with 27 dBm input level and want to use is for 70 cm and 23 cm.
Every information is welcome.The internet gave no real results (exept where to buy it).

Please reply in this group because the e-mail adress is not valid anymore (Spam)

TNX
Bart

4046. Re: Ovenaire Model OSC-85-11

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 17:43:26 UTC
From: fmmck@aol.com
Message-ID: <20031207124326.04265.00000332@mb-m29.aol.com>
Source record: 30513

<< Does anybody have, or know where I can get, the
spec.'s and pin-out for an old Ovenaire model
OSC-85-11 10MHz oven controlled oscillator module?
It came out of an old junk Fluke model 7261A
frequency counter, >>

Leland-

I have the Fluke 7220A counter that uses the same oven timebase options as the 7261. According to the 7220 manual, options 131 and 132 ovens are both used on the 7261. I have the Ovenaire OSC 85-22, Fluke option 132. Take a look at a chart on the bottom of the 7261, to see which option is checked.

If the OSC-85-11 is from Option 131, it is the "Low Power Oven Time Base". The oscillator is Fluke part number 516116.

Counter Specifications with this option:
Nominal Frequency 10 MHz
Aging Rate +/- 1X10e-7/month*
Accuracy with Temperature +/- 1X10e-7, zero to 40 degrees C
Line Voltage +/- 2X10e-8 for 10% line variation
Warmup 10 minutes +/- 5X10e-7, 20 minutes +/- 3X10e-8
Battery Operation +/- 5X10e-8.
* after five days continuous operation

There are five leads, three near the center and two near the end of the OSC 85-22. In the 7220 diagram, pins 1 and 13 are connected to ground, pins 6 and 8 to +5 Volts and pin 7 is output. From this, I would guess that the center pin of the three together, was the output. The manual doesn't have PCB layouts in sufficient detail to see which pins go where, so I would have to disassemble the counter to find out for sure. Perhaps an Ohmmeter check of the three pins with respect to ground, would ease your mind.

73, Fred, K4DII

4047. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 18:25:51 UTC
From: averyfineman@aol.com
Message-ID: <20031207132551.21232.00002572@mb-m13.aol.com>
Source record: 30514

In article <7g66tvovpg0net6bel900aier8po6uogas@4ax.com>, Bill Turner
<noway@nohow.com> writes:

>On Sun, 07 Dec 2003 13:55:35 +0200, Paul Keinanen <keinanen@sci.fi>
>wrote:
>
>>One can still argue that the inductance and inductive reactance are as
>>well as the capacitance and the capacitive reactance are still there
>>as separate entities, but we can not measure them separately from
>>terminals of the coil. Thus, this is an artefact of the measurement
>>method.
>
>Not only can you *not* measure them separately, they can not be
>physically separated either, since the parasitic capacitance is always
>present between adjacent windings. I would not call it an artifact of
>the measurement method, but rather an artifact of the coil itself.

Nonsense. General Radio had a nice little formula way back
before 1956 for finding the distributed capacity of an inductor.
It was published in the Green Bible (ITT Reference Data for
Radio Engineers, small format, dark green hard cover). I used it
years ago and earlier this year and many times between.

Write on the whiteboard 100 times: Inductance does not change
with frequency...reactance changes with frequency.

Now if someone actually wants to WIND COILS, I have a little aid
for tiny ones wound on common screw thread forms that was
published in Ham Radio magazine. Has measured Qs over
frequency as well as basic inductance. I'll attach it to private e-mail
(PDF) to anyone that requests it.

Using common screw thread formers and solid wire allows a good
repeatability between bench and application. Forms can be anything
from a 4-40 bolt to a common screw-thread lamp base.

Folks in here are getting too wound up...and coiling to strike. :-)

Len Anderson
retired (from regular hours) electronic engineer person

4048. Re: Max nr of poles in CW-filter ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 19:08:32 UTC
From: Ken Linney <Ken.Linney@btinternet.com>
Message-ID: <bqvtrfcgi1@sparta.btinternet.com>
Source record: 30515

Hi Heikki et al

I have some info from Bill Carver, W7AAZ's article "Why Crystal Filters" and he describes a 16 pole SSB filter and using a "meshing" technique and ended up with an xtal filter with the following spec: Thats impressive!

BW : -3dB @ 2.23 KHz
BW: -6dB @ 2.42 KHz
BW: -60dB @ 2.89 KHz
BW: -80dB @ 3.24 KHz

A Shape factor 1.19 (6:60dB)

And of main interest : 1.8dB insertion loss (50 Ohm)

Now obviously the main criteria are the initial "Q" of the crystals chosen. Bill used DigiKey 4.433Mhz types and bought 100, HC-49 that had an average "Q" of 112,000.

To determine the minimum Q xtal for the application required then refer to the following:

Qmin = Fo / BW

where Qmin in the minimum xtal requirement - but that gives infinite loss definitions!

What Bill has measured for example is that using the above for 2.1 KHz filter centered on 8Mhz then the minimum Q xtals from any batch you have must be at least :

8,000,000 / 2100 = 3,810 and for the 14 pole version that relates to about a 3dB insertion loss. Now for the CW filter! consider 500 Hz at 8Mhz then Qmin would be 16,000 and even a 6-pole Chebychev with Q's of 150,000 would give rise to the overall filter loss of over 12dB's. Depending upon what ripple values you choose then if and a big if these days!! (as cheap xtals are getting worse Q's! whenever I test them!!) back to the story!: If same filter at 500 Hz BW had xtals having Q = 320,000 (you need luck!!) then expect overall filter loss to be 4 - 5 dB.

I had been experimenting (not recently) with xtals on 6.144 Mhz with unloaded Q's of around 100K - must get back to that project as I spent hours checking batches of those two legged critters!!

..... Best wishes

Ken, G3UDA

<msix@oldplato.nmia.com> wrote in message
news:1070173451.306099@newshost03.voicenet.com...
> Heikki wrote:
> >Having built several ladder filters for SSB (8.. 10 MHz, 4 .. 8
poles)
> >with BW abt. 2 kHz (mainly for TX applications) I would like to try
a
> >narrow filter (BW 500 or even less). One thing I am worried about
is
> >the insertion loss. Has anyone any experience regarding the maximum
> >number of poles (= crystals) in such narrow filters. I have seen
designs
> >for SSB with 14 poles but some doubts exist if this would be
excessive
> >in a CW filter.
> >73 de oh2lzi (Heikki)
>
> Heikki - See QST for 8/78, 12/78 and 11/80 for answers.
> If I have room, I put a mini trimmer cap in series with each xtal
> to tune all the xtals to the exact same frequency.
> This helps the bandwidth and reduces the insertion loss.
> 73 W7ZFB

4049. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 19:13:36 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <9kpavRFgv30$EwwJ@jmwa.demon.co.uk>
Source record: 30516
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that Terry Pinnell <terrypinDELETE@dial
.pipexTHIS.com> wrote (in <4226tvc79da7pkbf3hn5943hfvis2oe3tv@4ax.com>)
about 'Winding coils', on Sun, 7 Dec 2003:
>John Devereux <jd1@devereux.me.uk> wrote:
>
>>Bill Turner <noway@nohow.com> writes:
>>
>>> On 6 Dec 2003 13:39:51 -0800, Winfield Hill
>>> <Winfield_member@newsguy.com> wrote:
>>>
>>>> We're talking a small air-coil here.
>>>
>>> Doesn't matter what kind of coil; all coils have a non-linear plot of
>>> either inductance vs frequency OR reactance vs frequency. ALL coils.
>>
>>Well, just about anything is "non-linear" if you measure it accurately
>>enough! But is it really true that the *inductance* of a "small air
>>coil" is "dramatically" non-linear with frequency as you stated?
>
>Intuitively I'd have thought the answer was plainly No, but I'm
>certainly not technically savvy enough to be confident about that. But
>I strongly suspect that the thread is already ovedue an unambiguous
>definition of 'inductance'. Where's John Woodgate when you really need
>him...<g>.
>
I'm here today, but I was away all last week. I don't think I can add
much; small air-cored coils have inductance independent of frequency up
to about half the self-resonant frequency, when deviation begins to be
noticeable. Low-frequency iron-cored coils are quite another matter; the
inductance varies with frequency, voltage, temperature, previous history
and the state of the tide on Europa. Also, it comes in two varieties,
series equivalent and shunt equivalent, and you'd better get the right
one for your problem. As the inductor gets 'worse', at lower
frequencies, the shunt equivalent tends to infinity, which puzzles
students no end.
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4050. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 19:17:08 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <jkMd$cF0y30$EwS3@jmwa.demon.co.uk>
Source record: 30517
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that Bill Turner <noway@nohow.com>
wrote (in <rn26tv05auinps2a1pf44qmk6g8j3h2deh@4ax.com>) about 'Winding
coils', on Sun, 7 Dec 2003:
>Making a plate choke which covers all frequencies from 160
>through 10 meters (including the WARC bands) with sufficient inductance
>but without self-resonances in any ham band is difficult to the point of
>being nearly impossible. Many amplifier designers give up trying to
>design such a choke and simply switch part of the inductance in or out
>of the circuit depending on which band is selected.

This is a 1920s problem. Just as you parallel capacitors of different
type, electrolytic, metallized foil and ceramic, to get a wideband
component, so you put inductors of different construction in series to
get a wide band component. You can wind them all on a bit of wax-
impregnated dowel if you like. (;-)
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4051. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 19:24:20 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <lkoc$pFk530$Ewzm@jmwa.demon.co.uk>
Source record: 30518
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that John Devereux <jd1@devereux.me.uk>
wrote (in <4qwcr4t1.fsf@devereux.me.uk>) about 'Winding coils', on Sun,
7 Dec 2003:
>I'm afraid you are using the word "inductance" in a
>different way from everyone else :)

It would be better to say 'equivalent inductance', being the value L -
1/(w^2C). L = true (series equivalent) inductance, C = self-capacitance
(treated as lumped in parallel with L) and w = 2[pi]f = angular
frequency.

Resistance ignored, as irrelevant at this level.
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4052. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 19:26:18 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <gE3dH2Fa730$EwxV@jmwa.demon.co.uk>
Source record: 30519
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that Bill Turner <noway@nohow.com>
wrote (in <4h96tvcrjois8buki38ovhtlfljidipmi3@4ax.com>) about 'Winding
coils', on Sun, 7 Dec 2003:

>Both statements are true and easily provable. A simple air core coil
>which measures one microhenry at a low frequency may have an inductance
>of several millihenries (or even henries) when near its self resonant
>frequency.

This is what happens to the *parallel equivalent* inductance. The series
equivalent goes down as the frequency increases, and goes to zero at
resonance.
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4053. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 19:39:33 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBF8EC29.9063%outhouse@midcoast.com>
Source record: 30520

I was very interested in all that talk about how much Tektronics sucks although after reading most of it I don't think it reflects my concerns.

I just recently bought an old 465 and am learning to use it and I was wondering if with so many knowledgable folks somebody could recommend a good book which would teach the intricacies of using this level of equipment. Hopefully with good hands on examples and not on a trivial level which tells me to wear eye protection when using any Tektronics product.

Regards from snowy Maine

Uwe

4054. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 19:52:47 UTC
From: KL=?ISO-8859-1?B?2A==?=S <kl0s@cox.net>
Message-ID: <BBF8EF3F.32176%kl0s@cox.net>
Source record: 30521

Here are three books that are pretty good:

Hands-On guide to Oscilloscopes by Barry Ross
McGraw-Hill
ISBN 0-07-707818-7

The Complete Book of Oscilloscopes 2nd Edition by Stan Prentiss
Tab Books
ISBN 0-8306-3908-X

and

Troubleshooting with your Triggered-Sweep Oscilloscope by Robert Goodman
Tab Books
ISBN 0-8306-3891-1

I like Ross' the most for basic explanations.

GL!

Dino KLï¿½S/4

4055. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 20:00:37 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD38711.A32D882@rica.net>
Source record: 30522
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote:

> You are speaking in *practical* terms, which is fine. It's true that at
> relatively low frequencies, well below the self-resonant point, coils
> appear to have constant inductance. No argument there. The discussion
> came about because someone asserted that inductance was a constant,
> REGARDLESS of frequency, and that is just not true.

I disagree. The inductive component of the impedance remains
essentially constant through resonance. What is non ideal about the
inductor is that it does not exhibit just inductance, but a parallel
combination if inductance and capacitance. Ignoring the capacitance
and calling the effect variable inductance is just not as accurate a
way to describe what is going on.

--
John Popelish

4056. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 20:01:49 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD3875C.B277A04D@rica.net>
Source record: 30523
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote:

> That will work, no doubt. My point was that it takes some serious
> engineering and careful testing; you can't just wrap some wire on a form
> and expect it to work correctly across a wide range of frequencies.

This is a generality I can agree with.

--
John Popelish

4057. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 20:04:21 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD387F5.99DE6A56@rica.net>
Source record: 30524

Bill Turner wrote:
>
> On 07 Dec 2003 18:25:51 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
> > Write on the whiteboard 100 times: Inductance does not change
> > with frequency...reactance changes with frequency.
>
> ----------
>
> Not true. Inductance and reactance are related by the formula
> XsubL = 2 pi F L. If XsubL has changed, then so has the inductance, and
> vice versa.
>
> How could you possibly define it otherwise?

But the impedance of a coil near resonance is not well described as an XsubL. It is a combination of XsubL and XsubC, including their different phase shifts.

You cannot just measure the magnitude of impedance of a coil and assume that you are measuring pure XsubL. You have to prove that this is the case by some other measurement, like the phase relationship between voltage and current.

--
John Popelish

4058. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 20:20:28 UTC
From: Ghost Writer <Spamfree@Spamfree.com>
Message-ID: <gYLAb.38857$A%3.524959@ord-read.news.verio.net>
Source record: 30525

"KL�S" <kl0s@cox.net> wrote in message news:BBF8EF3F.32176%kl0s@cox.net...
> Here are three books that are pretty good:
>
> Hands-On guide to Oscilloscopes by Barry Ross
> McGraw-Hill
> ISBN 0-07-707818-7
>
> The Complete Book of Oscilloscopes 2nd Edition by Stan Prentiss
> Tab Books
> ISBN 0-8306-3908-X
>
> and
>
> Troubleshooting with your Triggered-Sweep Oscilloscope by Robert Goodman
> Tab Books
> ISBN 0-8306-3891-1
>
> I like Ross' the most for basic explanations.
>
> GL!
>
> Dino KL�S/4
>

Rad Shack sold one a few years ago or better also. Maybe not the best, but not bad. I've seen Oscope how to's at many flea and ham swaps. 25 cents and up for a readable copy. Sams PhotoFact company still sells some sort of manual too - I THINK!
G.W.

4059. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 20:22:10 UTC
From: John Devereux <jd1@devereux.me.uk>
Message-ID: <vfospedp.fsf@devereux.me.uk>
Source record: 30526
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner <noway@nohow.com> writes:

> On Sun, 07 Dec 2003 15:54:05 +0000, John Devereux <jd1@devereux.me.uk>
> wrote:
>
>>No, you are talking about the *reactance* ("reactive impedance"). We
>>have been talking about the *inductance* ! They are not the same
>>thing.
>
> ----------
>
> No one ever said they were the same thing. They are related to each
> other by the formula XsubL = 2 pi F L. That is a direct, linear
> relationship.

The important thing here is the "subL". It applies only to the
inductive part of the overall reactance.

> Are you saying that formula is correct as some (low) frequency but
> incorrect at another (high) frequency?

No, it is always correct. It is practically the *definition* of
inductance so it had better be!

> I'll say it another way: Inductance and reactance are directly related
> to each other by the (2 pi F) factor. Given one (inductance or
> reactance) you can calculate the other. There is no other way.

No. Because the "reactance" (without the sub-L) now has both inductive
and capacitive terms. When you measure the *overall* reactance of a
real life coil you are measuring the effect of *both* terms. You
cannot measure this combined reactance and then just plug the number
into a formula which ignores the capacitive part. You have to use the
general formula which include the self capacitance.

Ignoring the coil resistance (i.e. we have infinite Q) the correct
formula is something like:

```
Xtotal = 1
--------------
|1/Xc| - |1/Xl|
```

Where Xc = 1/(2 pi F C) and Xl = 2 pi F L.

Hopefully you can see how Xtotal behaves as you describe, even with
constant L.

--

John Devereux

4060. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 20:53:05 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <5n07tv03ghs107b3gtj13u63f3k8lac6cc@4ax.com>
Source record: 30527
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 07 Dec 2003 04:31:46 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Sun, 07 Dec 2003 13:55:35 +0200, Paul Keinanen <keinanen@sci.fi>
>wrote:
>
>>One can still argue that the inductance and inductive reactance are as
>>well as the capacitance and the capacitive reactance are still there
>>as separate entities, but we can not measure them separately from
>>terminals of the coil. Thus, this is an artefact of the measurement
>>method.
>
>Not only can you *not* measure them separately, they can not be
>physically separated either, since the parasitic capacitance is always
>present between adjacent windings. I would not call it an artifact of
>the measurement method, but rather an artifact of the coil itself.

The problem with circuits containing both inductances and capacitances
is that in one kind of reactance, there is a +90 degree phase shift
and the other with -90 degree phase shift. Thus, when these are
combined, they partially cancel each other, producing different
magnitudes and some phase shift between -90 and +90 degrees. If only
the resultant magnitude is used (and the resultant phase is ignored),
this would give the false impression that the inductance changes with
frequency.

Instead of using the resultant reactance on some specific frequency,
the inductance could be measured in a different way.

When a DC current I is flowing through and inductance L, the energy
stored in the inductance is W = I*I*L/2. This could be used to
determine the inductance L.

One way to measure the energy W would be to cut the DC current through
L and after disconnecting I, dissipate the energy in some kind of
integrating load across L. Even if there is a significant capacitance
across L, no energy is initially stored in C, since during the steady
state condition, the current I would be flowing through L, but there
would be no voltage difference between the ends of L (assuming R=0),
thus all energy in this parallel resonance circuit is stored in L.

After disconnecting the DC current I, the energy would bounce back
between L and C, but finally it would be dissipated by the external
load. The same energy would be dissipated in the external load even if
C did not exist (assuming zero losses).

Thus using this measurement method, the value of L would be the same regardless if C is present or not.

Thus, getting a frequency dependent L, is a measurement artifact in the method that you are using.

Paul OH3LWR

4061. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 21:20:40 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <ba67tvoosdr9h5fch4d365pkq79r2lsj18@4ax.com>
Source record: 30528
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 7 Dec 2003 19:13:36 +0000, John Woodgate
<jmw@jmwa.demon.contraspam.yuk> wrote:

>Low-frequency iron-cored coils are quite another matter; the
>inductance varies with frequency, voltage, temperature, previous history
>and the state of the tide on Europa.

I assume that you are referring to DC biased iron cores (without an
air gap) or some high permeability ferrites with a strong DC bias
current. These do indeed show a variation of inductance depending on
the DC bias current.

Paul OH3LWR

4062. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 21:28:52 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <oYMAb.455385$Tr4.1269345@attbi_s03>
Source record: 30529

Skip -

If you are build an amplifier .. I would use Ian's boards -
great protection, easy to assemble and takes your guess work out of older
designs

Greg
w9gb

"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message
news:htUoYsA+Xs0$EAyL@ifwtech.co.uk...
> Skip wrote:
> >Hello List,
> >
> >I am looking for a source for a Zener Diode. I am building an HF
> >Amplifier using a GS-35b and the schematic I'm using to build the amp
> >calls for a 36v 50w zoner diode for bias. Here in New Zealand there
> >does not seem to be anyone with anythings close to what I need.
> >
> > Also, would it be possible to string a few lower volt watt zeners
> >together to come up with a close value to what is needed?
>
> A simple shunt regulator using a TL431 and a pass transistor will give
> adjustable voltage and better regulation than a large zener diode, and
> is actually cheaper.
>
> There's a lot of information on my website, at:
> http://www.ifwtech.co.uk/g3sek/boards [some commercial content]
>
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
>

4063. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 21:30:33 UTC
From: John Devereux <jd1@devereux.me.uk>
Message-ID: <r7zgpb7q.fsf@devereux.me.uk>
Source record: 30530
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner <noway@nohow.com> writes:

> On Sun, 07 Dec 2003 20:00:37 GMT, John Popelish <jpopelish@rica.net>
> wrote:
>
>>The inductive component of the impedance remains
>>essentially constant through resonance. What is non ideal about the
>>inductor is that it does not exhibit just inductance, but a parallel
>>combination if inductance and capacitance. Ignoring the capacitance
>>and calling the effect variable inductance is just not as accurate a
>>way to describe what is going on.
>
> ----------
>
> Your point is well taken, but look at it this way:
>
> Say I give you a black box containing an inductor with two terminals on
> the box. If I have you measure the inductance at one and only one
> frequency, there is no way for you to know whether it is an inductor
> operating well below its self-resonance point, or an inductor operating
> near its self-resonance point. To the outside world, at ONE frequency,
> they appear identical; same reactance, same inductance.

No, you are neglecting the phase. The two cases would have very
different phase shifts (the current would be out of phase with the
applied voltage, by different amounts), depending on whether you were
below, at, or above resonance.

> And yet, at some other (lower) frequency, they will measure quite
> differently. This is the basis for my observation that inductance does
> indeed vary with frequency, based on the parasitic capacitance present
> in all inductors.
>
> And yes, if you can factor out the self-capacitance, then the inductance
> would indeed be constant with frequency. The problem is, no one has
> ever figured out how to do that with an actual coil. It can't be done.

Yes it can. This is what a network analyser or impedance bridge does,
(as I understand it, I've never actually had to use either!).

At low frequencies the black box would be inductive. The current would
lag the voltage. At resonance the voltage would be in phase with the
current (the black box would appear resistive). At high frequencies
the current would lead the voltage. It would appear capacitive.

--

John Devereux

4064. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 21:35:22 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD39D49.BFEB80FE@rica.net>
Source record: 30531
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote:

> Your point is well taken, but look at it this way:
>
> Say I give you a black box containing an inductor with two terminals on
> the box. If I have you measure the inductance at one and only one
> frequency, there is no way for you to know whether it is an inductor
> operating well below its self-resonance point, or an inductor operating
> near its self-resonance point. To the outside world, at ONE frequency,
> they appear identical; same reactance, same inductance.

Not if I can measure both the magnitude and phase relationship of the
device.

If I can only measure the magnitude of impedance at one frequency, I
can't even tell if the device is predominately inductive, capacitive
or resistive. So it would be a bit silly to call that magnitude an
inductive impedance.

> And yet, at some other (lower) frequency, they will measure quite
> differently. This is the basis for my observation that inductance does
> indeed vary with frequency, based on the parasitic capacitance present
> in all inductors.

Only because you are willing to confuse complex impedance with
inductive reactance.

> And yes, if you can factor out the self-capacitance, then the inductance
> would indeed be constant with frequency. The problem is, no one has
> ever figured out how to do that with an actual coil. It can't be done.

You are projecting your limitations onto others.

--
John Popelish

4065. Circuit Board Specialists Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 21:38:43 UTC
From: "Clair J. Robinson" <cjr.nocrap@visi.com>
Message-ID: <3FD39DE3.3DE6871A@visi.com>
Source record: 30532

I recently came across an unbuilt kit from the subject company. It is for a "Universal QRP Transmatch". The front panel measures 2 3/4 by 5 and is etched from circuit board material and has the ARRL logo either side of the controls. Unfortunately, I have no assembly instructions but I do have the invoice and know that it was shipped on 3/12/82. I search of ARRL publications for the previous 10 years produced no match but the QRP transmatch article in QST for October 1973 may have been the inspiration.

The QST design used 3 toroidal tapped inductors but there is just one core in the kit. Both designs used a 12 position switch to select the inductance. As I seem to be missing any knobs that would fit the miniature variable capacitors, I may also be missing the other cores but I don't think think so. I am at a bit of a loss with regard to the inductance winding specs though I guess I could eventually find something that works by trial and error.

Does anyone have any info on this kit? Or on Circuit Board Specialists? They don't seem to be in business anymore from what I can tell.

Thanks in advance. If you wish to reply direct, remove the obvious extra element from my email address.

73, CJ K0CJ

4066. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 21:48:25 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <ll57tvgs7o4985vod7viokvpt6tkgig6r4@4ax.com>
Source record: 30533

On Sun, 07 Dec 2003 11:10:46 -0800, Bill Turner <noway@nohow.com>
wrote:

>On 07 Dec 2003 18:25:51 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
>> Write on the whiteboard 100 times: Inductance does not change
>> with frequency...reactance changes with frequency.
>
>_____
>
>Not true. Inductance and reactance are related by the formula
>XsubL = 2 pi F L. If XsubL has changed, then so has the inductance, and
>vice versa.
>
>How could you possibly define it otherwise?

I don't understand this all-important formula you keep quoting. Kindly
explain what "sub" is and clearly re-state the formua in unambiguous
terms.

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4067. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 22:56:42 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBF91A59.9078%outhouse@midcoast.com>
Source record: 30534

in article BBF8EF3F.32176%kl0s@cox.net, KLï¿½S at kl0s@cox.net wrote on
12/7/03 2:52 PM:

> Here are three books that are pretty good:
>
> Hands-On guide to Oscilloscopes by Barry Ross
> McGraw-Hill
> ISBN 0-07-707818-7
>
> The Complete Book of Oscilloscopes 2nd Edition by Stan Prentiss
> Tab Books
> ISBN 0-8306-3908-X
>
> and
>
> Troubleshooting with your Triggered-Sweep Oscilloscope by Robert Goodman
> Tab Books
> ISBN 0-8306-3891-1
>
> I like Ross' the most for basic explanations.
>
> GL!
>
> Dino KLï¿½S/4
>
Thanks soo much, but it may have to be a used book from a hamfest or such,
as another poster here suggested, the first book on the list goes for $120!

Older books are also more likely not to talk much about the new fancy
possibilities a 465 doesn't have anyways.

regards

Uwe
KB1JOW

4068. Re: Data for MSA0304 MMIC

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 23:19:57 UTC
From: Lasse SM5GLC <no_email@today.sri>
Message-ID: <q9d7tv084qsvevo8dgp52hjl31vn8dhb5s@4ax.com>
Source record: 30535

It took me 5 seconds to load up Google and type in "msa0304 data"
http://hamradio.lakki.iki.fi/new/Datasheets/RF/msa0304.pdf

/SM5GLC

On Tue, 02 Dec 2003 00:34:24 GMT, la8ak.xnd@online.no (J M Noeding)
wrote:

>Hi
>
>have some problems to find data for MMIC MSA0304,
>only need to know the bias resistor for Vcc=9V and/or 12V, IP3 and
>gain
>
>need it for a general purpose noise source with MPS918 to cover
>500-25000kHz band for selectivity tests. The reason for using this old
>device is that I already got some douzens
>
>what sort of narrow band noise evel could I expect in a 1kHz BW from
>MPS918 emitter-base-junction noise source?
>
>73 es hpe hr fm u sn de
>Jan-Martin, LA8AK
>http://home.online.no/~la8ak/d.htm

4069. Re: Antenna design choice

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-07 23:57:29 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FD3BE24.94EBF9B@bellatlantic.net>
Source record: 30536

Hulen Smith wrote:
>
> >
> > > Use the pipe, all other conditions being equal.
> >
> > > Whether hollow or solid, the larger the diameter, the
> > > better off you are for that antenna. It is not a
> > > thickness issue. A solid 15 mm vs a hollow 15mm diameter
> > > offers no advantage, RF wise. But in a 15mm diameter versus
> > > a 3mm diameter comparison, the 15mm wins every time.
>
> Assuming you shorten the elements and you want to sacrifice (small) gain
> for bandwidth !!!
>

What are you talking about? Numbers please.

> WB5UOI

4070. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 00:47:40 UTC
From: KL=?ISO-8859-1?B?2A==?=S <kl0s@cox.net>
Message-ID: <BBF9345C.322A5%kl0s@cox.net>
Source record: 30538

Wow! I picked that book up at a hamfest brand new a few years back for $21.95, the list price.....I don't know what is so magical about this book that copies are selling above $100 (in some cases way above...). It's a great reference but I wouldn't pay more than cover price for it.

Sorry 'bout that, I had no idea.....just looked at the cover price when I was listing recommendations.

4071. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 00:49:45 UTC
From: john_c@tpg.com.au
Message-ID: <3fd3c77f.3901266@News.CIS.DFN.DE>
Source record: 30537
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Sun, 07 Dec 2003 16:16:26 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Sun, 07 Dec 2003 21:35:22 GMT, John Popelish <jpopelish@rica.net>
>wrote:
>
>>You are projecting your limitations onto others.
>
>_____
>
>I do have one limitation: I don't take insults from people I'm trying
>to have a discussion with.
>
>Bye.
>
>--
>Bill, W6WRT
>

Hello John, Hello Bill,
c'mon chaps, kiss and make up.
This sort of thing happens all the time.
Someone asks an innocent question and later on down
the discussion, two highly respected fellows fall out.
So sad, because readers like me and others, who are
trying to learn something, miss out when the discussion
stops because of a silly personal remark. What a pity! :-(
Regards,
John Crighton
Sydney

4072. Icom 251A All Mode Problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 00:52:09 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <%UPAb.1706$tU6.2751@reggie.win.bright.net>
Source record: 30539

Picked up a used IC-251A 2M all mode rig a few weeks ago. I left the radio on today and when I went back to it the evening, the display was blank and by listening, it appeared that it could not be tuned. Turned rig off and back on. No joy. Unplugged from wall outlet. Full joy! obviously the rig is partially powered up as long as it's plugged into the wall. Anybody see this problem before? If so, what was your fix. Don't really feel like tearing into full blown troubleshooting. Guess I would start at the power supply, but most likely trouble is in digital logic area somewhere, or around CPU. Bummer. Hate when that happens...

Scott
N0EDV

--
Scott
Gotta Fly or Gonna Die
http://corbenflyer.tripod.com
Building RV-4

4073. Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 00:55:46 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <hli7tvg7hu414na34vniuk81ljn765r0ru@4ax.com>
Source record: 30540
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hi guys,

How does one go about measuring (with a reasonable degree of
accuracy) the radiation resistance of antennas? And when I say
"antennas" I mean any radiator from a balanced dipole through to a
random length of wet string with a damp matchbox for a ground plane.
Must it be done with a noise bridge or is there another way that
requires no special test equipment (aside from a scope/sig.gen etc.).
I'm primarily interested in checking out highly *non*-ideal antennas
for use in non-ideal situations/locations.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4074. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 00:58:36 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FD3CC75.C28E4D8C@bellatlantic.net>
Source record: 30541

Bill Turner wrote:
>
> On 07 Dec 2003 18:25:51 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
> > Write on the whiteboard 100 times: Inductance does not change
> > with frequency...reactance changes with frequency.
>
> ----------
>
> Not true. Inductance and reactance are related by the formula
> XsubL = 2 pi F L. If XsubL has changed, then so has the inductance, and
> vice versa.

Say what???? You have two variables that satisfy the equation:
XsubL and F
The equation does not mean that L varies!!!!!!!!!!

>
> How could you possibly define it otherwise?
>
> --
> Bill, W6WRT

4075. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 01:12:33 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <tmj7tvkcfiav2hnjo0hf8ctvco1oe4amkr@4ax.com>
Source record: 30542

On Sun, 07 Dec 2003 16:14:16 -0800, Bill Turner <noway@nohow.com>
wrote:

>I use the "sub" because ascii doesn't have a lower-case L. The XsubL is
>merely the reactance of the inductor. If I was using Word or some other
>word processor I would write capital X with a subscript L.
>
>In plain English: The reactance of a coil is equal to 2 times pi times
>the frequency in Hz times the inductance in henries.
>
>Got it?

Yes, "got it." Unfortunately it doesn't explain your hair-brained
theory of variable inductance within a fixed inductor.
In fact the effect you've been trying to decribe appears to be no more
than an esoteric and practically-insignificant technicality - *if*
indeed it exists at all.

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4076. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 01:21:11 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <MJmdnZWgr70VTE6i4p2dnA@comcast.com>
Source record: 30543

The question wasn't so much ZENER so much as it was BIAS -- the LM317HV or TL783 will go much higher than an LM317.

Jack
"Ian White, G3SEK" <G3SEK@ifwtech.co.uk> wrote in message news:KQsyXOIc0z0EAl@ifwtech.co.uk...
> Bill Turner wrote:
> >On Sun, 7 Dec 2003 07:24:04 -0500, "John Walton" <jdwalton@comcast.net>
> >wrote:
> >
> >>or an LM317HVT with PASS transistor
> >
> The original question was about a zener diode, ie a shunt regulator. I
> wasn't aware that a 317 plus a transistor could be configured to emulate
> a zener... can it?
>
> The TL431 certainly can.
>
>
> >_____
> >
> >If you're going to use such things, you must protect them against
> >inadvertent arcs. One good arc and they will be history.
>
>
> Normally an arc from the B+ supply of a grounded-grid triode is no
> threat to the cathode bias device. Arcs inside the tube will ground out
> to the grid, and external arcs to the chassis; and then the current
> flows back to B-minus. The cathode and the bias device are not part of
> that current path, so the bias device is not at risk.
>
> The exception is if an internal arc is severe enough to burn right
> though the grid (I've seen that in a mesh-grid tube) or if the current
> is high enough to drive the local grid potential positive. Then some of
> the arc current - perhaps tens of amps, peak - will flow down through
> the cathode. In such extreme cases, no bias device is likely to
> survive... at least, not without some additional protection.
>
> That's why, whatever bias device you use, an 80-cent varistor connected
> from cathode to chassis is a very good investment.
>
>
> > A big, fat
> >zener on the other hand, is relatively immune to such abuse.

>
> "Relatively" in this context is hard to judge. In most cases, the bias
> device survives because it wasn't actually under threat - see above. If
> a device does fail, it's only guesswork to say how a different bias
> device would have fared in the same amplifier.
>
> A more reliable picture emerges from a larger number of amplifiers.
> There are more than 350 Triode Boards out in the field, with tubes
> ranging from the 2C39 to the 3CXP5000, and they all use basically the
> same TL431/TIP147 circuit protected by a varistor. Between them, these
> boards have seen a lot of arcs, and there's no indication that the bias
> circuit is notably fragile. Certainly there are occasional failures -
> but in those cases it seems likely that a big, fat zener wouldn't have
> survived either.
>
>
> --
> 73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
> Editor, 'The VHF/UHF DX Book'
> http://www.ifwtech.co.uk/g3sek

4077. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 01:48:50 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <96qdnfWjUe0eRU6iRVn-uA@comcast.com>
Source record: 30544

"Uwe Langmesser" <outhouse@midcoast.com> wrote in
message
news:BBF8EC29.9063%outhouse@midcoast.com...
> I was very interested in all that talk about how
much Tektronics sucks
> although after reading most of it I don't think
it reflects my concerns.
>
> I just recently bought an old 465 and am
learning to use it and I was
> wondering if with so many knowledgable folks
somebody could recommend a good
> book which would teach the intricacies of using
this level of equipment.

Here's a thought for you. If you don't get QST
then you should sign up and get it. Every month
they have a tutorial on basic electronics using
your basic meter, function generator, scope etc to
make measurements. I would assume from your
comments that you don't have much experience using
test equipment so these tutorials are a good way
for you to learn and have some fun doing it too.

A second idea would be to check out your local
technical college or university library. They just
may have books that cover the use of a scope for
general trouble shooting of stereos, TV's etc.
That would be a good way to learn the many ways a
scope can be used and it may not cost you a penny
to check-out the books for home study.

Good luck;

--
Leland C. Scott
KC8LDO

ARRL Member
NCI Member

Charter member of the
Lawrence Technological University
Wireless Society W8LTU

4078. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 01:53:33 UTC
From: Wes Stewart <n7ws@_arrl.net>
Message-ID: <ifl7tvonc3agvmcb82nmcl4isalfncp400@4ax.com>
Source record: 30545
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 08 Dec 2003 00:55:46 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

|
|Hi guys,
|
|How does one go about measuring (with a reasonable degree of
|accuracy) the radiation resistance of antennas? And when I say
|"antennas" I mean any radiator from a balanced dipole through to a
|random length of wet string with a damp matchbox for a ground plane.
|Must it be done with a noise bridge or is there another way that
|requires no special test equipment (aside from a scope/sig.gen etc.).
|I'm primarily interested in checking out highly *non*-ideal antennas
|for use in non-ideal situations/locations.

This was best posted to rec.radio.amateur.antennas but...

For ordinary wire antennas operated independent of ground and without loading coils, the radiation resistance is very close to the resistive part of the feedpoint impedance. Any number of instruments can measure this with reasonable accuracy. A noise bridge or some of the popular impedance bridges (AEA CIA, MFJ, etc) can do it.

If the antenna has loading coils, or is operated against ground, then the losses in those (sometimes greatly) affect the measurement.

In either case, "special" equipment in the sense that it's more than a scope and signal generator *is* required. Very often transmission lines are a part of the equation and their effects need to be accounted for as well.

I suspect that the more non-ideal the antenna, the more difficult the measurement.

Wes N7WS

4079. Re: Icom 251A All Mode Problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 02:00:13 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <9PKdneCM95FwRk6iRVn-sQ@ctc.net>
Source record: 30546

"> Picked up a used IC-251A 2M all mode rig a few weeks ago. I left the
radio
> on today and when I went back to it the evening, the display was blank and
> by listening, it appeared that it could not be tuned. Turned rig off and
> back on. No joy. Unplugged from wall outlet. Full joy! obviously the
rig
> is partially powered up as long as it's plugged into the wall. Anybody
see
> this problem before? If so, what was your fix. Don't really feel like
> tearing into full blown troubleshooting. Guess I would start at the power
> supply, but most likely trouble is in digital logic area somewhere, or
> around CPU. Bummer. Hate when that happens...

While this probably does not have anything to do with your problem. The
Icom rigs of that series have a logic circuit that is running on a battery .
If the battery goes dead the rig will quit and you have to send it back to
Icom for a new battery and new programming. There is (was ?) someone that
makes a memory circuit that does not depend on the battery.

4080. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 02:09:51 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD3DD9E.9D75D0C4@rica.net>
Source record: 30397
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Bill Turner wrote:
>
> On Sun, 07 Dec 2003 21:35:22 GMT, John Popelish <jpopelish@rica.net>
> wrote:
>
> >You are projecting your limitations onto others.
>
> --
>
> I do have one limitation: I don't take insults from people I'm trying
> to have a discussion with.
>
> Bye.

Bill, I sincerely apologize for hurting your feelings unintentionally
with my clumsy comment. I should have kept strictly to inductors and
away from anything that could have been interpreted as a personal
attack.

You may not have an impedance bridge (a limitation) but I and others
do have one and they separate the components of an impedance,
especially if you take two or more readings at different frequencies
and solve a bit of math.

--
John Popelish

4081. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 02:33:07 UTC
From: wa44nbi@aol.com
Message-ID: <20031207213307.26239.00000412@mb-m06.aol.com>
Source record: 30398

Crystals will operate on a number of fo's.
I use three oscillators to test them and each gives a different fo.
Be careful and keep the drive level down as some oscillators can cause damage.
Bob
WA4NBI

4082. Re: Anybody have a 10M rig not being used?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 02:40:53 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FD3E46C.5C01F1E4@bellatlantic.net>
Source record: 30399

Scott wrote:
>
> Looking for one (maybe two) Uniden HR2510 single band 10M rigs. Intended
> use as I.F. rig for microwave transverters. I need to build two complete
> systems so I'll have somebody to talk to! (I already have one 2510 for my
> use, need another for the other end. Would also consider the HTX-100 Radio
> Shark rig...
>
> Thanks!
>
> --
> Scott N0EDV
> Gotta Fly or Gonna Die
> http://corbenflyer.tripod.com
> Building RV-4

Those go for ~ $150 at hamfests. I've seen them for
as low as $50 (broken) and as high as $225.

4083. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 04:26:15 UTC
From: James <jimbo@nospam.net>
Message-ID: <3FD3FD65.C58F0458@nospam.net>
Source record: 30400

Hi,

Try this book title common on ebay about $ 20 usd or less.

Use of the Oscilloscope

a programmed text by charles h. roth. Jr.

1970 prentice hall isbn 70-120718 11th printing.

It is a self study type manual with questions and answers
along with explanation and use of the scope functions.

73 jimbo

KLï¿½S wrote:

> Wow! I picked that book up at a hamfest brand new a few years back for
> $21.95, the list price.....I don't know what is so magical about this book
> that copies are selling above $100 (in some cases way above...). It's a
> great reference but I wouldn't pay more than cover price for it.
>
> Sorry 'bout that, I had no idea.....just looked at the cover price when I
> was listing recommendations.

4084. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 05:10:02 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBF971DE.908C%outhouse@midcoast.com>
Source record: 30401

in article 20031207213307.26239.00000412@mb-m06.aol.com, WA44NBI at wa44nbi@aol.com wrote on 12/7/03 9:33 PM:

> Crystals will operate on a number of fo's.
> I use three oscillators to test them and each gives a different fo.
> Be careful and keep the drive level down as some oscillators can cause damage.
> Bob
> WA4NBI

I had to laugh when I read your post, it sort of reflects my experience, eg. every experiment gives you new and unexpected answers.

And I thought it was only me...

Uwe

4085. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 06:15:41 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <UDzgG7ANcB1Ew6@jmwa.demon.co.uk>
Source record: 30402
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that Paul Keinanen <keinanen@sci.fi>
wrote (in <ba67tvoosdr9h5fch4d365pkq79r2lsj18@4ax.com>) about 'Winding
coils', on Sun, 7 Dec 2003:
>On Sun, 7 Dec 2003 19:13:36 +0000, John Woodgate
><jmw@jmwa.demon.contraspam.yuk> wrote:
>
>>Low-frequency iron-cored coils are quite another matter; the
>>inductance varies with frequency, voltage, temperature, previous history
>>and the state of the tide on Europa.
>
>I assume that you are referring to DC biased iron cores (without an
>air gap) or some high permeability ferrites with a strong DC bias
>current. These do indeed show a variation of inductance depending on
>the DC bias current.
>
Not only that, the inductance can vary with the AC voltage applied, most
notably when saturation is approached, but it can also happen with
silicon iron at very low inductions. Nickel-iron alloys don't normally
show this 'bottom bend' effect.
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4086. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 07:33:45 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <Hz8Bf+BZlC1$EAec@ifwtech.co.uk>
Source record: 30407

John Walton wrote:
>The question wasn't so much ZENER so much as it was BIAS -- the
>LM317HV or TL783 will go much higher than an LM317.
>
The original question was specifically about cathode bias for a grounded-grid power amplifier. That application requires a two-terminal shunt regulator like a zener diode.

If there is a way of configuring a 317-family series regulator and a power transistor as an adjustable two-terminal shunt regulator, I'd be genuinely very interested to learn about it.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4087. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 07:48:02 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <d388tvk10h62et5jgei4mdeiorg657r2b4@4ax.com>
Source record: 30403
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 08 Dec 2003 00:55:46 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>
>Hi guys,
>
>How does one go about measuring (with a reasonable degree of
>accuracy) the radiation resistance of antennas? And when I say
>"antennas" I mean any radiator from a balanced dipole through to a
>random length of wet string with a damp matchbox for a ground plane.

Are you really interested in the radiation resistance or are you
actually trying to figure out the efficiency or total radiated power
of the antenna ?

One way would be to first measure the total radiated power. To do
this, you would have to measure the EiRP to all directions and
integrate it. If the measurement is done in the far field, a
calibrated magnetic probe would be enough, but at closer distances,
additionally the electric field would have to be measured with a
reference dipole.

At short wavelengths the antenna can be put on a rotating table but
for instance to measure the radiated power for an LF system, you would
have to fly around in a plane with DGPS navigation and make the
measurements from all directions.

If the antenna has a symmetrical or otherwise well known radiation
pattern, the number of measurements could be greatly reduced.

When you have the total radiated power and then measure the input
power, you can calculate the efficiency and radiating resistance.

Assuming that the radiation resistance is in series with the loss
resistance, it would be enough to measure just the antenna current,
which also flows through the radiation resistance, producing the
already measured total radiated field.

Paul OH3LWR

4088. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 07:58:57 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <MyKT$zEB9C1$EAeW@ifwtech.co.uk>
Source record: 30408
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Paul Burridge wrote:
>
>Hi guys,
>
>How does one go about measuring (with a reasonable degree of
>accuracy) the radiation resistance of antennas? And when I say
>"antennas" I mean any radiator from a balanced dipole through to a
>random length of wet string with a damp matchbox for a ground plane.
>Must it be done with a noise bridge or is there another way that
>requires no special test equipment (aside from a scope/sig.gen etc.).
>I'm primarily interested in checking out highly *non*-ideal antennas
>for use in non-ideal situations/locations.

You can't directly measure radiation resistance, because it's embedded in loss resistances and usually reactance too. Also there's more than one definition of radiation resistance: some would say that the radiation resistance of a half-wave dipole depends on where and how it is fed (centre, end, off-centre); while others would say that the radiation resistance stays the same, and it's only the feedpoint impedance that depends on the method of feed.

Since you can't measure it and there isn't even a universally agreed definition, it's best to tiptoe quietly away from "radiation resistance" before the Holy Wars begin...

What you can measure directly is impedance at the feedpoint. That is of much more practical interest. For that job, an R-X noise bridge is probably the minimum entry-level instrument.

In principle you could measure impedance using a sig gen and a two-channel scope, measuring the amplitude and phase difference across a series resistor feeding the unknown load. But in practice you wouldn't get very accurate results above MF, and it's a heap of equipment to carry outside where you'd want to use it.

'Antenna analysers' such as the MFJ-259B are deservedly popular because they will do R-X measurements with acceptable accuracy, and the whole thing can be battery-powered and held in one hand. I'm looking forward to making some outdoor antenna measurements using the new N2PK vector network analyser... but not today <brrrr!>

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4089. Re: Circuit Board Specialists Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 10:55:16 UTC
From: swells8044@aol.com
Message-ID: <20031208055516.03823.00000445@mb-m07.aol.com>
Source record: 30404

sounds like a BLT .Do a google search you should find some info.

4090. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 12:57:03 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <dds8tv0lkmq9glej3q66orm3l78buujbrq@4ax.com>
Source record: 30405
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

On Mon, 08 Dec 2003 09:48:02 +0200, Paul Keinanen <keinanen@sci.fi>
wrote:

>On Mon, 08 Dec 2003 00:55:46 +0000, Paul Burridge
><pb@osiris1.notthisbit.co.uk> wrote:
>
>>
>>Hi guys,
>>
>>How does one go about measuring (with a reasonable degree of
>>accuracy) the radiation resistance of antennas? And when I say
>>"antennas" I mean any radiator from a balanced dipole through to a
>>random length of wet string with a damp matchbox for a ground plane.
>
>Are you really interested in the radiation resistance or are you
>actually trying to figure out the efficiency or total radiated power
>of the antenna ?

I'm simply trying to establish the radiation resistance of a non-ideal
antenna so I can reasonably match it to the output impedance of the
transmitter PA stage. The figure is likely to be very low, given that
this antenna is highly non-ideal. I'm not interested in plotting polar
patterns of the radiation distribution!
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4091. Availability of cable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 13:03:18 UTC
From: fazamy@aol.com
Message-ID: <20031208080318.10854.00000338@mb-m24.aol.com>
Source record: 30406

I have 24 AWG two conductor plus copper shield cable. I need smaller size cable like this. Is this stuff available and if so, where can I order it?

Thanks,
KB2AMY

4092. Sphinx HF TX FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 13:36:44 UTC
From: G4BXD@qsl.net
Message-ID: <3fd47542.996644@news.compuserve.com>
Source record: 30409

Sphinx HF TX FS

160/80/20 Mtrs, AM/CW/SSB, mains powered, 25w o/p, vfo controlled,
lattice filtered ssb. (6146 in pa)

20 Mtr bands needs looking at but works fine on 160/80 as it comes.
with ccircuit and brief details.

£45 plus postage if needed or collect West Midlands.

BN.

4093. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 15:29:59 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <br25dn$k5k$1@hercules.btinternet.com>
Source record: 30410
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Radiation resistance should always be referred to a particular point in an aerial.

It is not of much use unless used to calculate radiating efficiency in conjunction with conductor and other loss resistances.

The problem is not how to measure it but how to distinguish it from the aerial loss resistance in series with it.

It is that fictional resistance which, if inserted in the aerial at that point, dissipates the same power as is radiated when the same aerial current flows.

Radiation resistance can also be considered to be uniformly distributed along an aerial wire. It can then be directly compared with wire loss resistance.

It so happens the uniformly distributed radiation resistance is exactly twice the radiation resistance of a 1/2-wave dipole when concentrated at its centre. So the uniformly distributed radiation resistance along a 1/2-wave dipole is about 140 ohms. It cannot be measured. It can be calculated from aerial dimensions. But best just to remember the approximate number 140. It does depend to small extent on wire diameter and 'end-effect'.

If the wire end-to-end resistance of a 40m, 14-gauge dipole is, say, 2.76 ohms then -

Aerial efficiency = 100 * 140 / (140 + 2.76) = 98.0 percent.

Which is very good, isn't it? It's equivalent to 1/68th of an S-unit which cannot be detected even by using a magnifying glass and the bloody needle stands still for long enough.

Which also serves to illustrate how VERY uncrtical are aerial impedance measurements.

Reg, G4FGQ

4094. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 15:49:22 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <br26i2mbo1@hercules.btinternet.com>
Source record: 30411
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

> I'm simply trying to establish the radiation resistance of a non-ideal
> antenna so I can reasonably match it to the output impedance of the
> transmitter PA stage.
==========

The input impedance of a 1/2-wave resonant dipole is about 70 ohms. But this may be at a considerable distance from the transmitter output terminals. What do you have in mind to put in between?

Then all you have to do is find the purely resistive load the transmitter would be most happy with. Almost certainly it will not correspond to an impedance match.

Reg G4FGQ

4095. Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 16:00:52 UTC
From: haf47@juno.com
Message-ID: <f03bf94f.0312080800.22c1d69b@posting.google.com>
Source record: 30412

Isn't free speech a wonderful thing? I followed the Tek thread with interest and am wondering if the whiners actually:

1. Have a use for instruments of this caliber
2. Know how to use them properly

I have used Tektronix instruments for almost 30 years now, and don't know how I could have got along without them. Most of my work has been in commercial radio and television.

The manuals are written incredibly well, and I have received assistance from tech support on devices more than 25 years old. Try that with Hitachi, Leader or Phillips or Sony. And I could still get parts for them!

I reflect with fondness on repairing a device like a waveform monitor, more than 20 years old, and finding a small coil of silver solder on the chassis in a place that was designed for it, tucked neatly in its own "home." Tek has used silver solder for decades now...they have always known it makes a better solder joint...and they want their stuff to keep on working, 24/7 for years and years. So they put their money where their mouth is, and provide the end user with what they consider to be a lifetime supply (for that instrument) of the stuff.

And now I hear that they desroy their own equipment so they can sell more new stuff?! Baloney.

I think I am hearing from people who not only do not understand that "you get what you pay for," but have no use for the quality and accuracy of the products they are complaining about.

Merry Chirstmas and Happy Holidays to all.

de WA2AFD

4096. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 16:16:49 UTC
From: Sparks <sparksw4eas@mindspring.com>
Message-ID: <3FD4CE21.7E39@mindspring.com>
Source record: 30413

Well stated! Sparks

4097. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 16:50:45 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <zJJJkpFlvK1$EwqL@jmwa.demon.co.uk>
Source record: 30415
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that Reg Edwards
<g4fgq.regp@ZZZbtinternet.com> wrote (in <br25dn$k5k$1@hercules.btintern
et.com>) about 'Measuring radiation resistance', on Mon, 8 Dec 2003:

>If the wire end-to-end resistance of a 40m, 14-gauge dipole is, say,
>2.76 ohms then -
>
>
>Aerial efficiency = 100 * 140 / (140 + 2.76) = 98.0 percent.
>
>
>Which is very good, isn't it? It's equivalent to 1/68th of an S-unit
>which cannot be detected even by using a magnifying glass and the bloody
>needle stands still for long enough.
>
>
>Which also serves to illustrate how VERY uncrtical are aerial impedance
>measurements.

Reg,
The OP is working with very non-ideal antennas, for which the radiation
resistance is probably only an ohm or two, and he wants to know if it's
0.5 ohms or 5 ohms, for obvious reasons. I don't suppose there is any
realistic way of measuring it, and modelling may be extremely difficult
if the antenna shape is not simple.

I've seen antenna evaluation does on 1:10 and 1:20 scale models, but we
don't know what frequencies the OP is using, so even that may not be
practicable, but if it is, one could work back from field strength
measurements to radiation resistance, with a big pad between the
transmitter and the antenna to 'soak up' the mismatch.
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4098. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 16:56:07 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <6f99tv46nuaglrgtvtclps93j9bnc53qmp@4ax.com>
Source record: 30414
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

On Mon, 8 Dec 2003 15:29:59 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@ZZZbtinternet.com> wrote:

[snip]

Hi Reg,

>It so happens the uniformly distributed radiation resistance is exactly
>twice the radiation resistance of a 1/2-wave dipole when concentrated at its
>centre. So the uniformly distributed radiation resistance along a 1/2-wave
>dipole is about 140 ohms. It cannot be measured. It can be calculated from
>aerial dimensions. But best just to remember the approximate number 140. It
>does depend to small extent on wire diameter and 'end-effect'.

It's annoying, because the tx output Z I'm trying to match is (by a
strange coincidence) 140 ohms! So a folded dipole would be ideal, I
guess. However - and it's a big *however* - I can't use one. I'm stuck
with a telescopic whip and a ground plane the size of a box of Swan
Vestas. I imagine the radiation resistance of such a non-ideal antenna
is pretty low, but until someone can gimme a ballpark figure for it, I
can't even begin to think about how to go about matching it. :-(

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4099. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 18:06:32 UTC
From: john graesser <graesser@tca.net>
Message-ID: <vt9f734n19he1d@corp.supernews.com>
Source record: 30416
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

> It's annoying, because the tx output Z I'm trying to match is (by a
> strange coincidence) 140 ohms! So a folded dipole would be ideal, I
> guess. However - and it's a big *however* - I can't use one. I'm stuck
> with a telescopic whip and a ground plane the size of a box of Swan
> Vestas. I imagine the radiation resistance of such a non-ideal antenna
> is pretty low, but until someone can gimme a ballpark figure for it, I
> can't even begin to think about how to go about matching it. :-(

Depending on frequency in use, could you do it experimentally?

The way I tune up antennas for ham bands is to hook up a mfj 249 and the tuner to the antenna, get a best fit with the 249 and then replace the 249 with the radio and fine tune from there. There always seems to be some small differance between the result from the mfj and the meter built into the tuner, and at full power I would rather trust the meter built into the tuner (a Millen transmatch jr).

You could build an L match with a tapped inductor and variable cap, then experiment with values until you get somewhere in the ballpark of being matched. From there it is is just small adjustments to get perfect matching.
thanks, John.
KC5DWD

4100. Re: Icom 251A All Mode Problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 18:08:32 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbt9fgp.1brd.bit-bucket@localhost.config.com>
Source record: 30417

On Sun, 7 Dec 2003 21:00:13 -0500, Ralph Mowery hath writ:
>
> "> Picked up a used IC-251A 2M all mode rig a few weeks ago. I left the
> radio
>> on today and when I went back to it the evening, the display was blank and
>> by listening, it appeared that it could not be tuned. Turned rig off and
>> back on. No joy. Unplugged from wall outlet. Full joy! obviously the
> rig
>> is partially powered up as long as it's plugged into the wall. Anybody
> see
>> this problem before? If so, what was your fix. Don't really feel like
>> tearing into full blown troubleshooting. Guess I would start at the power
>> supply, but most likely trouble is in digital logic area somewhere, or
>> around CPU. Bummer. Hate when that happens...
>
> While this probably does not have anything to do with your problem. The
> Icom rigs of that series have a logic circuit that is running on a battery .

No, it does not. There is no battery in the IC-251/IC-551. (Hell,
these rigs were built before The Invention Of The Battery. HI!HI!)

On the back of the rig you'll find a slide switch just above the
fuse holder. Slide it to "OFF". As you guessed, there is an
small Always-On PS running -- when this switch is in the "ON" posn,
and it holds the memories across (front-of-the-rig) Power On/Power Off
cycles. My IC-551 exhibits the symptoms you describe. (My IC-251A
does not - yet.) As to why it doesn't work per factory spec's anymore --
my guess it's a combination of the small half-wave rectifier PS getting
ratty, plus the aging of the micro-processor (sic) chip, and the
number of direct hits by cosmic rays over the decades it's been in
service.

Since there are only 3 steenkin' memories in these rigs anyway, it's
No Big Loss to lose the memories. I simply leave both rigs on all the
time -- only unplugging them at times during ThunderStorm Season.
I use both rigs for weak signal SSB only. So, my memory "needs" are
trivial.

HTH
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

4101. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 19:00:30 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000011c.00854b02@btinternet.com>
Source record: 30418
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Hi,

For a whip, much shorter than a quarter wave against a poor
ground - who knows? However, you want a number?

So here's a number; 2 - j500 and it won't be too far wrong.

The name of the game in such a situation is "Suck-it and see."

Make an intelligent guess at what the impedance is likely to
be, rig up a far-field meter and adjust the tap/link/network
until it peaks. Then go out for a curry and maybe a drink or two
or...

Alternatively, buy an antenna book and RTFM :-)

Cheers - Joe

4102. Re: Circuit Board Specialists Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 19:44:28 UTC
From: dplatt@radagast.org
Message-ID: <vt9l4shqtsh472@corp.supernews.com>
Source record: 30419

>sounds like a BLT .Do a google search you should find some info.

The Norcal BLT (which is what I believe you're referring to) is a Z-match type of tuner. It uses a single toroid to create a coupling link between the unbalanced input and the balanced output.

The BLT's toroid is wound with a single primary (having a single fixed tap), and a pair of secondaries for low- and high-impedance loads. It does _not_ have the sort of multiply-tapped-and-switched coil architecture that the original poster alluded to - these are usually used in unbalanced-configuration T and L tuners. The tuning is done with the two capacitors (a series input cap, and a cap which shunts the primary toroid winding), and via a DPDT switch to select the appropriate secondary winding.

I don't know whether the OP's components and kit were originally intended for a multiply-tapped-inductor T tuner, or for a Z-match such as the BLT, but it sounds likely that they could probably be adapted to either (possibly with the addition of a few extra junkbox components).

I built a Norcal BLT a few months ago, and I've been quite happy with it... it's a nice little QRP design especially when modded to support coax-fed unbalanced antennas (add one BNC jack and one SPST switch). The lack of multiple inductor taps and a tap-selection switch is a definite plus, convenience-wise. It seems to tune my tri-wire fan dipole to off-resonant frequencies just as effectively as my big QRO tuner (based on the Ultimate Transmatch design, according to the guy who built it).

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

4103. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 19:57:01 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312081157.42b551e@posting.google.com>
Source record: 30420
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

Paul Burridge <pb@osiris1.notthisbit.co.uk> wrote in message
news:<dds8tv0lkmq9glej3q66orm3l78buujbrq@4ax.com>...
...
> I'm simply trying to establish the radiation resistance of a non-ideal
> antenna so I can reasonably match it to the output impedance of the
> transmitter PA stage. The figure is likely to be very low, given that
> this antenna is highly non-ideal. I'm not interested in plotting polar
> patterns of the radiation distribution!

Then you want to know the feedpoint impedance, not the radiation
resistance.

You can measure that with any of a variety of impedance-measuring
devices. You need to be careful to not disturb the antenna with your
measurement, and to properly couple the measurement device to the
feedpoint, taking into account the effect of the coupling on the
measurement. For example, like Wes said, if you measure it through a
length of feedline, you need to accout for the impedance
transformation performed by that line, or calibrate your measurements
at the end of that line.

You can generally get a fairly accurate number through a simulation of
the antenna, too.

Cheers,
Tom

4104. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 20:09:43 UTC
From: averyfineman@aol.com
Message-ID: <20031208150943.11891.00002826@mb-m11.aol.com>
Source record: 30421

In article <kau6tv41gdl6unat3rpp28j40pjn2vg3mh@4ax.com>, Bill Turner
<noway@nohow.com> writes:

>On 07 Dec 2003 18:25:51 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
>> Write on the whiteboard 100 times: Inductance does not change
>> with frequency...reactance changes with frequency.
>
>_____
>
>Not true. Inductance and reactance are related by the formula
>XsubL = 2 pi F L. If XsubL has changed, then so has the inductance, and
>vice versa.
>
>How could you possibly define it otherwise?

Bill, I can get down to first principles if necessary, but that isn't
necessary, is it?

INDUCTANCE doesn't change over frequency...even above the
"self-resonance" due to distributed capacity between windings.
That's very basic and applies up into the region where the
frequency is so high the whole "coil" structure starts behaving
like a distributed-constant conglomeration of equivalent parts.
But, that's a specialty area and far above any practical
application of home-made coils for RF.

Reactance is a function of frequency and inductance. The
reactance of an inductor DOES change over frequency. That's
also very basic. For _practical_ home-made coils, the only
major concern is the distributed capacity of the coil structure.
Distributed capacity is the _equivalent_ of a fixed, parallel
capacitor across the pure inductor part of the coil. That L
and C will determine the "self resonance" of the structure.

To find the distributed capacity of an inductor (the equivalent of
a fixed parallel capacity connected across the inductor), the
method described in the "Reference Data for Radio Engineers,"
fourth edition, 1956, ITT (aka "Green Bible"), chapter 10, pp 268-
269 can be used as follows:

Using a Q Meter or other instrument with a calibrated variable
capacitor, resonate the parallel L-C with the capacitor at two
frequencies exactly an octave apart (1:2 ratio). Take the
difference of the two variable capacitor resonating values as
"deltac." Let "freqsq" be the _square_ of the highest of the two

frequencies used. For uHy, pFd, and MHz:

L = (19,000) / (freqsq x deltac)

Inductance L is the "true" inductance of the coil, separated from the distributed capacity.

The constant of "19,000" is a simple approximation considering that 1956 was the age of slide rules and electromechanical four-function calculators. If the parallel resonating capacitor is well-calibrated, the "true inductance" formula works out well. If the parallel resonating capacitor is not calibrated, forget the whole thing; there are several C-meters on the market that can allow rather precise +/- 0.1 pFd resolution calibration if anyone is into home metrology.

Anyone wishing to play with simple algebra can figure out the formula from basic resonance equation at two frequencies exactly an octave apart. That will result in the true mathematical value of the constant given in the Green Bible. :-)

Len Anderson
retired (from regular hours) electronic engineer person

4105. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 20:32:07 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a3e7f9268b3367b989693@news-central.giganews.com>
Source record: 30422

In article <f03bf94f.0312080800.22c1d69b@posting.google.com>, haf47
@juno.com says...
> And now I hear that they desroy their own equipment so they can sell
> more new stuff?! Baloney.
>

You're wearing rose-colored glasses. They absolutely do destroy older equipment via the trade-in "bounties" collected by resellers such as Tucker. This is no secret in the industry.

That doesn't make them evil, and it doesn't make them "suck", but it does (IMHO) demonstrate a lack of respect for the engineering ethos and tradition that made the company great, while taking perfectly good equipment out of the ham/hobbyist community forever.

You could divide the T&M equipment world into two categories: stuff like logic analyzers and signature analyzers that's pretty much doomed to obsolescence the minute the first pilot build rolls off the production line; and gear like oscilloscopes and spectrum analyzers that still serves its original purpose decades after it's out of production. HP, for instance, made a lot of great test equipment, but a lot of it fell into the first category and nobody misses it much. For most of its life, Tektronix focused on the second category: scopes, spectrum analyzers, video monitoring equipment. In this regard, Tek's main competition is themselves, which is a problem for them.

Whether I'm a hobbyist or a pro, I can (and do) use an old 2430A DSO and 2467 analog scope to do just about anything I could do with a new $6K TDS3034B. That means that it's not really in Tek's best interest to support their customers in their efforts to keep the old gear alive.

> I think I am hearing from people who not only do not understand that
> "you get what you pay for," but have no use for the quality and
> accuracy of the products they are complaining about.

If you actually read the thread, you'll see that folks aren't complaining about the *products* as much they are the company's support policies and decision-making strategies. Yes, it sucks that they no longer honor Howard Vollum's lifetime warranty on 535 power transformers. It sucks that I can't get a replacement U800 for my 2467. It sucks that they sold the chip foundry to a bottom-feeding IC company known for promising the moon and delivering press releases. But Tek is what it is. They still make good scopes, even if they aren't worthy of the kind of adoration from the engineering community that they used to enjoy. And their legal department is actually pretty enlightened when it comes to granting permission to reproduce out-of-print T&M manuals

and documents.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

4106. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 20:56:45 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <br2oir$71c$1@news.oregonstate.edu>
Source record: 30423

John Miles <jmiles@pop.removethistomailme.net> wrote:
> That means that it's not really in Tek's best interest to
> support their customers in their efforts to keep the old gear alive.

Isn't this where -- at least in the software arena -- the idea of maintenance contracts comes in? Granted, the average hobbyist is typically not going to buy into such a plan, but I would imagine most of Tek's sales are to companies that would be willing to pay, e.g., 10-30% of the original equipment cost per year for a guarantee that the equipment will be repaired free of charge if it breaks. The new equipment is so much software-based as well these days that Tek could also consider changing for software upgrades -- although personally I'm quite happy that TDS3000 software upgrades are free!

I am going to get myself a nice 2465B or perhaps a 2467 after finish school and find myself a Real Job again -- in a sense those scopes seem like the pinnacle of pure-analog scope development and even if they are only good to 400MHz, there'll continue to be plenty of designs that can be serviced by such scopes for years to come.

> It sucks that I can't get a replacement U800 for my 2467.

Ah, but wasn't someone mentioning that some third party is making compatible replacements? It was supposedly very expensive, but if one person can do it, surely others can as well -- and will, once there's some demand. Look at the old computers such as the Commodore 64 -- these days people enjoy not only completely emulating them in software (doesn't applies to scopes, obviously) but also building equivalent pieces of hardware in FPGAs (e.g., the Commodore One).

---Joel Kolstad

4107. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 21:32:52 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <br2qm4aje1@sparta.btinternet.com>
Source record: 30424
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I can see from the way you have made your enquiry you havn't the foggiest idea about what you are trying to accomplish. Do you know the frequency? What transmitter power output do you have in mind - 10 milliwatts or 1KW? For starters forget all about folding anything - you've been reading the wrong books. However you now mention a short whip above a groundplane of unknown construction.

The input radiation resistance at the base of a very short vertical antenna, say less than 1/10th of a wavelength, is given by -

Rrad = Squareroot(20 * Height in metres / Wavelength in metres) ohms.

Rrad will be in the order of a few tenths of an ohm at 2 MHz but increases fast as the square of frequency.

In series with this radiation resistance is a high value of capacitative reactance which has to be tuned out somewhere by a lot of micro-henries. Best located at or near the antenna base.

For a very crude guess the input reactance will be in the order of -

Xin = -300 * Cotangent(Angle) ohms.

where Angle = 360 * Height / Wavelength degrees.

You will then have the task of winding the correct number of turns on a coil former, of your chosen length and diameter, to provide an inductance of similar value of reactance as presented by the whip. Download program SOLNOID3 for coil design.

In series with Rrad and Xin there will be a loss resistance due to the connection to the ground plane. If the ground plane is a vehicle then you can expect a loss resistance between 3 and 15 ohms. If the ground plane consists of a cigarette-pack size metal plate buried in your back yard then expect a ground loss resistance between 500 and 5,000 ohms.

Overall antenna input resistance is then Rin = Rrad + Rcoil + Rground.

If it is your intention to connect the antenna directly to the transmitter, or via a very, very, short length of coaxial line, then Rin is the resistance which has to be matched to your 150-ohm transmitter by using an L and C impedance matching network.

Frankly, it may be easier to redesign the transmitter to match the antenna ;o)

But you won't get very far without an impedance measuring device such as a borrowed, begged or stolen antenna analyser.

As I have no idea of the purpose of the transmitter + antenna I suggest you ask around for sombody who has already solved the problem and copy his.

It may be that a very short miniature centre-loaded dipole would do the job. It doesn't need a groundplane and can be driven via a 150-ohm balanced, twisted-pair line and, if needed at the transmitter end, a simple 150-ohm, 1-to-1 balun.

Download program MIDLOAD and amuse yourself. It also designs the loading coil. I KNOW it works. Been there - done that!

.....
Regards from Reg, G4FGQ
For Free Radio Design Software go to
http://www.btinternet.com/~g4fgq.regp
.....

"Paul Burridge" wrote - .
> "Reg Edwards"
>
>
> [snip]
>
> Hi Reg,
>
> >It so happens the uniformly distributed radiation resistance is exactly
> >twice the radiation resistance of a 1/2-wave dipole when concentrated at
its
> >centre. So the uniformly distributed radiation resistance along a
1/2-wave
> >dipole is about 140 ohms. It cannot be measured. It can be calculated
from
> >aerial dimensions. But best just to remember the approximate number 140.
It
> >does depend to small extent on wire diameter and 'end-effect'.
>
> It's annoying, because the tx output Z I'm trying to match is (by a
> strange coincidence) 140 ohms! So a folded dipole would be ideal, I
> guess. However - and it's a big *however* - I can't use one. I'm stuck
> with a telescopic whip and a ground plane the size of a box of Swan
> Vestas. I imagine the radiation resistance of such a non-ideal antenna
> is pretty low, but until someone can gimme a ballpark figure for it, I
> can't even begin to think about how to go about matching it. :-(
>
>
> --
>
> "I expect history will be kind to me, since I intend to write it."
> -

Winston Churchill

4108. Re: Availability of cable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 22:13:30 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312081413.40f32a1d@posting.google.com>
Source record: 30425

fazamy@aol.com (FAZAMY) wrote in message
news:<20031208080318.10854.00000338@mb-m24.aol.com>...
> I have 24 AWG two conductor plus copper shield cable. I need smaller size
> cable like this. Is this stuff available and if so, where can I order it?

Shielded 2-wire cable is used to wire phonograph pickups. The wire
size is generally pretty small, like 32AWG +/-. Try places like MCM
Electronics.

Cheers,
Tom

4109. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 22:14:12 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@Dev.Null>
Message-ID: <MPG.1a3e978bfc032502989b63@192.168.42.131>
Source record: 30426

In article <MPG.1a3e7f9268b3367b989693@news-central.giganews.com>,
jmiles@pop.removethistomailme.net says...

> In article <f03bf94f.0312080800.22c1d69b@posting.google.com>, haf47
> @juno.com says...
> > And now I hear that they desroy their own equipment so they can sell
> > more new stuff?! Baloney.
> >
>
> You're wearing rose-colored glasses. They absolutely do destroy older
> equipment via the trade-in "bounties" collected by resellers such as
> Tucker. This is no secret in the industry.

<snip>

I would question this statement. I've seen lots of older 'scopes
and other gear at the Tektronix company surplus store, mainly 7000 and
11000 series.

I would be curious to know how much really is destroyed, and how
much makes it into the store's inventory. Perhaps someone who actually
works for Tektronix could comment?

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

4110. transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 23:51:45 UTC
From: duckman <donw@internode.on.net>
Message-ID: <3fd50e8d$1@duster.adelaide.on.net>
Source record: 30427

Had a question for open discussion

Is there available, can it be done to have an AM and/ and or FM transmitter that will broadcast over the entire AM and FM broadcast band at the same time. Or at least multiple stations. E.G.

From 88 - 108 at once or 88-98, then 98-108
Same on AM band.

It would have to be a low power to be able to be used on private property and limiy range to 300 mtrs

Can this be done, where can l buy it, or how do l make it

Told you it was a dousy of a question, whats your thoughts.

4111. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 23:54:34 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vta3ptig88o785@corp.supernews.com>
Source record: 30428

In addition to the recommended books, take a look at Tek's "XYZs of Oscilloscopes", http://www.tek.com/Measurement/fundamentals/scopes/literature/XYZs_of_Scopes_English.pdf. You can find other useful information by going to the Tek website, http://www.tektronix.com, and selecting Manuals, then Classroom & Lab Resources from the Resources group at the left.

Roy Lewallen, W7EL

Uwe Langmesser wrote:
> I was very interested in all that talk about how much Tektronics sucks
> although after reading most of it I don't think it reflects my concerns.
>
> I just recently bought an old 465 and am learning to use it and I was
> wondering if with so many knowledgable folks somebody could recommend a good
> book which would teach the intricacies of using this level of equipment.
> Hopefully with good hands on examples and not on a trivial level which tells
> me to wear eye protection when using any Tektronics product.
>
> Regards from snowy Maine
>
> Uwe
>

4112. Re: Publications for Ham Homebrew Projects ??

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-08 23:56:35 UTC
From: "Aeons: a.r.e. gallery" <aeons2c@worldnet.att.net>
Message-ID: <Tc8Bb.168769$Ec1.6480742@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30429

"Keyboard In The Wilderness" <KIYW@zilch.net> wrote in message
news:Sx1zb.639$yf.54@fed1read01...
> Any one know of Publications for Ham Homebrew Projects ??
> Perhaps an out of the USA publication ??
>
> Post ur answer here please as I must remain anon these days (long Story)
> --
> 73 From The Wilderness Keyboard
>
>
From my personal workbench I'm pleased to introduce a 1MHz wideband crystal
receiver... can't get any better then this!!! www.aeons2c.org

4113. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 00:01:28 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312081601.546982b7@posting.google.com>
Source record: 30430
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Paul Burridge <pb@osiris1.notthisbit.co.uk> wrote in message
news:<6f99tv46nuaglrgtvtclps93j9bnc53qmp@4ax.com>...
...
> It's annoying, because the tx output Z I'm trying to match is (by a
> strange coincidence) 140 ohms! So a folded dipole would be ideal, I
> guess. However - and it's a big *however* - I can't use one. I'm stuck
> with a telescopic whip and a ground plane the size of a box of Swan
> Vestas. I imagine the radiation resistance of such a non-ideal antenna
> is pretty low, but until someone can gimme a ballpark figure for it, I
> can't even begin to think about how to go about matching it. :-(

Paul, it would be reeeeally helpful if you'd include enough info so we
could give you a ballpark figure. What wavelength (or frequency)?
How long is the antenna? How big is that box? (Will someone be
holding it during operation?) Yeah, someone did offer a ballpark
figure, but that depends a whole lot on what fraction of a wavelength
you have for your antenna and your ground plane. (Or perhaps the
posting in which you explained all that hasn't made it to this corner
of the universe.)

Cheers,
Tom

4114. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 00:04:00 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <gl3atvckehljnt7t2vbap9itd3ag6at0d5@4ax.com>
Source record: 30431
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

On Mon, 8 Dec 2003 21:32:52 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@ZZZbtinternet.com> wrote:

>I can see from the way you have made your enquiry you havn't the foggiest
>idea about what you are trying to accomplish. Do you know the frequency?
>What transmitter power output do you have in mind - 10 milliwatts or 1KW?
>For starters forget all about folding anything - you've been reading the
>wrong books. However you now mention a short whip above a groundplane of
>unknown construction.

Perhaps you didn't see the earlier posts on the subject. The frequency
is 40Mhz (radio control band) and the tx output stage as it stands
puts out maximum power of 475mW with a 140 ohm resistor as load. I
only *need* 50mW ERP., however, so can stand to see quite a bit of
loss from an inefficient antenna. The antenna I will be using is a
telescopic whip - exactly the same set-up as you see with model
vehicle radio control transmitters- which is what it is, in fact.
It ain't rocket science.
Someone out there must know the radiation resistance of such a
telescopic whip (which has a ground plane of just around 16 square
inches contained within the remote control handset) and the best way
to couple it to a PA with a 140 ohm output impedance?
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4115. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 00:10:33 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FD512E0.3F3E70DE@earthlink.net>
Source record: 30432

duckman wrote:
>
> Had a question for open discussion
>
> Is there available, can it be done to have an AM and/ and or FM transmitter
> that will broadcast over the entire AM and FM broadcast band at the same
> time. Or at least multiple stations. E.G.
>
> From 88 - 108 at once or 88-98, then 98-108
> Same on AM band.
>
> It would have to be a low power to be able to be used on private property
> and limiy range to 300 mtrs
>
> Can this be done, where can l buy it, or how do l make it
>
> Told you it was a dousy of a question, whats your thoughts.

Not with a single transmitter. You could build a comb generator and
modulate it for AM, but the quality would be poor For FM you either need
separate transmitters, or modulate the signal and mix it with a separate
oscillator for each channel. The big question is why you would want to
do it.
--
17 days!

Michael A. Terrell
Central Florida

4116. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 00:50:01 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <br366h$dj4$1@news.oregonstate.edu>
Source record: 30442

Michael A. Terrell <mike.terrell@earthlink.net> wrote:
> duckman wrote:
>> Is there available, can it be done to have an AM and/ and or FM
>> transmitter that will broadcast over the entire AM and FM broadcast band
>> at the same time. Or at least multiple stations. E.G.
> Not with a single transmitter. You could build a comb generator and
> modulate it for AM, but the quality would be poor For FM you either need
> separate transmitters, or modulate the signal and mix it with a separate
> oscillator for each channel

Nah, given a wideband signal source and amplifier, there's conceptually no reason he couldn't broadcast on all stations simultaneously! I find it a novel idea, actually.

> The big question is why you would want to
> do it.

I suspect he's thinking of something like those 'talking houses' where you're supposed to tune your radio to a given station and get information on why you want to drop a quarter million bucks on a thousand square feet of your very own sometime in the next 20 minutes... except he doesn't want people to have to tune at all!

Slightly less evil would be emergency broadcasting type uses...

---Joel Kolstad

4117. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 01:00:26 UTC
From: DRGrok@munged.net
Message-ID: <3fd51e5b$0$14946$61fed72c@news.rcn.com>
Source record: 30433

In article <3FD512E0.3F3E70DE@earthlink.net>, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:
>duckman wrote:
>>
>> Had a question for open discussion
>>
>> Is there available, can it be done to have an AM and/ and or FM transmitter
>> that will broadcast over the entire AM and FM broadcast band at the same
>> time. Or at least multiple stations. E.G.
>>
>> From 88 - 108 at once or 88-98, then 98-108
>> Same on AM band.
>>
>> It would have to be a low power to be able to be used on private property
>> and limiy range to 300 mtrs
>>
>> Can this be done, where can l buy it, or how do l make it
>>
>> Told you it was a dousy of a question, whats your thoughts.
>
> Not with a single transmitter. You could build a comb generator and
>modulate it for AM, but the quality would be poor For FM you either need
>separate transmitters, or modulate the signal and mix it with a separate
>oscillator for each channel. The big question is why you would want to
>do it.

You could generate it at one channel in the middle of the band then sample it
at 200 kHz to create replica spectra at the 200 kHz spacing. Probably will
need to keep the sampling pulse relatively narrow to avoid too much sinc(x)
roll-off. Any amplifiers after that point would need to support the entire
bandwidth.

Dr. G.

4118. Does A sub L vary?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 01:58:50 UTC
From: amdx <amdx@att.net>
Message-ID: <u%9Bb.418361$0v4.20280358@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30434

Does the A sub L of a ferrite core change at very low signal levels?

Background; Years ago in an electronics class we measured a

5 Henry laminated iron core inductors. We drove it with a low

current 60 hz signal. The whole class came up with an answer of

around .75 Henry. This was a 5 Henry high current inductor.

After some head scratching and looking at B-H curves I decided

it measured low because of the slope of the curve. At low B fields

the curve is horizontal and as B goes up the curve moves more

vertical.

So I'm wondering if the transformers we wind for antennas are

working properly at small signal antenna levels. Is our primary

reactance really 4 times the source impedance at very low signal

levels?

Does the AsubL of a ferrite core change at very low signal levels?

Mike

4119. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 02:30:39 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vtacvno610djd3@corp.supernews.com>
Source record: 30435
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Its not a simple matter of matching the transmitter to the radiation resistance. First a short antenna is going to have a capacitive reactance. You must add an equal amount of inductive reactance (a loading coil) in order to cancel the capacitive reactance and make the antenna resonant at the operating frequency. Then what the transmitter needs to match is the total load impedance of the antenna "system". The load impedance includes the radiation resistance plus the resistance of the loading inductance plus the ground losses. The hardest thing to get a handle on will be the ground losses. The physical size of the transmitter housing is a small portion of a wavelength and losses will change as you handle the unit.

4120. Re: Icom 251A All Mode Problem

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 03:01:52 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <BUaBb.1726$tU6.2801@reggie.win.bright.net>
Source record: 30436

Yes, I kinda figured it was something like that after discovering it would go goofy if I left the Memory switch on and turned off the radio. Maybe that's why the guy I bought from said he left it on all the time. Ah, the nuances of old radios (at least there are no glass vacuum transistors in the 251!)

;)

I didn't think they had a button cell battery in them (or else they wouldn't need no steenkin' switch on the back of the radio)...beins I'm getting lazy in old age, I'll leave it alone and use the "work-around"...

Thanks for the insight.

Scott
N0EDV

"Allodoxaphobia" <bit-bucket@config.com> wrote in message
news:slrnbt9fgp.1brd.bit-bucket@localhost.config.com...
> On Sun, 7 Dec 2003 21:00:13 -0500, Ralph Mowery hath writ:
> >
> > "> Picked up a used IC-251A 2M all mode rig a few weeks ago. I left the
> > radio
> >> on today and when I went back to it the evening, the display was blank
and
> >> by listening, it appeared that it could not be tuned. Turned rig off
and
> >> back on. No joy. Unplugged from wall outlet. Full joy! obviously
the
> > rig
> >> is partially powered up as long as it's plugged into the wall. Anybody
> > see
> >> this problem before? If so, what was your fix. Don't really feel like
> >> tearing into full blown troubleshooting. Guess I would start at the
power
> >> supply, but most likely trouble is in digital logic area somewhere, or
> >> around CPU. Bummer. Hate when that happens...
> >
> > While this probably does not have anything to do with your problem. The
> > Icom rigs of that series have a logic circuit that is running on a
battery .
>
> No, it does not. There is no battery in the IC-251/IC-551. (Hell,
> these rigs were built before The Invention Of The Battery. HI!HI!)
>
> On the back of the rig you'll find a slide switch just above the

> fuse holder. Slide it to "OFF". As you guessed, there is an
> small Always-On PS running -- when this switch is in the "ON" posn,
> and it holds the memories across (front-of-the-rig) Power On/Power Off
> cycles. My IC-551 exhibits the symptoms you describe. (My IC-251A
> does not - yet.) As to why it doesn't work per factory spec's anymore --
> my guess it's a combination of the small half-wave rectifier PS getting
> ratty, plus the aging of the micro-processor (sic) chip, and the
> number of direct hits by cosmic rays over the decades it's been in
> service.
>
> Since there are only 3 steenkin' memories in these rigs anyway, it's
> No Big Loss to lose the memories. I simply leave both rigs on all the
> time -- only unplugging them at times during ThunderStorm Season.
> I use both rigs for weak signal SSB only. So, my memory "needs" are
> trivial.
>
> HTH
> Jonesy
> --
> | Marvin L Jones | jonz | W3DHJ | OS/2
> | Gunnison, Colorado | @ | Jonesy | linux __
> | 7,703' -- 2,345m | config.com | DM68mn SK

4121. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 03:08:40 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <jedatv0q72p79rclh27rthssuh3uh6dor1@4ax.com>
Source record: 30437

On Sun, 07 Dec 2003 18:01:57 +1300 Skip <Skip@none.co> wrote:

>I am looking for a source for a Zener Diode. I am building an HF
>Amplifier using a GS-35b and the schematic I'm using to build the amp
>calls for a 36v 50w zoner diode for bias. Here in New Zealand there
>does not seem to be anyone with anythings close to what I need.

50 W stud mount Zeners used to be a standard product, but most
manufacturers dropped them about 20 years ago. I understand that they
were still available from someone for a long time, but they might be
completely unavailable by now.

> Also, would it be possible to string a few lower volt watt zeners
>together to come up with a close value to what is needed?

Sure, string 10 3.6V/5 W Zeners, that would work fine if you can get
3.6V, which seems unlikely.

A more reasonable solution would be to make your own regulator using a
low power Zener and a power transistor that can handle the power. You
can make either a shunt or series regulator this way.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

4122. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 04:59:29 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FD5566C.4A62EB53@bellatlantic.net>
Source record: 30438

Bill Turner wrote:
>
> On 08 Dec 2003 20:09:43 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
> >INDUCTANCE doesn't change over frequency
>
> ----------
>
> I maintain it does. Otherwise the formula X=2piFL is invalid.

NO! In the above equation, X varies when F varies. The equation
does NOT mean that L varies as F varies.

> Is that
> what you're saying?
>
> I understand what you're saying about the inductance of a coil being
> fixed and the reactance is the net result of that fixed inductance plus
> the effect of the parasitic capacitance between windings, vs frequency,
> of course. If one chooses to *model* a coil that way, I have no
> objection. You will no doubt arrive at the correct reactance for a
> given frequency.
>
> The disagreement here seems to depend on how one defines what inductance
> is. I maintain that inductance of a coil is nothing more than the
> reactance divided by 2piF, as derived from the formula above. Do you
> disagree with that? That formula has been taught for decades. Are you
> saying it is wrong?

The formula is fine. Your understanding of it is wrong.
X is inductive reactance.
F is frequency.
L is inductance.

F is a variable, L is fixed and X (the reactance of L at
the frequency) varies as the frequency varies.

>
> --
> Bill, W6WRT

4123. Re: Does A sub L vary?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 05:18:09 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <lWcBb.28479$d35.16867@edtnps84>
Source record: 30439

It will in the presence of DC bias, including an asymmetrical waveform.

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4124. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 05:46:55 UTC
From: Cecil Moore <Cecil.A.Moore@ieee.ONEDOT.org>
Message-ID: <3fd56222_8@corp.newsgroups.com>
Source record: 30440
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Paul Burridge wrote:
> ... the best way
> to couple it to a PA with a 140 ohm output impedance?

Use a loading coil to resonate the antenna to 40MHz. Use a transformer
or tank circuit to transform the impedance.
--
73, Cecil http://www.qsl.net/w5dxp

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----
http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
------== Over 100,000 Newsgroups - 19 Different Servers! =-----

4125. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 06:39:49 UTC
From: Mac <foo@bar.net>
Message-ID: <pan.2003.12.09.06.39.37.171898@bar.net>
Source record: 30441
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

On Tue, 09 Dec 2003 00:04:00 +0000, Paul Burridge wrote:

> On Mon, 8 Dec 2003 21:32:52 +0000 (UTC), "Reg Edwards"
> <g4fgq.regp@ZZZbtinternet.com> wrote:
>
>>I can see from the way you have made your enquiry you havn't the foggiest
>>idea about what you are trying to accomplish. Do you know the frequency?
>>What transmitter power output do you have in mind - 10 milliwatts or 1KW?
>>For starters forget all about folding anything - you've been reading the
>>wrong books. However you now mention a short whip above a groundplane of
>>unknown construction.
>
> Perhaps you didn't see the earlier posts on the subject. The frequency
> is 40Mhz (radio control band) and the tx output stage as it stands
> puts out maximum power of 475mW with a 140 ohm resistor as load. I
> only *need* 50mW ERP., however, so can stand to see quite a bit of
> loss from an inefficient antenna. The antenna I will be using is a
> telescopic whip - exactly the same set-up as you see with model
> vehicle radio control transmitters- which is what it is, in fact.
> It ain't rocket science.
> Someone out there must know the radiation resistance of such a
> telescopic whip (which has a ground plane of just around 16 square
> inches contained within the remote control handset) and the best way
> to couple it to a PA with a 140 ohm output impedance?

You have had quite a few answers which seem pretty good to me.

I have a few comments.

Stop saying "radiation resistance" and start saying "input impedance" or "feed impedance." Once you know the input impedance, getting maximum power transfer is a straightforward matching problem that can be solved in a variety of ways. True, you won't know for sure how much power is "getting out," but some of the posts in this thread have given you some estimates. If that isn't good enough, then you will have to measure by putting a receive antenna in the far field.

Anyway, if you want to measure the input impedance, you should be able to do it with a two-channel oscilloscope and a 40 MHz function generator. Drive the antenna with the function generator and simultaneously measure the input voltage and current, including the phase relationship between them. The input impedance is V/I. To measure the current, put a suitably sized resistor in series with the antenna and measure the voltage across it. The voltage across the resistor should be small compared to the voltage into the antenna. If it is too small to see, use a bigger resistor

until you can see it. Make sure both oscilloscope probes are grounded in the same place. Unless you have a differential probe (in which case, use it to measure the voltage across the current sensing resistor).

From what others have already said, it sounds like the input will be extremely capacitive with a small series resistance. Once you know the details, however, it will be easy to tell you how to match this to your amplifier.

That's my $0.02.

Mac

4126. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 07:59:03 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <130btvgdhe38db03s9qck496kbetrpvkb7@4ax.com>
Source record: 30443

On Mon, 08 Dec 2003 19:46:43 -0800, Bill Turner <noway@nohow.com>
wrote:

>On 08 Dec 2003 20:09:43 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
>>INDUCTANCE doesn't change over frequency
>
>_____
>
>I maintain it does. Otherwise the formula X=2piFL is invalid. Is that
>what you're saying?
>
>I understand what you're saying about the inductance of a coil being
>fixed and the reactance is the net result of that fixed inductance plus
>the effect of the parasitic capacitance between windings, vs frequency,
>of course. If one chooses to *model* a coil that way, I have no
>objection. You will no doubt arrive at the correct reactance for a
>given frequency.

That is what everybody is trying to say.

It is like discussing is a candle _emitting_light_ into the room or is
the candle _absorbing_darkness_. This becomes quite apparent when the
wick of the candle is black when the candle has been put out, clearly
it has absorbed a lot of darkness :-).

In an incandescent lamp, the electric current will constantly renew
the filament, thus preventing a lot of darkness being concentrated on
the filament.

One could develop quite scientific methods to measure the amount of
darkness absorbed and predict the behaviour of other lamps. This can
also be debated successfully for a quite a while, until some serious
disagreeing measurements are brought into the discussion.

>The disagreement here seems to depend on how one defines what inductance
>is.

It has often been defined by the ability to store energy.

>I maintain that inductance of a coil is nothing more than the
>reactance divided by 2piF, as derived from the formula above.

L = Xl / (2 pi f) applies only to _pure_inductive Xl

It does _not_ apply to L = X / (2 pi f) in which X is some combination
of Xl and Xc !

>Do you disagree with that?

>That formula has been taught for decades. Are you saying it is wrong?

The formulas taught for decades are:

Xl = 2 pi f L _and _ Xc = -1/(2 pi f C)

How do you arrive to the incorrect L = X / (2 pi f) from the
equations above ?

Please note, it is the magnitude of X what you are measuring with some
simple test gear, not Xl. Thus, the original claim is an artefact of
the measurement method.

Paul OH3LWR

4127. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 08:01:57 UTC
From: Tony Williams <tonyw@ledelec.demon.co.uk>
Message-ID: <4c5dfffb79tonyw@ledelec.demon.co.uk>
Source record: 30444
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <gl3atvckehljnt7t2vbap9itd3ag6at0d5@4ax.com>,
Paul Burridge <pb@osiris1.notthisbit.co.uk> wrote:

> It ain't rocket science. Someone out there must know the
> radiation resistance of such a telescopic whip (which has a
> ground plane of just around 16 square inches contained within the
> remote control handset) and the best way to couple it to a PA
> with a 140 ohm output impedance?

Paul, standard CB antennas are loaded whips, for operation
at around 30MHz. Available in the CPC catalogue for about
ï¿½10 to ï¿½20, Perhaps you could start off with one of those
and modify to suit.

Note also that there is a 433MHz licence-free band for
short distance (100m) remote control. Pre-built Tx and
Rx modules are cheap, and a 433MHz antenna would be a
breeze.

<www.cpc.co.uk> or 08701 202530.

--
Tony Williams.

4128. Re: Availability of cable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 08:30:00 UTC
From: Rick Frazier <rick@rickfrazier.com>
Message-ID: <3FD587F4.7712A3F8@rickfrazier.com>
Source record: 30445

How small?
How much?
How fast?
How cheap?

Go to the nearest garage sale and pick up a couple of sets of
headphones...
Walkman one-piece style with a single wire going into one earpiece, with
another going over the headband to the other earpiece. Get out the
ol'
cutters and snip off the connector and headphones and you have in your
hand, a
piece of two conductor shielded cable!
It's pretty small diameter, and has small conductors, but not near as
small as
the cable used to wire up phono cartridges....
Another source is radio shack. Go in and buy a headphone extension
cable with
mini-plug and jack, then cut off the ends. You can get these up to 15
feet
long (or so), but the cost per foot is higher than the garage sale
route....
(but at least it's new cable). They also used to sell a stereo
headphone
that was for listening to your tv, and the cord was about 25 feet
long...
pretty inexpensive at the time too, at least it was cheaper than an
equivalent
length of their "extension" cables... Of course these day, you'd
probably be
lucky to find even the stereo headphone extension cable if your
rat-shack is
anything like the one near me...

If you need large quantities of this sort of stuff, you should be able
to get
it from any of a number of commercial wire distributors. Think
mini-audio
wire and you'll be in the right section.

--Rick AH7H

FAZAMY wrote:

> I have 24 AWG two conductor plus copper shield cable. I need smaller size
> cable like this. Is this stuff available and if so, where can I order it?

>
> Thanks,
> KB2AMY

4129. Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 09:28:12 UTC
From: Roger Conroy <rogerconroy@nospam.hotmail.com>
Message-ID: <br451r$891$1@ctb-nnrp2.saix.net>
Source record: 30446

Hello all

I can scavenge components from junked motherboards - most are fairly easy to id. EXCEPT: Many of the boards have small "donut" ferrites pianted light green all over with one "sidewall" blue. They are all located in the power supply/regulation section of the m/boards. most boards have only one but occasionally there are 2 of them.

Are these any good for RF use or should they go into the trash?

73
Roger ZR3RC

4130. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 10:17:02 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <o76btvkde08pl501u1htjqso818u43vngl@4ax.com>
Source record: 30347

On Tue, 09 Dec 2003 04:59:29 GMT, ehsjr@bellatlantic.net wrote:

>
>
>Bill Turner wrote:
>>
>> On 08 Dec 2003 20:09:43 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>>
>> >INDUCTANCE doesn't change over frequency
>>
>> ____
>>
>> I maintain it does. Otherwise the formula X=2piFL is invalid.
>
>NO! In the above equation, X varies when F varies. The equation
>does NOT mean that L varies as F varies.

That's right. You end up with X/2piF and X and F are inter-related;
they are not independent variables.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4131. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 10:51:56 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <gPhBb.29256$d35.27274@edtnps84>
Source record: 30348

I have made baluns from those for RX to 30MHz and TX to 10 :-)

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4132. Measuring Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 11:55:18 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <GKiBb.4424$UM4.2366@nwrdny01.gnilink.net>
Source record: 30349

I just posted an example of how you can use my homebrew HF Lab System to accurately measure and characterize crystals. You can see it on the "Examples" page of my site:

http://mysite.verizon.net/jdrocci/id16.html

Joe
W3JDR

4133. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 13:35:47 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3FD5CFAE.1040200@invalid.invalid>
Source record: 30350

Joel Kolstad wrote:
> Michael A. Terrell <mike.terrell@earthlink.net> wrote:
>
>>duckman wrote:
>>
>>> Is there available, can it be done to have an AM and/ and or FM
>>>transmitter that will broadcast over the entire AM and FM broadcast band
>>>at the same time. Or at least multiple stations. E.G.
>>
> Slightly less evil would be emergency broadcasting type uses...

Apparently someone believes it's possible as an application was recently
filed with the FCC for an experimental license to operate just such a
system across the FM band. (the Commission denied the application)

Their intent was to install transmitters on emergency vehicles, so they
could warn other motorists to get out of the way.

My guess is the FCC feared these devices would "get out into the wild" -
can you imagine what an unscrupulous nightclub owner (or someone with
a political bone to pick) could do with a few of these?
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

4134. Re: Measuring Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 13:42:10 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <SikBb.29587$d35.11130@edtnps84>
Source record: 30351

Behold, W3JDR signalled from keyed 4-1000A filament:

> I just posted an example of how you can use my homebrew HF Lab System to
> accurately measure and characterize crystals. You can see it on the
> "Examples" page of my site:
>
> http://mysite.verizon.net/jdrocci/id16.html
>
> Joe
> W3JDR

Nice resource, thanks!

Bookmarked ;-)

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4135. Re: HELP:Matjaz Vidmar S53MV Wideband VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 15:33:52 UTC
From: df7it@aol.com
Message-ID: <61347531.0312090733.60e7d34e@posting.google.com>
Source record: 30352

"R. Soetedjo" <robi@u.washington.edu> wrote in message
news:<Pine.A41.4.58.0312042351380.557198@mead11.u.washington.edu>...
> Hi,
>
> Can somebody help me to get a copy of Matjaz Vidmar Wideband VCO articles
> in VHF Communications?
>
> tnx
> rob

Hi !

I have a copy of the lecture Matjas held here in Germany at the Weinheim
VHF Meeting 1998

He discribes several VCO from 2...4Ghz with BB833 and BB857.
and the block diagram of a spectrum analyzer.

I also did some work on that moving the range up to 3...5,3GHz for
use as doubled 10GHz Transmitter for high speed packet radio.

Best regards

Volker, DF7IT/WT0K, Weinheim, Germany

4136. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 17:39:45 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD60913.DFEE89E@rica.net>
Source record: 30353

Roger Conroy wrote:
>
> Hello all
>
> I can scavenge components from junked motherboards - most are fairly easy to
> id. EXCEPT: Many of the boards have small "donut" ferrites pianted light
> green all over with one "sidewall" blue. They are all located in the power
> supply/regulation section of the m/boards. most boards have only one but
> occasionally there are 2 of them.
>
> Are these any good for RF use or should they go into the trash?
>
It depends on what they were doing on that motherboard. If they were
part of an RF interference filter, they may have other RF uses. If
they were the energy storage inductor in a switching regulator, they
may have their best performance under 1 MHz. You might look up some
of the common color codes and standard core sizes, and measure the
inductance and calculate the permeability of your cores to see if they
match any of the code specs. This could help to nail down the useful
frequency range.

E.G.
http://www.neosid.com/ipcore/ipdat.htm
http://www.micrometals.com/material/pcprop.html
http://www.rfcafe.com/references/electrical/toriod.htm

--
John Popelish

4137. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 18:15:15 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <br53ik$4v$1@newshost.mot.com>
Source record: 30322

This needs clarification. Do you mean that it will generate multiple
carriers? Like this?

At the same time the output has carriers @ 88.1 and 88.3 and 88.5 and
88.7.....97.5 and 97.7 and 97.9 ????

Actually this is possible if you
can make the proper circuitry. An oscillator FM modulated with a 200 KHz
signal will do it. You just need enough deviation. You could also add in
the audio modulation.

Forgot to mention that I've done it.

Steve

k;9;d;c;i

"duckman" <donw@internode.on.net> wrote in message
news:3fd50e8d$1@duster.adelaide.on.net...
> Had a question for open discussion
>
> Is there available, can it be done to have an AM and/ and or FM
transmitter
> that will broadcast over the entire AM and FM broadcast band at the same
> time. Or at least multiple stations. E.G.
>
> From 88 - 108 at once or 88-98, then 98-108
> Same on AM band.
>
> It would have to be a low power to be able to be used on private property
> and limiy range to 300 mtrs
>
> Can this be done, where can l buy it, or how do l make it
>
> Told you it was a dousy of a question, whats your thoughts.
>
>

4138. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 20:30:14 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <br5bfmbjo1@newshost.mot.com>
Source record: 30319
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

1) you guys are just arguing symantics. You both know what really happens.
".... "Inductance" vs. the total reactance measuring as inductive...." call
it what you like.

1a)
You are also both using (some might say mis-using) the term "linear" to mean
"varies linearly with..." rather than the more common meaning that
superposition applies. RLC sircuits are linear. Any given parameter may
not vary linearly as the frequency is varied. Also, this use of 'linear'
depends upon the type of scale being used--log or linear.

2) John,
You better re-think your last statement about the series equivalent of a
practical coil. It implies that there is some way to measure a low Z at the
resonance of the coil under discussion. You say:
"The series
> equivalent [impedance ? Steve] goes down as the frequency increases,
and goes to zero at
> resonance. "
While a series resonant LC exhibits this behavior, the series equivalent
of a practical coil does not do this. The series equivalent must do the
same thing as the parallel equivalent -- namely go to a high impedance at
resonance. That's why it is called *equivalent*--the total, or terminal
impedance is equal for the two representations (at a single frequency).

Pretty sure I got that right....
Steve
k]9]d]c]i

A practical coil usually goes to parallel resonance - at which the series
equivalent does not go to zero
"John Woodgate" <jmw@jmwa.demon.contraspam.yuk> wrote in message
news:gE3dH2Fa730$EwxV@jmwa.demon.co.uk...
> I read in sci.electronics.design that Bill Turner <noway@nohow.com>
> wrote (in <4h96tvcrjois8buki38ovhtlfljidipmi3@4ax.com>) about 'Winding
> coils', on Sun, 7 Dec 2003:
>
> >Both statements are true and easily provable. A simple air core coil
> >which measures one microhenry at a low frequency may have an inductance
> >of several millihenries (or even henries) when near its self resonant
> >frequency.
>
> This is what happens to the *parallel equivalent* inductance. The series
> equivalent goes down as the frequency increases, and goes to zero at

> resonance.
> --
> Regards, John Woodgate, OOO - Own Opinions Only.
http://www.jmwa.demon.co.uk
> Interested in professional sound reinforcement and distribution? Then go
to
> http://www.isce.org.uk
> PLEASE do NOT copy news posts to me by E-MAIL!

4139. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 20:30:22 UTC
From: ddwyer <dd@ddwyer.demon.co.uk>
Message-ID: <QOAUbXAeDj1$Ew+W@ddwyer.demon.co.uk>
Source record: 30355

In article <br2oir$71c$1@news.oregonstate.edu>, Joel Kolstad <JKolstad71
HatesSpam@Yahoo.Com> writes
>
>I am going to get myself a nice 2465B or perhaps a 2467 after finish school
>and find myself a Real Job again -- in a sense those scopes seem like the
>pinnacle of pure-analog scope development and even if they are only good to
>400MHz, there'll continue to be plenty of designs that can be serviced by
>such scopes for years to come.
CRT/Analog scopes are superior in many ways that are seldom discussed.
Dynamic range is equivalent to 24 bits which with >200MHz is not
equalled in the digital domain.
--
ddwyer

4140. 450ma led backlite question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 20:31:34 UTC
From: Tim <"letter T letter H"@lakeoriongroup.com>
Message-ID: <KNCdnX9YpNQ5rEuiRVn-sw@comcast.com>
Source record: 30354

Not sure why this one is elluding me, but , I have a graphics display with an led backlight drawing about 450ma @ 5v. While a large 7805 is rated for an amp it's getting pretty hot even with a nice sized heat sink.

Any thoughts on another way to drive this backlight? I was thinking of running it at 12v (it's going in a radio) and a dropping resistor. What say?

ddz

4141. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 20:47:33 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <br5cg5ctm1@newshost.mot.com>
Source record: 30318
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Gents,

Another practical consideration. Another area where caution is
advised--paralleling bypass caps. In solid state Power Amplifier design,
such a configuratin can cause problems because there is a point where one is
above self resonance and acts like an inductance in parallel with the other
cap which is still capacitive-- thus, resonance and no bypass. Been there,
done that. We put a small Z in between. Frequently a small bead or
resistor if possible.
Seems there is an equivalent problem with series inductors.

--
Steve N, K,9
d, c. i

"Bill Turner" <noway@nohow.com> wrote in message
news:kuv6tvojk0f9q1h00eai9jl6aae44s7anu@4ax.com...
> On Sun, 7 Dec 2003 19:17:08 +0000, John Woodgate
> <jmw@jmwa.demon.contraspam.yuk> wrote:
>
> >This is a 1920s problem. Just as you parallel capacitors of different
> >type, electrolytic, metallized foil and ceramic, to get a wideband
> >component, so you put inductors of different construction in series to
> >get a wide band component. You can wind them all on a bit of wax-
> >impregnated dowel if you like. (;-)
>
> ____
>
> That will work, no doubt. My point was that it takes some serious
> engineering and careful testing; you can't just wrap some wire on a form
> and expect it to work correctly across a wide range of frequencies.
>
> --
> Bill, W6WRT
>

4142. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 20:47:37 UTC
From: novatech@eskimo.com
Message-ID: <br5cd9psu1@eskinews.eskimo.com>
Source record: 30356

ddwyer <dd@ddwyer.demon.co.uk> writes:

>CRT/Analog scopes are superior in many ways that are seldom discussed.
>Dynamic range is equivalent to 24 bits which with >200MHz is not
>equalled in the digital domain.
>--
>ddwyer

Use both every day. The digital scope (Tek DPO style) is great for analysing,
but sometimes is it a lot easier to find a problem on the old 500MHz 7904.
Once I find the problem signal, I can then set the digital scope to trigger
properly and analyse the details.

The 7904 is the "stand" for the 3054.

Steve.
--
Steven D. Swift, novatech@eskimo.com, http://www.novatech-instr.com
NOVATECH INSTRUMENTS, INC. P.O. Box 55997
206.301.8986, fax 206.363.4367 Seattle, Washington 98155 USA

4143. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 20:51:53 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <br5coadcs1@newshost.mot.com>
Source record: 30320

You're still doing it. Paul (I think) said "measure" and Bill, no, looks
like Len (I think) said "finding", meaning "calculating".

"Avery Fineman" <averyfineman@aol.com> wrote in message
news:20031207132551.21232.00002572@mb-m13.aol.com...
> In article <7g66tvovpg0net6bel900aier8po6uogas@4ax.com>, Bill Turner
> <noway@nohow.com> writes:
>
> >On Sun, 07 Dec 2003 13:55:35 +0200, Paul Keinanen <keinanen@sci.fi>
> >wrote:
> >
> .snip > >
> >Not only can you *not* measure them separately, they can not be
> >physically separated either, since the parasitic capacitance is always
> >present between adjacent windings....

>
> Nonsense. General Radio had a nice little formula way back
> before 1956 for finding the distributed capacity of an inductor.
> Len Anderson
> retired (from regular hours) electronic engineer person
>
>

4144. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 20:57:02 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <br5d1udnc1@newshost.mot.com>
Source record: 30321

OOPS Bill. By the formula, change F and Xl changes! Avery said below;
"reactance changes with frequency" and is correct. Also, if you change L
then Xl changes, but that is not what he said.

--
Steve N, K,9
d, c. i

"Bill Turner" <noway@nohow.com> wrote in message
news:kau6tv41gdl6unat3rpp28j40pjn2vg3mh@4ax.com...
> On 07 Dec 2003 18:25:51 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
> > Write on the whiteboard 100 times: Inductance does not change
> > with frequency...reactance changes with frequency.
>
> ----------
>
> Not true. Inductance and reactance are related by the formula
> XsubL = 2 pi F L. If XsubL has changed, then so has the inductance, and
> vice versa.
>
> How could you possibly define it otherwise?
> --
> Bill, W6WRT
>

4145. Re: 450ma led backlite question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 21:04:21 UTC
From: "Dr. Anton Squeegee" <SpammersAreVermin@Dev.Null>
Message-ID: <MPG.1a3fd8b120699d0e989b69@192.168.42.131>
Source record: 30357

In article <KNCdnX9YpNQ5rEuiRVn-sw@comcast.com>, "Tim" <letter T letter
H @lakeoriongroup.com> says...

> Not sure why this one is elluding me, but , I have a graphics display with
> an led backlight drawing about 450ma @ 5v. While a large 7805 is rated for
> an amp it's getting pretty hot even with a nice sized heat sink.

What voltage are you feeding IN to the 7805?

Example: Say you feed 20VDC to the input. That means the regulator
gets to waste 15V of that as heat. Although current in a series circuit
is constant, one must take into account the current used by the
regulator itself to operate. So, in addition to your 450mA for the
backlight, you're going to be drawing up to 8mA more for the regulator.

Given (Ohm's Law) P=IE: You have up to 458mA times 15V giving 6.87
watts worth of power dissipated as heat. That's a lot of heat, so yes,
your regulator getting warm is very normal. It gets worse when the input
voltage goes up, or when the current draw increases.

The 7805 was a fine part in its time, but there are other more
modern (switching) regulators that do a much more efficient job.
Although implementing such may take a few more parts, I would look
seriously at using something from, say, Linear Technology.

> Any thoughts on another way to drive this backlight? I was thinking of
> running it at 12v (it's going in a radio) and a dropping resistor. What say?

Even worse. You'll need a plenty big power resistor, it'll waste a
lot of power as heat, and you'll have practically no immunity from
spikes and surges. Try the switching regulator idea first.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

4146. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 21:05:57 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <br5din$eg3$1@newshost.mot.com>
Source record: 30316

Ahhhh! So there does seem to be a mis interpretation of the formula
here.-Steve

Bill,
I believe you are placing the dependant and independent variables in the
wrong place. The Xl is the dependant variable. Xl *depends upon* F and L,
not the other way around. That is, given an L and F you calculate the X.
X is the answer.
Only if you know there are no other contributing factors can the formula
be used the other way, because it does not factor them (the parasitic
capacitance) in. That is, Given an X measurement you can not tell the
inductance, only the *equivalent total* inductive reactance.

--
Steve N, K,9
d, c. i

"Bill Turner" <noway@nohow.com> wrote in message
news:flgatv4sjgb62u7iavr80bfqid71t0thll@4ax.com...
> On 08 Dec 2003 20:09:43 GMT, averyfineman@aol.com (Avery Fineman) wrote:
>
> >INDUCTANCE doesn't change over frequency
>
> ____
>
> I maintain it does. Otherwise the formula X=2piFL is invalid. Is that
> what you're saying?
>
> I understand what you're saying about the inductance of a coil being
> fixed and the reactance is the net result of that fixed inductance plus
> the effect of the parasitic capacitance between windings, vs frequency,
> of course. If one chooses to *model* a coil that way, I have no
> objection. You will no doubt arrive at the correct reactance for a
> given frequency.
>
> The disagreement here seems to depend on how one defines what inductance
> is. I maintain that inductance of a coil is nothing more than the
> reactance divided by 2piF, as derived from the formula above. Do you
> disagree with that? That formula has been taught for decades. Are you
> saying it is wrong?
>
> --
> Bill, W6WRT
>
>

>

4147. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 22:11:46 UTC
From: Steve Nosko <suteuve.nosukowicuz@moutouroula.com>
Message-ID: <br5he0$k3q$1@newshost.mot.com>
Source record: 30317
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

There'something sour here. Way down ...

"Paul Keinanen" <keinanen@sci.fi> wrote in message
news:5n07tv03ghs107b3gtj13u63f3k8lac6cc@4ax.com...
>> [snip]
> The problem with circuits containing both inductances and capacitances
> is that in one kind of reactance, there is a +90 degree phase shift
> and the other with -90 degree phase shift. Thus, when these are
> combined, they partially cancel each other, producing different
> magnitudes and some phase shift between -90 and +90 degrees. If only
> the resultant magnitude is used (and the resultant phase is ignored),
> this would give the false impression that the inductance changes with
> frequency.

I don't quite follow where you are going here. below the self resonant
freq the angle will be +90 (minus a little for what ever resistance is
there).

The rest of this about measuring the energy from DC, I don't think is at all
practical.

> [snip] the inductance could be measured in a different way.
> ... the energy
> stored in the inductance is W = I*I*L/2. ...
> ...cut the DC current...dissipate the energy in some kind of
> integrating load across L. Even if there is a significant
capacitance[snip]
> ...the energy would bounce back
> between L and C, but finally it would be dissipated by the external
> load. ...
> Thus using this measurement method, the value of L would be the same
> regardless if C is present or not....
>
> Paul OH3LWR
>
OK. so then, how do you propose to measure this energy? I don't think
it is practical.

--
Steve N, K,9
d, c. i

4148. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 22:46:34 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBFBBAF8.9519%outhouse@midcoast.com>
Source record: 30358

in article 96qdnfWjUe0eRU6iRVn-uA@comcast.com, Leland C. Scott at
no-spam@junk-mail.net wrote on 12/7/03 8:48 PM:

>
> Here's a thought for you. If you don't get QST
> then you should sign up and get it. Every month
> they have a tutorial on basic electronics using
> your basic meter, function generator, scope etc to
> make measurements. I would assume from your
> comments that you don't have much experience using
> test equipment so these tutorials are a good way
> for you to learn and have some fun doing it too.
>
> Leland C. Scott
> KC8LDO

Yes, this is good advice.
Actually I have been getting QST since I passed my Ham exam a few month ago
but had not really started reading it seriously (now that I am semi snowed
in it will be a great read).
But you are right, the hints and kinks section and in particular the
apparently rather new "Hands-on radio" section are quite useful.
Maybe I was concentrating too much on the scope, but if I just patiently
read QST for a while I will probably get all the info I ever wanted.

Best regards from Maine

Uwe
KB1JOW

4149. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-09 23:03:28 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <3bkctvoi4smr3r0qo7shibcqtd497b13b9@4ax.com>
Source record: 30359

On Tue, 09 Dec 2003 09:19:23 -0800, Bill Turner <noway@nohow.com>
wrote:

>Perhaps an example will make it clear.
>
>Suppose you have a coil which measures 1 uH at 1 MHz. It is known to
>have a self-resonant (parallel) frequency of 100 MHz.
>
>You measure its reactance at 1 MHz using the formula X=2*pi*F and find
>it to be 6.28 ohms.
>At 2 MHz you find it to be 12.56 ohms.
>At 10 MHz you find it to be 62.8 ohms.
>So far the reactance is changing linearly with respect to frequency.
>(Actually it is not perfectly linear, but the difference at these
>frequencies is small and probably would not be observed with run of the
>mill test equipment.)
>
>But, as you approach 100 MHz, you find the change is obviously no longer
>linear.
>At 95 MHz you would expect the reactance to be 6.28*95=596.6 ohms, but
>much to your surprise, it measures 1000 ohms.
>At 99 MHz, instead of the expected 6.28*99=621.72 ohms, it measures
>50,000 ohms!!
>
>All the above is perfectly normal and easily observable.
>
>My point is that when a coil measures 50,000 ohms at 99 MHz, its
>inductance HAS TO BE L=X/(2*pi*F), or 50,000/(6.28*99)=80.4 uH!
>
>This is not an illusion. If you have an inductance meter which uses 99
>MHz as a test frequency, it WILL MEASURE 80.4 uH.
>
>And therefore, I maintain that inductance DOES vary with frequency.
>
>How can it be otherwise?

Measurement errors? I don't know enough about your way of working to
say. But thanks for giving your worked example. It'll no doubt help to
pin down the exact area of disagreement between us.

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4150. Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 00:07:59 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <0koctvoopa283if8t6sbgj7j9ec04oknkp@4ax.com>
Source record: 30360
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hi,

I'm currently working on this VCXO that achieves frequency shift by
applying DC bias to two varactor diodes connected cathode to cathode
(bias applied to the junction between them). If I can't get enough
shift with the available bias voltage, is there any problem with just
putting another pair of the same diodes in parallel with the existing
ones?
This is a ceramic resonator oscillator, BTW, so will stand a lot more
'pulling' than a xtal would, so don't worry about that aspect of it.

p.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4151. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 00:20:25 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <kbudnV8l5JJO-0uiRVn-tA@ctc.net>
Source record: 30361

> Perhaps an example will make it clear.
>
> Suppose you have a coil which measures 1 uH at 1 MHz. It is known to
> have a self-resonant (parallel) frequency of 100 MHz.
>
> You measure its reactance at 1 MHz using the formula X=2*pi*F and find
> it to be 6.28 ohms.
> At 2 MHz you find it to be 12.56 ohms.
> At 10 MHz you find it to be 62.8 ohms.
> So far the reactance is changing linearly with respect to frequency.
> (Actually it is not perfectly linear, but the difference at these
> frequencies is small and probably would not be observed with run of the
> mill test equipment.)
>
> But, as you approach 100 MHz, you find the change is obviously no longer
> linear.
> At 95 MHz you would expect the reactance to be 6.28*95=596.6 ohms, but
> much to your surprise, it measures 1000 ohms.
> At 99 MHz, instead of the expected 6.28*99=621.72 ohms, it measures
> 50,000 ohms!!
>
> All the above is perfectly normal and easily observable.
>
> My point is that when a coil measures 50,000 ohms at 99 MHz, its
> inductance HAS TO BE L=X/(2*pi*F), or 50,000/(6.28*99)=80.4 uH!
>
> This is not an illusion. If you have an inductance meter which uses 99
> MHz as a test frequency, it WILL MEASURE 80.4 uH.
>
> And therefore, I maintain that inductance DOES vary with frequency.
>
> How can it be otherwise?
>
> --
> Bill, W6WRT

The inductance is not changing. What you are measuring is not pure inductance but the coil has a stray capacitance. That is what is making the coil seof resonate.

YOu did not say what hapens at 110 mhz, 200 mhz, and 500 mhz, if you did , it would measuer capacitance reactance. How do you change a coil into a capacitor ? You don't , but the effect of reactance has.

Look at it this from a totally differant angle. You stick the leads of a DV voltmeter in the wall socket. It does not show any deflection other than maybe the first jump when it is plugged in. Does that mean there is no voltage or power in the circuit, I think not. Stick your fingers in it and see what hapens :-)

Your method is flawed in the same way, you only measured inductance (not really that , but the inductive reactance at a given frequency, but did not measuer capcitance. Where did the capacitance come from ? It is what makes the coil selfresonante. If you measuer a circuit that has inductance, capacitance and resistance, depending on if it is series or pareallel resonate here is what will hapen. As the frequency is increaced the inductance reactance will increace, it will measuer resistance at the reosnant frequency , then a large capacitance reactance and then a small capacitance reactance or else the reverse will hapen, capacitive reactance, resisstance, inductive reactance. However none of the actual inductance, capacitance or resistance values will change. YOu are confusing inductacne and reactance.

YOu are only seeing one part of the big picture. YOu have to look at several formulars to see what is going on in a circuit that has inductance and capacitance.

4152. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 00:26:34 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <_KtBb.2665$mF2.2234@nwrdny02.gnilink.net>
Source record: 30362
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul,
The amount of tuning range is a function of the ratio of Cmax/Cmin. If you parallel varactors, Cmax will double, but so will Cmin. The ratio hasn't changed.

If you're not already using a "hyper-abrupt" type of varactor, you should look into one. They offer a wider capacitance range.

What type of varactor are you using, and what's the frequency of the resonator? What's the application...linear frequency modulation like FM or data keying like FSK???

Joe
W3JDR

"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message news:0koctvoopa283if8t6sbgj7j9ec04oknkp@4ax.com...
>
> Hi,
>
> I'm currently working on this VCXO that achieves frequency shift by
> applying DC bias to two varactor diodes connected cathode to cathode
> (bias applied to the junction between them). If I can't get enough
> shift with the available bias voltage, is there any problem with just
> putting another pair of the same diodes in parallel with the existing
> ones?
> This is a ceramic resonator oscillator, BTW, so will stand a lot more
> 'pulling' than a xtal would, so don't worry about that aspect of it.
>
> p.
> --
>
> "I expect history will be kind to me, since I intend to write it."
> -
Winston Churchill

4153. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 00:27:06 UTC
From: averyfineman@aol.com
Message-ID: <20031209192706.29660.00001982@mb-m24.aol.com>
Source record: 30363

In article <flgatv4sjgb62u7iavr80bfqid71t0thll@4ax.com>, Bill Turner
<noway@nohow.com> writes:

>The disagreement here seems to depend on how one defines what inductance
>is. I maintain that inductance of a coil is nothing more than the
>reactance divided by 2piF, as derived from the formula above. Do you
>disagree with that? That formula has been taught for decades. Are you
>saying it is wrong?

I'm saying that the student doesn't understand inductance.

Inductance does NOT vary over frequency for any coil of wire under
its self-resonance.

Reactance varies over frequency with inductance fixed...directly
proportional to frequency. Inductance doesn't vary.

Yes, you can FIND inductance in Henries if you measure its
reactance at a particular frequency. Inductance in Henries has NOT
changed by doing so. Inductance in Henries remains constant.

[feel free to quibble over the spelling of "Henries" v. "Henrys" :-)]

If your reactance-measuring gizmo is not calibrated properly, then
its readings will show an APPARENT change in inductance. The
inductance still hasn't changed...only the calibration of the gizmo
is off.

Don't get all wound up and take a turn for the worse...

Len Anderson
retired (from regular hours) electronic engineer person

4154. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 00:28:22 UTC
From: Jim Thompson <invalid@invalid.invalid>
Message-ID: <80qctv4bf1nmkvh4r9hi9uq4sebc4pnd27@4ax.com>
Source record: 30364
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 10 Dec 2003 00:07:59 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>
>Hi,
>
>I'm currently working on this VCXO that achieves frequency shift by
>applying DC bias to two varactor diodes connected cathode to cathode
>(bias applied to the junction between them). If I can't get enough
>shift with the available bias voltage, is there any problem with just
>putting another pair of the same diodes in parallel with the existing
>ones?
>This is a ceramic resonator oscillator, BTW, so will stand a lot more
>'pulling' than a xtal would, so don't worry about that aspect of it.
>
>p.

Paul, That will work, but will double *both* min and max capacitance.
But I'm puzzled: "I can't get enough shift with the available bias
voltage" implies you're on the *low* end of capacitance (highest
voltage).

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus
Phoenix, Arizona Voice:(480)460-2350	
E-mail Address at Website Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

4155. HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 00:28:50 UTC
From: KD7TOG <kd7tog@earthlink.net>
Message-ID: <6NtBb.5765$_r6.5752@newsread1.news.pas.earthlink.net>
Source record: 30365

OK, here's a challenge to you guys ... I have been trying to ID a IC / inductor combination to generate 150 to 200 VDC ... in the nano-microamp range. I need to supply a bias voltage to an electrostatic microphone element.

Any ideas ??

Wish list:

Very low current ... < 2ma ;-)
Runs from 5 to 9 volt DC source
Minimal components

Most of the specs I find for HV units (backlight supplies) are too much current. Most of the inductor type DC-DC converters seem geared towards low voltage high current apps.

Will watch the discussion for tips and ideas ... all welcome.

Thanks

Tony, KD7TOG

(KD7TOG at earthlink dot net)

4156. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 00:57:00 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FD66E7D.31B8300A@bellatlantic.net>
Source record: 30366

Bill Turner wrote:
>
> On Tue, 09 Dec 2003 04:59:29 GMT, ehsjr@bellatlantic.net wrote:
>
> >> I maintain it does. Otherwise the formula X=2piFL is invalid.
> > >
> > >NO! In the above equation, X varies when F varies. The equation
> > >does NOT mean that L varies as F varies.
> > >
> >
> > ----------
>
> Perhaps an example will make it clear.
>
> Suppose you have a coil which measures 1 uH at 1 MHz. It is known to
> have a self-resonant (parallel) frequency of 100 MHz.
>
> You measure its reactance at 1 MHz using the formula X=2*pi*F and find
> it to be 6.28 ohms.
> At 2 MHz you find it to be 12.56 ohms.
> At 10 MHz you find it to be 62.8 ohms.
> So far the reactance is changing linearly with respect to frequency.
> (Actually it is not perfectly linear, but the difference at these
> frequencies is small and probably would not be observed with run of the
> mill test equipment.)
>
> But, as you approach 100 MHz, you find the change is obviously no longer
> linear.
> At 95 MHz you would expect the reactance to be 6.28*95=596.6 ohms, but
> much to your surprise, it measures 1000 ohms.
> At 99 MHz, instead of the expected 6.28*99=621.72 ohms, it measures
> 50,000 ohms!!
>
> All the above is perfectly normal and easily observable.
>
> My point is that when a coil measures 50,000 ohms at 99 MHz, its
> inductance HAS TO BE L=X/(2*pi*F), or 50,000/(6.28*99)=80.4 uH!

Here are your own words:
"At that self-resonant frequency, the coil is behaving like a
parallel resonant circuit, which of course it is, due to the
parasitic capacitance between each winding."

Your example ignores the capacitance, which you have stated
exists. There is nothing in your formula that addresses it.

You cannot use the formula or the math above (in your post) to
support your point of view, because it does not contain any
term for capacitance. The capacitance exists, and exhibits
a larger and larger affect on the circuit as the frequency
increases from 1 -> 99 mHz.

>
> This is not an illusion. If you have an inductance meter which uses 99
> MHz as a test frequency, it WILL MEASURE 80.4 uH.
>
> And therefore, I maintain that inductance DOES vary with frequency.
>
> How can it be otherwise?
>
> --
> Bill, W6WRT

4157. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 01:07:24 UTC
From: John Larkin <jjlarkin@highSNIPlandTHIStechPLEASEnology.com>
Message-ID: <u5sctv4u5n5gm3c6f8rm217dbqgg7k343h@4ax.com>
Source record: 30367
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 10 Dec 2003 00:07:59 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>
>Hi,
>
>I'm currently working on this VCXO that achieves frequency shift by
>applying DC bias to two varactor diodes connected cathode to cathode
>(bias applied to the junction between them). If I can't get enough
>shift with the available bias voltage, is there any problem with just
>putting another pair of the same diodes in parallel with the existing
>ones?
>This is a ceramic resonator oscillator, BTW, so will stand a lot more
>'pulling' than a xtal would, so don't worry about that aspect of it.
>
>p.

Sure. Is this a coaxial ceramic resonator, or one of the low-freq
piezo things? What's the frequency, Kenneth? [1]

John

[1] old Dan Rather joke, sorry.

4158. New Program: RHO_SWR

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 01:08:22 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <br5rm5mt1@sparta.btinternet.com>
Source record: 30368

Program models TRUE measurements of SWR and Rho by moving current and
voltage probes along a transmission line.

Exact classical transmission line formulae used on a real lossy line with a
complex value of Zo = Ro - jXo.

Covers frequencies 20 Hz to 1GHz.

Download from website below program RHO_SWR, 50 kilobytes in a few seconds.

Read introductory notes.

--
....
Regards from Reg, G4FGQ
For Free Radio Design Software go to
http://www.btinternet.com/~g4fgq.regp
....

4159. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 01:12:17 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <k6jatvcsmmmjc30dru6smnegp3skva6drs@4ax.com>
Source record: 30369

On 8 Dec 2003 08:00:52 -0800 haf47@juno.com (Howard) wrote:

>I have used Tektronix instruments for almost 30 years now, and don't
>know how I could have got along without them. Most of my work has been
>in commercial radio and television.

While I agree with much of what you say, it's only fair to point out that it's the old-timers among us who mostly feel this way. Tek has changed.

>The manuals are written incredibly well, and I have received
>assistance from tech support on devices more than 25 years old.

Yes, the OLD manuals were wonderful, but have you looked at a manual for a Tek scope sold new in the last 10 years? They have no theory of operation, no parts lists, and no schematics. If you try to call them for tech info on an old scope today, you're pretty likely to be politely turned down.

>I reflect with fondness on repairing a device like a waveform monitor,
>more than 20 years old, and finding a small coil of silver solder on
>the chassis in a place that was designed for it, tucked neatly in its
>own "home." Tek has used silver solder for decades now...they have
>always known it makes a better solder joint...and they want their
>stuff to keep on working, 24/7 for years and years.

The special little coils of silver bearing solder WERE neat, but they were intended for use ONLY on the little ceramic terminal strips. The silver content was necessary to prevent delamination of the metalized part of the strip. This was carefully explained in their manual.

I don't think they used that solder in any solid state gear, nor did they provide the little rolls in any solid state scopes.

>And now I hear that they desroy their own equipment so they can sell
>more new stuff?! Baloney.

Baloney perhaps, but I belive it is still true. I've heard it from people who were there and saw it happen.

>I think I am hearing from people who not only do not understand that
>"you get what you pay for," but have no use for the quality and
>accuracy of the products they are complaining about.

The scopes you're remembering are the products made decades ago. Those were the scopes that made Tektronix' reputation as exceeding the "state of the art." In recent times Tek has been taken over by the bean counters who have entirely different priorities.

It's unfortunate that a giant like this has now stooped to this level, but you really should listen to some of the people here, and elsewhere, who have worked with them, and for them, in recent times.

I'm afraid that much the same thing is happening to Hewlett-Packard. The corporate climate that Bill Hewlett and David Packard spent their lives building has now gone the way of corporate acquisition over innovation. Agilent may continue to do well, but Bill & Dave's names have been sacrificed on the alter of profit.

Yes, I own several old Tek scopes. I consider myself a Tek youngster as I've only been using them for about 35 years. I've got a nice new one at work that only seems to weigh a couple of pounds and still does 300MHz. It takes me 20 minutes to figure it out every time I turn it on, but I assume that's just because I don't turn it on frequently enough.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

4160. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 01:59:42 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD67E3B.91360333@rica.net>
Source record: 30370

KD7TOG wrote:
>
> OK, here's a challenge to you guys ... I have been trying to ID a IC /
> inductor combination to generate 150 to 200 VDC ... in the nano-microamp
> range. I need to supply a bias voltage to an electrostatic microphone
> element.
>
> Any ideas ??
>
> Wish list:
>
> Very low current ... < 2ma ;-)
> Runs from 5 to 9 volt DC source
> Minimal components
>
> Most of the specs I find for HV units (backlight supplies) are too much
> current. Most of the inductor type DC-DC converters seem geared towards low
> voltage high current apps.
>
> Will watch the discussion for tips and ideas ... all welcome.
Nothing is likely to be very efficient at this low power level. I
think I would look into a step up transformer design, perhaps using
something like a MT4143:
http://www.tamuracorp.com/pdf/MET-01.pdf
driven by a two transistor half bridge at ultrasonic frequency. With
a 14 to 1 step up, it could produce 200 volts peak across the whole
secondary, with only 7 volts peak across half its primary. If the
secondary was connected to a voltage doubler, you could drive it with
half that. The transformer is rated for 10 mw, but at 20 kHz, I think
it could do a bit more than that or run fairly efficiently at much
less.

--
John Popelish

4161. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 02:20:49 UTC
From: dplatt@radagast.org
Message-ID: <vtd0o1fttbcpd3@corp.supernews.com>
Source record: 30371

In article <3bkctvoi4smr3r0qo7shibcqtd497b13b9@4ax.com>,
Paul Burridge <pb@osiris1.notthisbit.co.uk> wrote:

>You measure its reactance at 1 MHz using the formula X=2*pi*F and find
>it to be 6.28 ohms.
>At 2 MHz you find it to be 12.56 ohms.
>At 10 MHz you find it to be 62.8 ohms.
>So far the reactance is changing linearly with respect to frequency.
>(Actually it is not perfectly linear, but the difference at these
>frequencies is small and probably would not be observed with run of the
>mill test equipment.)
>
>But, as you approach 100 MHz, you find the change is obviously no longer
>linear.
>At 95 MHz you would expect the reactance to be 6.28*95=596.6 ohms, but
>much to your surprise, it measures 1000 ohms.
>At 99 MHz, instead of the expected 6.28*99=621.72 ohms, it measures
>50,000 ohms!!
>
>All the above is perfectly normal and easily observable.
>
>My point is that when a coil measures 50,000 ohms at 99 MHz, its
>inductance HAS TO BE L=X/(2*pi*F), or 50,000/(6.28*99)=80.4 uH!
>
>This is not an illusion. If you have an inductance meter which uses 99
>MHz as a test frequency, it WILL MEASURE 80.4 uH.
>
>And therefore, I maintain that inductance DOES vary with frequency.
>
>How can it be otherwise?

As Spock said to Kirk, "You proceed from a false assumption." Or, to
put it another way, the scenario you've just laid out contains an
inherent contradiction.

The inductance meter that you are using (or assuming) is not actually
measuring inductance. It's measuring reactance, and back-calculating
to what the inductance would be *if* it were measuring a "pure"
inductance.

However, as you recognize, the component that you are measuring is
not a pure inductance. Its actual reactance is the result of
interaction between its inductance, its inter-winding and distributed
capacitance, and its winding resistance (at any given frequency).

So, what you're observing can best be interpreted as follows:

- At low frequencies (well below resonance), the component's reactance is dominated by its inductive component. It's a decent approximation of a "pure" inductance. The inductance meter gives accurate estimate of the inductive component.

- At high frequencies (well above resonance), the component's reactance is dominated by its capacitive component. It becomes a decent approximation of a "pure" capacitance at some point, I suspect.

At these frequencies, your simple inductance meter lies through its teeth. It "tells" you that the part's inductance is such-and-such, but it's not telling you the truth. It's hiding from you the fact that the reactance it's seeing isn't inductive at all (the reactance decreases as frequency goes up, and exhibits a capacitive phase angle).

So, I think, what you're facing here is the problem which occurs when you try to force simplifying assumptions ("the component being measured is a pure inductance" and "an inductance meter actually measures inductance") outside the range in which these assumptions are valid.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

4162. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 02:23:29 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD6838C.472479FD@rica.net>
Source record: 30372

Bill Turner wrote:
>
> On Tue, 9 Dec 2003 19:20:25 -0500, "Ralph Mowery" <rmowery@ctc.net>
> wrote:
>
> >The inductance is not changing. What you are measuring is not pure
> >inductance but the coil has a stray capacitance. That is what is making the
> >coil seof resonate.
>
> ----------
>
> I am well aware of that, but you are tap dancing around the relevance of
> the formula X=2*pi*F*L.
>
> Just answer this: If I have a coil of very high Q (no appreciable
> resistance), and I apply 100 volts of 100 MHz AC to it, and measure a
> current of 2 milliamps through it, then:
>
> 1. What is its reactance?
> 2. What is its inductance?

Its impedance has been measured to have a magnitude of 50,000 ohms.
If you have independent information that its Q is very high, you can
assume that this impedance is made up of some combination of inductive
reactance and capacitive reactance. With a single measurement such as
this, that is about all you can say.

It cannot be assumed to be all inductive reactance (or any particular
combination of inductive and capacitive reactances), just because
someone labeled the device as an inductor or because it looks like a
coil. Other measurements are needed to nail the details.

A parallel resonance with 50,000 ohms impedance (at some frequency) is
not the same thing as an inductance with 50,000 ohms of inductive
reactance (at the same frequency). They pass a similar magnitude of
current at that frequency for the same applied AC, but their current
phases do not match. And their reaction to nonsinusiodal waveforms is
very different.

--
John Popelish

4163. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 02:38:26 UTC
From: averyfineman@aol.com
Message-ID: <20031209213826.23307.00004925@mb-m29.aol.com>
Source record: 30373

In article <gnubtv87qq8u1ljpq7jdh2i2gpilboh2d7@4ax.com>, Bill Turner
<noway@nohow.com> writes:

>On Tue, 09 Dec 2003 04:59:29 GMT, ehsjr@bellatlantic.net wrote:
>
>>> I maintain it does. Otherwise the formula X=2piFL is invalid.
>>
>>NO! In the above equation, X varies when F varies. The equation
>>does NOT mean that L varies as F varies.
>
>_____
>
>Perhaps an example will make it clear.
>
>Suppose you have a coil which measures 1 uH at 1 MHz. It is known to
>have a self-resonant (parallel) frequency of 100 MHz.

OK, it has a distributed capacity of 2.533 pFd.

The circuit being measured is composed of a pure inductance
of 1.000 uHy and pure capacitance of 2.533 pFd in parallel.

We can neglect the losses in each one of those components
for the sake of illustration.

>You measure its reactance at 1 MHz using the formula X=2*pi*F and find
>it to be 6.28 ohms.

The inductive reactance is 6.28319 Ohms at 1 MHz and the
capacitive reactance is 62.8326 KOhms at 1 MHz.

In terms of susceptance, the B_sub_L is 0.159153 and
15.9153x10^-6 mhos, respectively. Total susceptance is then
0.159137 mhos or 6.28389 Ohms. [reactance meter probably isn't
calibrated that close to show the slight change due to distributed
capacity]

>At 2 MHz you find it to be 12.56 ohms.

At 2 MHz, the inductive reactance is 12.5664 Ohms or 0.0795775
mhos while the distributed capacitance has 31.8306 mhos. The
total susceptance is 0.0795456 mhos or 12.5714 Ohms. That is
within 0.0907% of 12.56 Ohms and darn few reactance measuring
gizmos are calibrated that close...

>At 10 MHz you find it to be 62.8 ohms.

Okay, at 10 MHz, the inductive susceptance is 0.0159155 mhos
and the capacitive susceptance is 159.153 x 10^-6 mhos, the
total being 0.0157563 mhos or 63.4665 Ohms reactance. That's
an error of 1.061% from 62.8 and still fairly reasonable for the error
of a reactance meter or whatever.

>So far the reactance is changing linearly with respect to frequency.
>(Actually it is not perfectly linear, but the difference at these
>frequencies is small and probably would not be observed with run of the
>mill test equipment.)

Okay, that's progress. We are agreed that test equipment can have
errors...he said with a grin having worked in metrology and a
standards lab for over 2 years in the past... :-)

>But, as you approach 100 MHz, you find the change is obviously no longer
>linear.

Ah, but you are measuring TWO things at the same time, the
parallel of the true inductor and its distributed capacity. Once you
are into measuring multiple elements, you need a test setup to
try to get a handle on the individual components. That is why I
brought up the "true inductance" two-frequency test on a Q meter
that has a calibrated tuning capacitor. That WILL establish the
equivalent pure capacitor due to distributed winding capacity in the
coil (the physical inductor form).

Once you KNOW the distributed capacity, its just a matter of some
button-pushing on a good scientific handheld calculator to derive
true inductance from the reactance readings of both inductance and
distributed capacity. [I recommend an HP 32 S II as an RPN fan]

The parallel capacitance will definitely exist as more picoFarads in
a circuit such as a FET gate which has a very high parallel resistance
(or very low conductance if you can think in terms of admittance).
That FET input capacitance will change the higher frequency resonance
even lower.

Offhand, I'd say that 2.533 pFd distributed capacity is rather high and
probably is around 1.0 pFd (solenoidal type, no core)...but a FET
gate input and its PCB traces to ground plane can be an additional
2.0 pFd. That's 3.0 pFd total and the self-resonance of that circuit is
now 91.888 MHz.

>This is not an illusion. If you have an inductance meter which uses 99
>MHz as a test frequency, it WILL MEASURE 80.4 uH.

That "inductance meter" is still measuring TWO THINGS AT THE
SAME TIME. The physical coil still has two components, the
pure inductance in parallel with a pure capacitance representing
the distributed capacity of the windings. Those are inseperable
unless you do something like the "true inductance" test at octave
separation frequencies or equivalent.

A Q Meter of any kind made today, last year, or back in the pre-history before 1947, MEASURES THREE THINGS AT THE SAME TIME! Yet the Q Meter is still accurate enough to derive the equivalent parallel resistance, parallel inductance, and parallel capacitance of the physical coil's windings. [it actually measures conductance and susceptance as a total magnitude and relates that to the Q or loss factor while the calibrated frequency setting and calibrated variable capacitor allow separate "inductance" measurement even though the Q Meter is "looking" at both L and C_sub_d in parallel]

ANYONE using test equipment SHOULD be aware of what their equipment does, how it works (in general), and what it really measures. Since inductance does NOT change in a passive coil (that isn't otherwise influenced by magnetic fields), what anyone measures on a particular coil is THREE THINGS: The conductance due to losses and the susceptance due to BOTH parallel inductance and parallel capacitance. Conductance will change with frequency depending on a lot of different factors (coil form, coil core, wire used, shield used (if any), dielectric of the former material, core permittivity, etc.). Susceptance will change with frequency because of the TWO components...BUT THE INDUCTIVE COMPONENT DOES NOT CHANGE.

>And therefore, I maintain that inductance DOES vary with frequency.
>
>How can it be otherwise?

The baseline taught in all textbooks (where I learned it first) and in classes (where I learned it second) all agree that one MUST separate the components into their "pure" form and THEN derive the component parts by different tests. That is how it is perceived by most other folks based on a lot of first-principle demonstration.

Inductance of a coil DOES NOT CHANGE WITH FREQUENCY.
Basic definition. First-principle stuff by definition.

You CAN say that APPARENT inductance changes if you are just doing one kind of test. "Apparent" isn't going to work well when this coil is dropped into a circuit thinking that "inductance changes with frequency" and the circuit contains a lot of other sneaky little components that can shoot the "apparent" reading way off. No one successfully works with L-C and active-device networks using this "apparent" reading. One separates the component parts first, then combines them into manageable parallel-equivalent or series-equivalent circuits.

The ILLUSION is from looking at an impedance- or admittance-measuring instrument such as a Q Meter and thinking its calibrated inductance dial "measures inductance." It doesn't...but it comes very close. That is just the calibrated variable capacitor tuning to resonance at specific frequencies...as a convenience to the user. The capacitance markings will be accurate but any external coil that has significant parallel

capacitance from its windings will add to the calibrated capacity on the dial. Some Q Meters allow variable frequency settings to do things like the octave-separation-of-frequency measurement of the external test parallel capacity.

An impedance or admittance bridge type of instrument can yield different "errors" and "illusions" depending on their type/kind.

Len Anderson
retired (from regular hours) electronic engineer person

4164. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 03:13:15 UTC
From: "Jim, N2VX" <ZZZZjim_cronin@juno.comZZZZ>
Message-ID: <683dtv06jsi8em57hv9797eadsoor40do5@4ax.com>
Source record: 30374

Tony,

To make it easy snag one of the surplus electronic flash units or
dismantle a disposable camera. Some of them are quite small.
An RC filter will clean up the DC and a simple resistor voltage
divider to cut the voltage to what you want. Regulation shouldn't be
a problem with a steady and low current draw.

To get the input current down it may help to swap the photoiflash
capacitor for something with very low leakage.

73,
Jim

On Wed, 10 Dec 2003 00:28:50 GMT, "KD7TOG" <kd7tog@earthlink.net>
wrote:

>OK, here's a challenge to you guys ... I have been trying to ID a IC /
>inductor combination to generate 150 to 200 VDC ... in the nano-microamp
>range. I need to supply a bias voltage to an electrostatic microphone
>element.
>
>Any ideas ??
>
>Wish list:
>
>Very low current ... < 2ma ;-)
>Runs from 5 to 9 volt DC source
>Minimal components
>
>Most of the specs I find for HV units (backlight supplies) are too much
>current. Most of the inductor type DC-DC converters seem geared towards low
>voltage high current apps.
>
>Will watch the discussion for tips and ideas ... all welcome.
>
>Thanks
>
>Tony, KD7TOG
>
>(KD7TOG at earthlink dot net)
>

4165. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 03:46:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vtd5obn4qbuu6c@corp.supernews.com>
Source record: 30375

Jim Adney wrote:

>. . .

[Good comments]

>. . .
>
> Yes, I own several old Tek scopes. I consider myself a Tek youngster
> as I've only been using them for about 35 years. I've got a nice new
> one at work that only seems to weigh a couple of pounds and still does
> 300MHz. It takes me 20 minutes to figure it out every time I turn it
> on, but I assume that's just because I don't turn it on frequently
> enough.

There's another reason.

For a long time, scopes were designed by engineers who used scopes daily, as their main tool. It wasn't any trick at all for them to select features that were useful, and operation that was intuitive. These days, the features are decided mainly by marketers and upper level managers, few of whom ever spent any time actually using a scope. They're implemented by software engineers, most of whom don't have the slightest idea what a scope does or how to use one. Consequently, we can look forward to a future of instruments that will be harder and harder to use and understand, and won't have the feature set the user really needs.

I'll give you just one example, from the development of one of the first highly digital lines of scopes. A mock-up had been created out of some computer pieces, a display unit, and bits of this and that, so the engineers could get a sense of how the new instrument was to use. I sat down at the bench, and the first thing I did was to adjust the horizontal position. I turned the (only) knob clockwise, and the trace moved to the left. "Oh," I said to the software engineer who had implemented most of the functions, "I see you've got that backward, but that's easy enough to fix." "No," he said, "that's how I intended it to work. It's logical: the delay increases when you turn the knob clockwise." Pointing out to him that, logical or not, it would throw a barrier in the way of every person who ever used the instrument, had absolutely no effect on his certainty that his way was best(*). (And, yes, I would have made the exact same argument that turning the knob to the right *should* move the display to the left if the instrument were a spectrum analyzer.) In this case, the project manager was a former analog engineer, and he overruled the software engineer. But these days, most management positions are filled with people who have seldom or never actually used a scope, so more and more counter-intuitive, clumsy,

and useless features are showing up. Get used to it.

(*) In the '60's, when I was a technician, every place I went would have a bunch of Tek scopes and one or two HPs. The HPs were just fine, except that HP had insisted on making their own user interface. Where a Tek scope would use a knob, they'd use buttons, and so forth, and the controls were all put in different spots. We'd swear if we got stuck with using one of the HPs, since it would take so long to figure out where the needed control was and which way to turn it or which button to push. So no one ever recommended buying an HP -- we all wanted Tek scopes -- and as much due to familiarity as anything else. Then the Japanese scopes came on the market. Y'know what? The knobs and other controls were not only in exactly the same places as on Tek scopes, they were even the same shape and color. We could pick one up and begin using it right away. Y'know what else? Tek took a real beating from the Japanese scopes, way worse than they ever did from HP.

Roy Lewallen, W7EL
Tek, 1974-80, 1984-95

4166. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 04:22:11 UTC
From: "Marc H.Popek" <LVMarc@worldnet.att.net>
Message-ID: <TbxBb.425625$0v4.20427232@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30376
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

that would the more total capacitance but not any larger dC/dV.....

you need even better tricks :-)

Marco

"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
news:0koctvoopa283if8t6sbgj7j9ec04oknkp@4ax.com...
>
> Hi,
>
> I'm currently working on this VCXO that achieves frequency shift by
> applying DC bias to two varactor diodes connected cathode to cathode
> (bias applied to the junction between them). If I can't get enough
> shift with the available bias voltage, is there any problem with just
> putting another pair of the same diodes in parallel with the existing
> ones?
> This is a ceramic resonator oscillator, BTW, so will stand a lot more
> 'pulling' than a xtal would, so don't worry about that aspect of it.
>
> p.
> --
>
> "I expect history will be kind to me, since I intend to write it."
> -
Winston Churchill

4167. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 04:23:06 UTC
From: averyfineman@aol.com
Message-ID: <20031209232306.11891.00002847@mb-m11.aol.com>
Source record: 30377

In article <6NtBb.5765$_r6.5752@newsread1.news.pas.earthlink.net>, "KD7TOG"
<kd7tog@earthlink.net> writes:

>OK, here's a challenge to you guys ... I have been trying to ID a IC /
>inductor combination to generate 150 to 200 VDC ... in the nano-microamp
>range. I need to supply a bias voltage to an electrostatic microphone
>element.
>
>Any ideas ??
>
>Wish list:
>
>Very low current ... < 2ma ;-)
>Runs from 5 to 9 volt DC source
>Minimal components
>
>Most of the specs I find for HV units (backlight supplies) are too much
>current. Most of the inductor type DC-DC converters seem geared towards low
>voltage high current apps.
>
>Will watch the discussion for tips and ideas ... all welcome.

A simple low-RF oscillator can do it with a small transformer having
an enormous turns ratio. I'd suggest a toroidal type with a ferrite
core rather than powdered-iron core to work around 50 to 100 KHz.
Something like a 1:30 turns ratio seems about right with the
secondary tuned, the primary driven by a single transistor emitter,
feedback to the base which will also load down the tuned secondary
some. Maybe a Darlington connection using two bipolars if too
much resistive loading.

Since a 2.5 mHy 4-pie RFC and 1000 pFd tune very close to 100 KHz,
you might use that as the "secondary." The "primary" could have
several turns wound in between the pie sections. Bulkier than a
toroid but a lot easier to handle on the first go-around for feasibility
checking. With 3900 pFd, the 2.5 mHy RFC will tune about 51 KHz.

Staying in the LF region allows most ordinary newer silicon diodes
to directly rectify the LF yet the harmonics don't interfere much with
AM radios nearby. It's well above the top frequency for human
hearing so a simple C-R-C filter ought to make the DC fairly clean
for the microphone without too much C value and bulk.

Len Anderson
retired (from regular hours) electronic engineer person

4168. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 04:38:48 UTC
From: averyfineman@aol.com
Message-ID: <20031209233848.15462.00004825@mb-m06.aol.com>
Source record: 30378

In article <20031209213826.23307.00004925@mb-m29.aol.com>, averyfineman@aol.com (Avery Fineman) writes:

> At 2 MHz, the inductive reactance is 12.5664 Ohms or 0.0795775
> mhos while the distributed capacitance has 31.8306 mhos. The
> total susceptance is 0.0795456 mhos or 12.5714 Ohms. That is
> within 0.0907% of 12.56 Ohms and darn few reactance measuring
> gizmos are calibrated that close...

Make that 31.8306 x 10^(-6) mhos in second line. :-(

Len Anderson
retired (from regular hours) electronic engineer person

4169. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 04:45:06 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <IPKdnbyNtu2bCEqi4p2dnA@ctc.net>
Source record: 30303

:
>
> >The inductance is not changing. What you are measuring is not pure
> >inductance but the coil has a stray capacitance. That is what is making
the
> >coil seof resonate.
>
> ----------
>
> I am well aware of that, but you are tap dancing around the relevance of
> the formula X=2*pi*F*L.
>
> Just answer this: If I have a coil of very high Q (no appreciable
> resistance), and I apply 100 volts of 100 MHz AC to it, and measure a
> current of 2 milliamps through it, then:
>
> 1. What is its reactance?
> 2. What is its inductance?
>
> --
> Bill, W6WRT

I am not tap dancing around that formula. To be a self-resonance , the coil must have some capacitance somewhere. You are leaving that out by just using one formula. You also have to use the Xc=/(2pi*f*C) to get the capacitance and then to find the final results you have to use Xo=Xl-Xc.

As to what you are asking for , it could be almost anything for the inductance. It all depends on the stray capacitance. ?Remember you into this self resonance so there has to be some capacitance. There is an infinante number of solutions to the inductance of this problem.

The simple circuits that are most often found to measuer inductance do not take the capacitance that may be there into concideration.

Just as if you are using a simple SWR meter and have a SWR of 2:1. You do not know if you have a 25 ohm resistor or a 100 ohm resistor hooked to it. Either will show 2:1. Also if there is any reactance , either inductive or capacitive the simple SWR meter will not show that either. Again there is an infiniante number of capacitors and inductor and resistors that will show up as a 2:1 swr. You need a beter instrument.

4170. Re: Max nr of poles in CW-filter ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 06:13:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vtded1o3kbh463@corp.supernews.com>
Source record: 30379

I missed most of this thread, so this might already have been covered.

When making a filter for CW, it's essential that you pay careful attenuation to the time-domain response, and don't concentrate exclusively on the frequency domain. Otherwise, you're apt to end up with a filter that rings badly, and makes it difficult or impossible to copy CW. If you're a very slow speed operator, you can put up with more ringing, but at higher speeds, good transient response is vital.

Among the canonical filter types, I've found the Butterworth to be a very good compromise for CW. It provides tolerable transient response while having a respectable rolloff characteristic. In practice, a more optimum design (i.e., equal sharpness and transient response with fewer total poles) can often or always be realized with a combination of a sharper filter type like a Chebyshev or even elliptical, with added allpass poles to correct the phase response and therefore tame the ringing. However, the latter approach can be a good deal more time consuming -- you can look up the pole locations for a Butterworth in a table, synthesize the filter, and have a reasonable expectation that it'll work pretty much as designed. On the other hand, a phase-corrected Chebyshev or elliptical filter can involve a lot of trial and error modeling.

Roy Lewallen, W7EL

4171. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 06:20:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vtdep43rj7lk67@corp.supernews.com>
Source record: 30380

It's likely that they'd be ok for making RF chokes, broadband transformers, and baluns, and for EMI suppression, and that they wouldn't be suitable for use as inductors in tuned circuits, oscillator tanks, or anywhere that Q or temperature sensitivity are a factor.

You can put one or more turns on a core and measure its impedance (R and X) by a number of means -- signal generator and scope, impedance bridge, or antenna analyzer. For the applications I listed they'd be likely to be suitable for, you want the highest impedance per turn squared possible -- it doesn't matter whether it's R or X unless you're dealing with a lot of power. For tuned circuit inductors, you need high Q, that is, high series X/R ratio.

Roy Lewallen, W7EL

Roger Conroy wrote:
> Hello all
>
> I can scavenge components from junked motherboards - most are fairly easy to
> id. EXCEPT: Many of the boards have small "donut" ferrites pianted light
> green all over with one "sidewall" blue. They are all located in the power
> supply/regulation section of the m/boards. most boards have only one but
> occasionally there are 2 of them.
>
> Are these any good for RF use or should they go into the trash?
>
> 73
> Roger ZR3RC
>
>

4172. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 07:27:43 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <defdtvk94snrjffqivh5ifnl2fa2ju63k1@4ax.com>
Source record: 30381

On Tue, 09 Dec 2003 09:19:26 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Tue, 09 Dec 2003 09:59:03 +0200, Paul Keinanen <keinanen@sci.fi>
>wrote:
>
>>L = Xl / (2 pi f) applies only to _pure_inductive Xl
>>
>>It does _not_ apply to L = X / (2 pi f) in which X is some combination
>>of Xl and Xc !
>
>____
>
>And what is the basis for the second statement above? Network analysis
>normally combines reactances of opposite signs and treats them as a
>single reactance, provided the frequency is constant of course.

Yes, that is true.

For a series resonant circuit X = Xl + Xc and since Xl and Xc have
opposite signs, the total reactance is less than either of them. At
resonance, their magnitude is the same and they cancel each other,
thus, the reactance is zero at resonance.

The situation is a bit more complicated with parallel resonant
circuits (hopefully I got the formula right)

X = 1 / (1 / Xl + 1 / Xc)

At resonance 1/Xl and 1/Xc have equal magnitude but opposite sign and
the divisor goes to zero and X to infinity. At resonance X also
changes sign.

Most test equipment simply measure the total reactance
X = 1 / (1 / Xl + 1 / Xc) at a specified frequency f.

Using the notations

Xl = 2 pi f L
Xc = -1/(2 pi f C)

Please show _mathematically_ how you from a single measurement of the
total reactance X at frequency f can solve both the inductance L and
capacitance C.

If you can not do it, then the single measurement of the total
reactance X is not sufficient for solving both L and C :-).

You could also start with the simpler series resonance (X = Xl + Xc)
case in which the measured reactance X is the end to end reactance.

And please, do not try to invent your own formulas such as
L = X / (2 pi f) when the components of X are unknown. That formula
is only valid in a special case when X is known to be a pure inductive
reactance Xl.

Paul OH3LWR

4173. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 09:22:24 UTC
From: PaoloC <ollollo@as2594.net>
Message-ID: <br6ok6$29skh1$1@ID-199778.news.uni-berlin.de>
Source record: 30382

Roger Conroy wrote:

A comment slightly off the original subject, but might be of use to others.

> Are these any good for RF use or should they go into the trash?

Motherboards and other circuits have some/many pass-through ferrite beads which I find very useful to recycle as RF-block inductors in my circuits.

In dead-bug construction style the use of these beads is very easy, and usually kills unwanted RF propagation channels (such as power supply lines to/from oscillator, buffer, amplifier, ...).

Unfortunately I have never been able to find any datasheet for those beads.

Roger, please post your results if you try your "donuts" for RF applications.

73,
Paolo ZYW

4174. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 11:33:51 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <Y_DBb.161$NM2.165404@newsfep1-win.server.ntli.net>
Source record: 30383

> There's another reason.
>
> For a long time, scopes were designed by engineers who used scopes
> daily, as their main tool. It wasn't any trick at all for them to select
> features that were useful, and operation that was intuitive. These days,
> the features are decided mainly by marketers and upper level managers,
> few of whom ever spent any time actually using a scope. They're
> implemented by software engineers, most of whom don't have the slightest
> idea what a scope does or how to use one. Consequently, we can look
> forward to a future of instruments that will be harder and harder to use
> and understand, and won't have the feature set the user really needs.
>
> I'll give you just one example, from the development of one of the first
> highly digital lines of scopes. A mock-up had been created out of some
> computer pieces, a display unit, and bits of this and that, so the
> engineers could get a sense of how the new instrument was to use. I sat
> down at the bench, and the first thing I did was to adjust the
> horizontal position. I turned the (only) knob clockwise, and the trace
> moved to the left. "Oh," I said to the software engineer who had
> implemented most of the functions, "I see you've got that backward, but
> that's easy enough to fix." "No," he said, "that's how I intended it to
> work. It's logical: the delay increases when you turn the knob
> clockwise." Pointing out to him that, logical or not, it would throw a
> barrier in the way of every person who ever used the instrument, had
> absolutely no effect on his certainty that his way was best(*). (And,
> yes, I would have made the exact same argument that turning the knob to
> the right *should* move the display to the left if the instrument were a
> spectrum analyzer.) In this case, the project manager was a former
> analog engineer, and he overruled the software engineer. But these days,
> most management positions are filled with people who have seldom or
> never actually used a scope, so more and more counter-intuitive, clumsy,
> and useless features are showing up. Get used to it.
>
> (*) In the '60's, when I was a technician, every place I went would have
> a bunch of Tek scopes and one or two HPs. The HPs were just fine, except
> that HP had insisted on making their own user interface. Where a Tek
> scope would use a knob, they'd use buttons, and so forth, and the
> controls were all put in different spots. We'd swear if we got stuck
> with using one of the HPs, since it would take so long to figure out
> where the needed control was and which way to turn it or which button to
> push. So no one ever recommended buying an HP -- we all wanted Tek
> scopes -- and as much due to familiarity as anything else. Then the
> Japanese scopes came on the market. Y'know what? The knobs and other
> controls were not only in exactly the same places as on Tek scopes, they

> were even the same shape and color. We could pick one up and begin using
> it right away. Y'know what else? Tek took a real beating from the
> Japanese scopes, way worse than they ever did from HP.
==========
Roy , Tnx for your interesting comments.
What surprises me is that ,as you highlighted , ergonomics no longer seem to be important in scope development.
Whereas in other industrial activities and product design ,industrial designers pay a lot of attention to ergonomics.
Perhaps it is that modern scopes (and similar equipment) are designed by nerds for nerds.
It also adds to the perception that one has to be a 'specialist' to operate and use this type of equipment ,which I fear is an ever increasing element of modern marketing . A 'KISS' approach apparently does bring in the $$$.

Frank GM0CSZ / KN6WH

4175. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 11:50:42 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <Z_DBb.162$NM2.165404@newsfep1-win.server.ntli.net>
Source record: 30384

> > Are these any good for RF use or should they go into the trash?
> >
> It depends on what they were doing on that motherboard. If they were
> part of an RF interference filter, they may have other RF uses. If
> they were the energy storage inductor in a switching regulator, they
> may have their best performance under 1 MHz. You might look up some
> of the common color codes and standard core sizes, and measure the
> inductance and calculate the permeability of your cores to see if they
> match any of the code specs. This could help to nail down the useful
> frequency range.
==========
A practical way to determine suitability at HF and higher is to fit the
toroid with a bifilar winding ,being the primary and secondary of a
transformer.

Connect a signal generator to one winding and a RF millivolt meter or scope
to the other. By changing the frequency you quickly know in which
frequency range the toroid will be useful.

Usually 'blue' coloured toroids are ferrites for the lower frequencies
serving in SMPSes and AC supply filters.

Frank GM0CSZ / KN6WH

4176. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 12:05:39 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <8hOv7GDTww1$EAZ0@ifwtech.co.uk>
Source record: 30387

Roy Lewallen wrote:
>These days, the features are decided mainly by marketers and upper
>level managers, few of whom ever spent any time actually using a scope.

An un-named source working for H-P/ Agilent totally agrees with that!

He also added:
"The founder of Tek invented the triggered timebase and offered it to Hewlett-Packard. Bill and Dave saw the value but were committed to doing other things for their near future and suggested he start his own firm, giving him some advice along the way."

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)
Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4177. Re: 450ma led backlite question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 12:11:05 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <o3EBb.164$NM2.165545@newsfep1-win.server.ntli.net>
Source record: 30385

> Not sure why this one is elluding me, but , I have a graphics display with
> an led backlight drawing about 450ma @ 5v. While a large 7805 is rated for
> an amp it's getting pretty hot even with a nice sized heat sink.
>
> Any thoughts on another way to drive this backlight? I was thinking of
> running it at 12v (it's going in a radio) and a dropping resistor. What
say?
==========
If your supply voltage is 12 V and need 5 V @ 450 mA , you have to get rid
of 7 V @ 450 mA or 3.15 Watts
in whatever way you do that . Suggest you stick with the 7805 , and
increase the regulator's heat sink if that makes you feel happier .
You can also spread the heat by adding a resistor 'upstream' of the voltage
regulator.
Say you drop 4.5 V across the resistor which @ 450 mA would have to be 10
Ohms ,2 W (take a 3 or 4 W resistor)
Locate the resistor off any PCB (preferably using ceramic ferrules) in a
relatively open area ,not too close to other components
The voltage regulator would then only have to dissipate 1.15 Watt .

With a switch mode regulator you might introduce RF problems.

Frank GM0CSZ / KN6WH

4178. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 12:21:06 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <8eEBb.166$NM2.167398@newsfep1-win.server.ntli.net>
Source record: 30386

"Frank Dinger" <gm0cszx.xkn6wh@ntlworld.com> wrote in message news:...
> > There's another reason.
> >
> > For a long time, scopes were designed by engineers who used scopes
> > daily, as their main tool. It wasn't any trick at all for them to select
> > features that were useful, and operation that was intuitive. These days,
> > the features are decided mainly by marketers and upper level managers,
> > few of whom ever spent any time actually using a scope. They're
> > implemented by software engineers, most of whom don't have the slightest
> > idea what a scope does or how to use one. Consequently, we can look
> > forward to a future of instruments that will be harder and harder to use
> > and understand, and won't have the feature set the user really needs.
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> > I'll give you just one example, from the development of one of the first
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> > barrier in the way of every person who ever used the instrument, had
> > absolutely no effect on his certainty that his way was best(*). (And,
> > yes, I would have made the exact same argument that turning the knob to
> > the right *should* move the display to the left if the instrument were a
> > spectrum analyzer.) In this case, the project manager was a former
> > analog engineer, and he overruled the software engineer. But these days,
> > most management positions are filled with people who have seldom or
> > never actually used a scope, so more and more counter-intuitive, clumsy,
> > and useless features are showing up. Get used to it.
> >
> > (*) In the '60's, when I was a technician, every place I went would have
> > a bunch of Tek scopes and one or two HPs. The HPs were just fine, except
> > that HP had insisted on making their own user interface. Where a Tek
> > scope would use a knob, they'd use buttons, and so forth, and the
> > controls were all put in different spots. We'd swear if we got stuck
> > with using one of the HPs, since it would take so long to figure out
> > where the needed control was and which way to turn it or which button to
> > push. So no one ever recommended buying an HP -- we all wanted Tek
> > scopes -- and as much due to familiarity as anything else. Then the
> > Japanese scopes came on the market. Y'know what? The knobs and other

> > controls were not only in exactly the same places as on Tek scopes, they
> > were even the same shape and color. We could pick one up and begin using
> > it right away. Y'know what else? Tek took a real beating from the
> > Japanese scopes, way worse than they ever did from HP.
> ==========
> Roy , Tnx for your interesting comments.
> What surprises me is that ,as you highlighted , ergonomics no longer seem
> to be important in scope development.
> Whereas in other industrial activities and product design ,industrial
> designers pay a lot of attention to ergonomics.
> Perhaps it is that modern scopes (and similar equipment) are designed by
> nerds for nerds.
> It also adds to the perception that one has to be a 'specialist' to
operate
> and use this type of equipment ,which I fear is an ever increasing element
> of modern marketing . A 'KISS' approach apparently does NOT bring in the
$$$.
>
> Frank GM0CSZ / KN6WH

This message sent a second time due to an earlier omission in the last line
Please note the added word : NOT
>
>
>

4179. Heathkit RG-1 GC rx FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 13:54:53 UTC
From: G4BXD@qsl.net
Message-ID: <3fd71d9f.1086215@news.compuserve.com>
Source record: 30388

Heathkit RG-1 GC rx FS

Genaeral coverage, 0.5 to 30 MHz, AM/CW/SSB, filters,
mains powered, S meter, noise limiter, very nice set to operate.
with circuit details.

£50

or swap for military kit ?

contact Ben direct on "G4BXD@qsl.net"

4180. Special General coverage RX FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 13:55:04 UTC
From: G4BXD@qsl.net
Message-ID: <3fd71e69.1288008@news.compuserve.com>
Source record: 30389

Special General coverage RX FS

Post Office RI-1 general coverage rx, am/cw/ssb,
0.15 to 30 Mhz, mains powered, whip (supplied) or
external aerial. most interesting.

picture at: www.qsl.net/g4bxd/qmstores.htm

or swap for military kit ?

contact Ben direct on "G4BXD@qsl.net"

4181. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 14:39:22 UTC
From: Phil Hobbs <pcdhSpamMeSenseless@us.ibm.com>
Message-ID: <vtetjmr8rrqr4d@corp.supernews.com>
Source record: 30395
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Tom Bruhns wrote:
>
> So the right way to do this is to lower the _effective_ minimum
> capacitance. You can do that by adding an inductor, to cancel out
> capacitance. You can end up making the tuning range as wide as you
> want, but at the expense of the crystal (ceramic resonator in your
> case) being less of the overall frequency determination. In other
> words, there comes a point where you'd be as well off to just do an LC
> oscillator. But to double, say, the range, it's a good way to go.
>
> I guess I re-discovered what was already well known, but a few years
> ago I designed such a VCXO, and was amazed how linear the
> freq-vs-controlvoltage curve was (a good thing for use in a PLL).
> Don't know what range you're trying to achieve, but I had no trouble
> getting a bit more than 0.1% (~20kHz at 14MHz) that way, with a
> crystal.

An inductor in series with the varactors, then another one in parallel
with the series combo can get you a very wide range of impedance from a
decent varactor.

Cheers,

Phil Hobbs

4182. Re: Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 15:12:34 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <m9aetvoi8b2qbo438akfb802kh6n691a25@4ax.com>
Source record: 30390

On Sun, 21 Dec 2003 20:34:13 +0800, "Richard Hosking"
<richardh@iinet.net.au> wrote:

>For CW you need a tunable VFO and this is not easy with reasonable stability
>You wiull have to use an HF transceiver as a tunable IF

If you are _only_ interested in the 2m CW band around 144.050 MHz, a
VXO should give a sufficient tuning range.

A fundamental mode crystal (i.e. below 20 MHz) can be tuned by
500-1000 ppm with a series inductance and variable capacitor. This
should give a 70-150 kHz tuning range on the 2m band.

If a 10.7 MHz IF with low side injection is used, the required LO
frequency would be about 133 MHz is needed, which can be done with a
14.82 Mhz crystal and two triplers or with 16.67 MHz crystal and three
triplers. High side injection should also be checked, since these may
give crystal frequencies that are easier to obtain.

These days the doublers and triplers can be quite easily implemented
with MMICs (such as MAR-x series) and bandpass sections between the
stages.

MMIC:s have reasonable noise figures for the 2m band even as RF front
end amplifiers, but sufficient front end selectivity is often required
to avoid overload problems if the gain is very high.

Paul OH3LWR

4183. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 15:50:48 UTC
From: Phil Hobbs <pcdhSpamMeSenseless@us.ibm.com>
Message-ID: <vtf1pl12o38327@corp.supernews.com>
Source record: 30300
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:

>>An inductor in series with the varactors, then another one in parallel
>>with the series combo can get you a very wide range of impedance from a
>>decent varactor.
>
>
> Thanks, is this the kind of thing you mean?
>
>
>
> +-------+
> | |
> | |
> | |
> C| |
> L1 C| |
> C| |
> | |
> | |
> V |
> D1 - |
> | C|
> Applied DC control voltage | C| L2
> Line --------------------+ C|
> | |
> | |
> D2 - |
> ^ |
> | |
> | |
> | |
> +-------+
>
> View in FP font.
>
> created by Andyï¿½s ASCII-Circuit v1.24.140803 Beta www.tech-chat.de
>
Right. I might make the series inductors symmetrical, if I needed the
tap point to be near signal ground (e.g. with a centertapped coil or a
differential pair driving it). Last time I used this trick was in a
160-MHz phase shifter. The two inductors will generally be about the
same size for best results with a hyperabrupt varactor--5 minutes with a

math program will give you the right values. Generally you need to keep the reactance capacitive if you're resonating a crystal against this combination--there are multiple operating frequencies otherwise, since the resonator will look capacitive almost everywhere.

Cheers,

Phil Hobbs

4184. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 16:57:51 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FD750C3.DD6D5B93@rica.net>
Source record: 30391

PaoloC wrote:

> Motherboards and other circuits have some/many pass-through ferrite
> beads which I find very useful to recycle as RF-block inductors in my
> circuits.
(snip)
> Unfortunately I have never been able to find any datasheet for those beads.
(snip)

Fair-rite makes many of these beads, and their catalog has some
impedance versus frequency data for them:

http://www.fair-rite.com/products.htm

You can also roughly sort ferrite material roughly versus frequency
capability by measuring the resistance with an ohm meter. Low
frequency power types measure in the hundred or thousands of ohms
between contact points, RF suppression types measure in the high kilo
ohms, while high Q RF types measure in the meg ohms. Having a few
known samples for calibration purposes helps.

--
John Popelish

4185. Homebrew HF Lab System

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 16:59:54 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <eilBb.2420$Ax1.1398@nwrdny01.gnilink.net>
Source record: 30392

My homebrewed HF Lab System can now measure L & C values, Q, crystal frequency, and even spectrum analysis. Check out my web site to find out the latest:

http://mysite.verizon.net/jdrocci/

Joe
W3JDR

4186. Re: Some thoughts about homebrew inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 17:32:00 UTC
From: 10-4GoodBuddy <10-4GoodBuddy@nowhere.net>
Message-ID: <20031210123208.100$41@news.newsreader.com>
Source record: 30393

At VHF/UHF most inductance formulas lose accuracy because the thickness of
the wire,
used to make the inductor, can no longer be ignored.

"Ashhar Farhan" <farhan@hotfoon.com> wrote in message
news:8331b126.0312080616.367bc6aa@posting.google.com...
> A number of recent posts have discussed inductors used in homebrew
> equipment. At least, in states-side, it appears that toroids are the
> defacto inductor material for anything from audio to lower VHF. and
> why not, they are easy to wind, cheap (relatively) and available from
> well known sources.
>
> i live in india, and toroids are hard to come by. the only time i did
> use amidon toroids was when a friend coerced me into assembling a
> NorCal40 for him (and then he 'gifted' it to me and took home my
> homebrew 40M rig instead). as a result of being deprived of easy
> supply of toroids, I had to look at almost everything as an coil
> former (from TV balun cores to ... well, lets see...).
>
> i discovered that getting a particular inductance on an air wound coil
> is a bit of a black art. The same coil will report varying
> inductances, if measured at different frequencies! for measuring my
> coils, i use a test oscillator with an equivalent capacitance of
> 165pf. I plug in a test coil, measure the frequency on the frequency
> counter. I punch these frequencies back into the program given below
> to get the inductance.
>
> here is the small program that i wrote (apologies to the non-coders):
>
> #include <stdio.h>
> #include <stdlib.h>
>
> void main()
> {
> char input[100];
> float uHpF;
>
> while (1)
> {
>
> puts("Enter the freq in KHz:");
> gets(input);
>
> uHpF = (1000000/(6.28 * atoi(input))) * (1000000/(6.28 *

> atoi(input)));
> printf ("uH-pf required: %f\n", uHpF);
>
> printf ("at 165pf, coil inductace is %f\n", uHpF/165);
>
> puts("enter inductance/capacitance:");
> gets(input);
> printf("cap required is %f pf\n***\n", (uHpF/atof(input)));
>
> }
> }
>
> recently, i started a VHF NBFM transceiver project on a dare. To my
> surprise i found out that the inductances that were reported by this
> method were not applicable at VHF (the equivalent inductance at VHF
> was much higher for the same coil). To measure the inductances at VHF
> accurately, I rigged up a different test oscillator with an equivalent
> capacitance of 22pf. This worked better.
>
> My explanation for this is two fold. First, except for space (and
> practically also air), every core type has a different frequency
> response. this is similar to an electrolytic capacitor (which will not
> handle HF frequencies). Second issue is that the inter-winding
> capacitances tend to become more prominent at higher frequencies
> leading to the troublesome but frequent self-resonance of coils at
> VHF.
>
> Of all un-conventional materials that I have tried, I have finaly
> discovered something that works for me for almost all of HF and VHF.
> Although it does not work for broad-band (due to lower inductance per
> turn).
>
> From my local hardware store, I purchases a bag full of nylon tap
> washers. These are about 15mm across, 5mm thick and have a hole of 4mm
> in the center. I purchased them at an equivalent of 1 cent each. When
> I use them as toroids, I have calculated that they give 1.5 nH / turn
> squared. That is, wind 20 turns, I get 20 * 20 * 1.5 = 600 nH = 0.6uH
> coil. At higher HF and VHF, they give 1.6 nH / turn squared.
>
> Now I use them in almost everything that I build. From receiver
> front-ends to VHF power strips. There are only two limitations to
> them. The tempurature drift can be quite high because nylon is
> elastic. The easy fix is to dunk the finished coil in some kind of an
> epoxy glue. The other limitation is that quite a high number of turns
> are required to hit required inductances. This makes them unusable for
> broad band work (i am only hypothesising, i havent build a broadband
> amplifier using the washers and found it unfit, someone please do this
> and tell me).
>
> Nylon has pretty good performance well into upper VHF. I dont have the

> capability of checking things above 200MHz. but what i can see upto
> 200MHz is pretty impressive.
>
> I made a hartley oscillator for 10.7 MHz using 45 turns with a tap at
> 10 turns using the nylon washer as a toroid. Without the epoxy glue, i
> found a rapid upward drift (powering on the oscillator immediately
> after soldering in the coil). After 15 minutes, it slowed down (having
> drifted about 50 KHz) to a crawl of under 1 KHz/min. After applying
> the epoxy glue and sticking it to the copper clad board (it is made
> ugly style) the oscillator drifts less then 100 Hz/min after 10
> minutes warm-up on an open bench without any shielding. This is good
> enough for me. I was intending to use it as a modulated NBFM carrier
> generator to be mixed back to 144MHz.
>
> - farhan

4187. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 18:42:01 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312101042.16c73fe2@posting.google.com>
Source record: 30394
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge <pb@osiris1.notthisbit.co.uk> wrote in message
news:<0koctvoopa283if8t6sbgj7j9ec04oknkp@4ax.com>...
> Hi,
>
> I'm currently working on this VCXO that achieves frequency shift by
> applying DC bias to two varactor diodes connected cathode to cathode
> (bias applied to the junction between them). If I can't get enough
> shift with the available bias voltage, is there any problem with just
> putting another pair of the same diodes in parallel with the existing
> ones?
> This is a ceramic resonator oscillator, BTW, so will stand a lot more
> 'pulling' than a xtal would, so don't worry about that aspect of it.

So the right way to do this is to lower the _effective_ minimum
capacitance. You can do that by adding an inductor, to cancel out
capacitance. You can end up making the tuning range as wide as you
want, but at the expense of the crystal (ceramic resonator in your
case) being less of the overall frequency determination. In other
words, there comes a point where you'd be as well off to just do an LC
oscillator. But to double, say, the range, it's a good way to go.

I guess I re-discovered what was already well known, but a few years
ago I designed such a VCXO, and was amazed how linear the
freq-vs-controlvoltage curve was (a good thing for use in a PLL).
Don't know what range you're trying to achieve, but I had no trouble
getting a bit more than 0.1% (~20kHz at 14MHz) that way, with a
crystal.

Cheers,
Tom

4188. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 19:53:29 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <fitetv0c9cj6kbu7b0k2rl7bk6af47jh98@4ax.com>
Source record: 30396
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 10 Dec 2003 00:26:34 GMT, "W3JDR" <joe@roccis.com> wrote:

>Paul,
>The amount of tuning range is a function of the ratio of Cmax/Cmin. If you
>parallel varactors, Cmax will double, but so will Cmin. The ratio hasn't
>changed.

Oh bugger. Well how about using varactors with a higher C/V ratio?

>If you're not already using a "hyper-abrupt" type of varactor, you should
>look into one. They offer a wider capacitance range.

Not sure what you mean by that term, but imagine it amounts to simply
a type with a higher capacitive reaction to applied voltage - as I
mentioned above.

>What type of varactor are you using, and what's the frequency of the
>resonator? What's the application...linear frequency modulation like FM or
>data keying like FSK???

I'm currently using BB149A diodes, but I've got some BBY40s as well,
which might offer more shift per volt; I haven't checked the spec yet.
The fundamental frequency is 8.00Mhz and I need to pull it by +/-32khz
for tuning rather than modulating purposes.

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4189. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 19:53:30 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <b2uetv0nti2rrbp04n2l23ivio1bfk4ea8@4ax.com>
Source record: 30297
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Tue, 09 Dec 2003 17:28:22 -0700, Jim Thompson
<invalid@invalid.invalid> wrote:

>Paul, That will work, but will double *both* min and max capacitance.
>But I'm puzzled: "I can't get enough shift with the available bias
>voltage" implies you're on the *low* end of capacitance (highest
>voltage).

I'm using a 555 timer to generate a sawtooth waveform to feed the
diodes, so I get a constant frequency sweep at the vcxo's output. Main
problem is the limited voltage output range; starts above zero volts
and peaks well before supply rail. So not much of a ramp; just around
4 or 5 volts, I guess. I could try changing the diodes for more
responsive ones but they're SMDs and I really hate messin' with 'em.
:-(
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4190. Re: Tektronix SUCKS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 19:58:13 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <pVKBb.647788$9l5.359956@pd7tw2no>
Source record: 30298
Body handling: HTML body converted to readable text

VA3UX wrote:

>
>
> QST is a good mag but if you want to learn to use a scope, you really
> aren't going to learn it from QST. A 2 page article that might show up
> once every 3 years isn't going to get the job done for you.
>
The "Hands On..." book by Barry Ross is certianly good but whomever
> is asking $120 for it is either an out and out thief, or is completely
> out to lunch. That's a $20 book and you can probably get one for
> less on eBay if you watch and wait. Someone mentioned "Use of the
> Oscilloscope - A Programmed Text" : this is excellent for first time user;
> it was written for a university course. Guaranteed to get you up and
> running with the scope.
>
Phil
>
Uwe Langmesser wrote:
>
I was very interested in all that talk about how
> much Tektronics sucks
>
although after reading most of it I don't think it reflects my
> concerns.
I just recently bought an old 465 and am learning to use it
> and I was
wondering if with so many knowledgable folks somebody could
> recommend a good
>
book which would teach the intricacies of using this level of
> equipment.
Hopefully with good hands on examples and not on a trivial
> level which tells
>
me to wear eye protection when using any Tektronics product.
>
Regards from snowy Maine
>
Uwe

>

You may also want to head over the local college and talk to the electronics profs. they may let you sit in on a lecture regarding using the 'scope.

--
Donovan Hill
VA7LNX (Basic, Advanced)

4191. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 19:59:16 UTC
From: Winfield Hill <Winfield_member@newsguy.com>
Message-ID: <br7tuk019u8@drn.newsguy.com>
Source record: 30304
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Phil Hobbs wrote...
>
> Tom Bruhns wrote:
>>
>> So the right way to do this is to lower the _effective_ minimum
>> capacitance. You can do that by adding an inductor, to cancel out
>> capacitance. You can end up making the tuning range as wide as you
>> want, but at the expense of the crystal (ceramic resonator in your
>> case) being less of the overall frequency determination. In other
>> words, there comes a point where you'd be as well off to just do an
>> LC oscillator. But to double, say, the range, it's a good way to go.
>>
>> I guess I re-discovered what was already well known, but a few years
>> ago I designed such a VCXO, and was amazed how linear the
>> freq-vs-controlvoltage curve was (a good thing for use in a PLL).
>> Don't know what range you're trying to achieve, but I had no trouble
>> getting a bit more than 0.1% (~20kHz at 14MHz) that way, with a
>> crystal.
>
> An inductor in series with the varactors, then another one in parallel
> with the series combo can get you a very wide range of impedance from
> a decent varactor.

Sounds good. How about a specific example?

Thanks,
- Win

whill_at_picovolt-dot-com

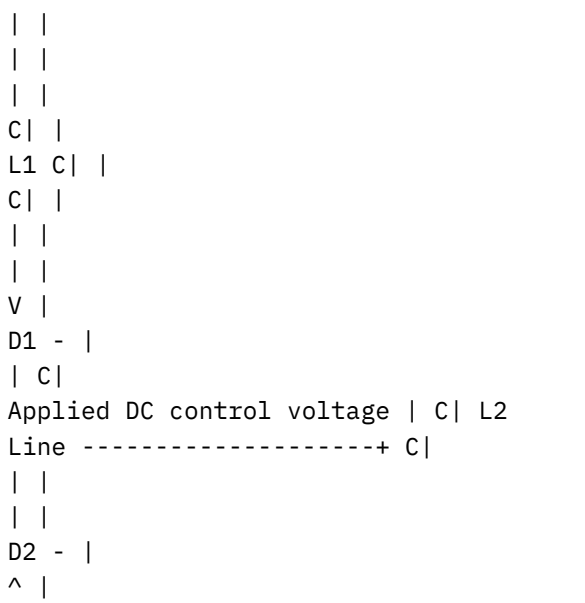
4192. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 20:17:59 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <8evetvc76ba8i1ii0mkl119aqkj3pd6ag8@4ax.com>
Source record: 30299
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 10 Dec 2003 14:39:22 +0000, Phil Hobbs
<pcdhSpamMeSenseless@us.ibm.com> wrote:

>Tom Bruhns wrote:
>>
>> So the right way to do this is to lower the _effective_ minimum
>> capacitance. You can do that by adding an inductor, to cancel out
>> capacitance. You can end up making the tuning range as wide as you
>> want, but at the expense of the crystal (ceramic resonator in your
>> case) being less of the overall frequency determination. In other
>> words, there comes a point where you'd be as well off to just do an LC
>> oscillator. But to double, say, the range, it's a good way to go.
>>
>> I guess I re-discovered what was already well known, but a few years
>> ago I designed such a VCXO, and was amazed how linear the
>> freq-vs-controlvoltage curve was (a good thing for use in a PLL).
>> Don't know what range you're trying to achieve, but I had no trouble
>> getting a bit more than 0.1% (~20kHz at 14MHz) that way, with a
>> crystal.
>
>An inductor in series with the varactors, then another one in parallel
>with the series combo can get you a very wide range of impedance from a
>decent varactor.

Thanks, is this the kind of thing you mean?



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View in FP font.

created by Andyï¿½s ASCII-Circuit v1.24.140803 Beta www.tech-chat.de

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4193. Re: 450ma led backlite question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 21:31:36 UTC
From: Tim <"letter T letter H"@lakeoriongroup.com>
Message-ID: <28mdncVOV9alDEqiRVn-jw@comcast.com>
Source record: 30302

Went with a KA3406 DC/DC converter pulled off an old motherboard, seems to be working fine, had to play with the charge caps a bit to get what I wanted but lost the heat for sure!

Thanks

Tim

"Tim" <letter T letter H @lakeoriongroup.com> wrote in message news:KNCdnX9YpNQ5rEuiRVn-sw@comcast.com...
> Not sure why this one is elluding me, but , I have a graphics display with
> an led backlight drawing about 450ma @ 5v. While a large 7805 is rated for
> an amp it's getting pretty hot even with a nice sized heat sink.
>
> Any thoughts on another way to drive this backlight? I was thinking of
> running it at 12v (it's going in a radio) and a dropping resistor. What say?
>
> ddz
>
>

4194. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 21:32:23 UTC
From: averyfineman@aol.com
Message-ID: <20031210163223.07578.00002119@mb-m25.aol.com>
Source record: 30301

In article <8hOv7GDTww1$EAZ0@ifwtech.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> writes:

>Roy Lewallen wrote:
>>These days, the features are decided mainly by marketers and upper
>>level managers, few of whom ever spent any time actually using a scope.
>
>An un-named source working for H-P/ Agilent totally agrees with that!
>
>He also added:
>"The founder of Tek invented the triggered timebase and offered it to
>Hewlett-Packard. Bill and Dave saw the value but were committed to doing
>other things for their near future and suggested he start his own firm,
>giving him some advice along the way."

Well, I have no "un-named" sources, only the named ones. For two
interviews with Howard Vollum, co-founder of Tektronix, try:

http://www.infoage.org/oh-howard-vollum.html

Infoage is concentrating on the Signal Corps labs, most notably
Camp Evans, NJ (outside of Fort Monmouth) which became the
"Evans Laboratories," an adjunct of Fort Monmouth (along with
Coles and Squires labs outside of the Fort in the 1950s). Vollum
spent some service time at Camp Evans after overseas work on
radar in Great Britain. Vollum's interviews consist of one in 1955
and another in 1980.

There's some more at:

http://www.ohsu.edu/vollum/about.htm

There's also archive material from EE Times and several Tektronix
collector's web pages.

I don't find any reference to Hewlett-Packard, but more on the rivalry
with Allen B. DuMont and his oscilloscope company.

My own acquaintence is first with the 511AD model in 1954 while in
U.S. Army and becoming a supervisor on microwave radio relay
equipment. As far as I can recall, the sweep trigger of the 511 is
little more than a Schmitt Trigger circuit which was rather common
in pulse circuitry of the 50s. All of the first Tektronix scopes had
regulated power supplies which enabled the stability of the vertical
sweep to give true volts-per-graticule-marking information and for the
sweep rate to be calibrated with some precision. Whether in service
and maintenance or engineering design, the true information on the

trace is more important than whether or not the sweep trigger is fancy (which it was, again, stable to use repeatedly thanks to the regulated HV supplies). Add to that the "unblanking" of the CRT while in sweep (blank screen during retrace) and the display is quite natural and easy to use.

Having used a number of different instruments and scopes, I can't agree with the "standard control arrangement" comments. Each and every instrument has, to me, ALWAYS had some differences which required attention to the bell and whistle control lay-outs. This got worse by the 1970s when more and more function controls were added to the front panels and the sizes of controls got smaller and smaller. My fingers remained the same size...it got ridiculous with the pointy little "keys" of the optional 7000 series (?) plug-in for writing things on the CRT face...and the plug-in "spectrum analyzer" modules from a company that Tektronix acquired.

Given the rather totally different function controls of today's DSOs, it boils down to everyone needing to understand their instruments FIRST before trying to use them. Ain't no such thing as "standard control arrangements" when the controls don't apply to newer functions.

Len Anderson
retired (from regular hours) electronic engineer person

4195. FA: Ugliest homebrew linear project EVER - Ebay ad, but ya gotta see this

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 22:22:07 UTC
From: GS <greatsurplus@hotmail.com>
Message-ID: <9d134dde1450b74e2661fe7a8c9375a6@news.meganetnews.com>
Source record: 30305

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3064839871

Please - I almost never post Ebay stuff in this group, unless it very
specifically relates to the homebrew crowd.

I'm posting just cuz you HAVE TO SEE this piece of work. LOTS
of photos - possibly the most hideous homebrew amplifier ever!
If the guy didn't die testing it, I'd be surprised....

Again, sorry for the Ebay post. Don't bid - just look. It's amazing

GS

4196. Wacky Idea ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 23:23:34 UTC
From: David Forsyth <foda01@ncx.com>
Message-ID: <vtfae5sfalp9e5@corp.supernews.com>
Source record: 30306

I know this is a wacky idea but...

Would it be at least theoretically possible to transmit digital (hi-fi?)
audio signals using a spark-gap transmitter?

Dave

4197. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 23:28:06 UTC
From: nospam@nouce.bellatlantic.net
Message-ID: <3fd7abcd.1042721894@news.bellatlantic.net>
Source record: 30307
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 10 Dec 2003 19:53:30 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>On Tue, 09 Dec 2003 17:28:22 -0700, Jim Thompson
><invalid@invalid.invalid> wrote:
>
>I'm using a 555 timer to generate a sawtooth waveform to feed the
>diodes, so I get a constant frequency sweep at the vcxo's output. Main
>problem is the limited voltage output range; starts above zero volts
>and peaks well before supply rail. So not much of a ramp; just around
>4 or 5 volts, I guess. I could try changing the diodes for more

The 555 thresholds are set to charge and discharge the timing cap at
1/3 and 2/3rds the supply voltage. If you using that directly the
easiest way to get more "swing" is :

Use an opamp to translate the voltage lower and add some gain
(use at least 12v on the opamp). That can get you a Tuning voltage
that is near 0 to near 12V (that should help).

OR use a higher Vcc on the 555, say 12v. That will get your total
swing to about 4V and the low will be 4v and the peak will be 8v.

There are tricks that can be used to "offset" that 1/3 and 2/3 point
but the total swing is usually the same. That can help as operating
the Varicap closer to 0V will allow you to use more of it's
capacitance range though it's usualy less linear at the bottom.

Myself I'd use an opamp to create a saw generator and then I can
control the swings.

Allison

4198. Re: Wacky Idea ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 23:31:54 UTC
From: mikea@mikea.ath.cx
Message-ID: <br8adatts2@puck.litech.org>
Source record: 30308

David Forsyth <foda01@ncx.com> wrote:
> I know this is a wacky idea but...

> Would it be at least theoretically possible to transmit digital (hi-fi?)
> audio signals using a spark-gap transmitter?

Yes, if you use dash for "1", dot for "0" (or vice versa), _never_
mis-send, and have some unambiguous way to signal EOF, or use
some other coding scheme that unambiguously represents all the
possibilities as stuff that can come out of a spark transmitter. The
EE and mathematicians who know more coding theory than I do will be
better able to answer the question, but _yes_ is the basic answer.

If you want to send it synchronously, then it's even fairly easy,
provided you're prepared to accept a low data rate and do signaling
out-of-band for EOF, End-of-track, and suchlike.

After all, we manage to send images from probes passing Neptune. This
is, by comparison, trivial.

(I'll skip the lecture on Gold codes, sending a 65535-bit PN sequence
straight-up for a "1", inverted for a "0", and all the other stuff
that actually got the bits received with a minimal BER)

Let me know if you want to start sending low-rate digital audio using
your spark-gap transmitter, and I'll move a few thousand miles away.

Related note:

Did anyone else here in the US catch the piece on NPR about Bill
Marconi's first transmission from Poldhu to Newfoundland, about a
week ago? It was sort of spacey and low on information content, but
it _did_ have some stuff in it I hadn't heard before, including audio
of Marconi talking about the problems involved -- including the winds
at Poldhu being so bad that they repeatedly blew the antenna masts
over.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin

4199. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-10 23:57:14 UTC
From: Phil Hobbs <pcdhSpamMeSenseless@us.ibm.com>
Message-ID: <vtfu9rr6mf4efb@corp.supernews.com>
Source record: 30312
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Winfield Hill wrote:
> Phil Hobbs wrote...
>
>>Tom Bruhns wrote:
>>
>>>So the right way to do this is to lower the _effective_ minimum
>>>capacitance. You can do that by adding an inductor, to cancel out
>>>capacitance. You can end up making the tuning range as wide as you
>>>want, but at the expense of the crystal (ceramic resonator in your
>>>case) being less of the overall frequency determination. In other
>>>words, there comes a point where you'd be as well off to just do an
>>>LC oscillator. But to double, say, the range, it's a good way to go.
>>>
>>>I guess I re-discovered what was already well known, but a few years
>>>ago I designed such a VCXO, and was amazed how linear the
>>>freq-vs-controlvoltage curve was (a good thing for use in a PLL).
>>>Don't know what range you're trying to achieve, but I had no trouble
>>>getting a bit more than 0.1% (~20kHz at 14MHz) that way, with a
>>>crystal.
>>
>>An inductor in series with the varactors, then another one in parallel
>>with the series combo can get you a very wide range of impedance from
>>a decent varactor.
>
>
> Sounds good. How about a specific example?
>
> Thanks,
> - Win
>
> whill_at_picovolt-dot-com
>
Last time I used this was with an MV104 common-cathode dual hyperabrupt, to make a 110-MHz phase shifter. It used a Mini-Circuits quadrature hybrid in the usual way, coming in the 0 degree port, coming out the 180 degree port, and hanging matched reactances on the 90 degree ports.

Each section had its own inductors, and the cathodes were bypassed heavily (1000 pF) to ground so that the two sides didn't interact too much. The component values were 45 nH in series and 43 nH in parallel. It was linear to within +-4 degrees, and the one section gave phase shifts from 12 to 164 degrees, both dramatically better than I could get with a bare varactor.

The idea is to have the varactor resonate with the series inductor just off the low-voltage end of the range, and have the series combination resonate with the parallel L just off the high-voltage end of the range. Since the series-resonance doesn't even notice the parallel L, the design equations decouple nicely, too. You adjust the placement of the resonances to get the range and linearity desired.

Cheers,

Phil Hobbs

4200. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 00:13:16 UTC
From: Phil Hobbs <pcdhSpamMeSenseless@us.ibm.com>
Message-ID: <3FD7B69C.5020704@us.ibm.com>
Source record: 30313
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Winfield Hill wrote:

> Phil Hobbs wrote...
>
>> Tom Bruhns wrote:
>>
>>> So the right way to do this is to lower the _effective_ minimum
>>> capacitance. You can do that by adding an inductor, to cancel out
>>> capacitance. You can end up making the tuning range as wide as you
>>> want, but at the expense of the crystal (ceramic resonator in your
>>> case) being less of the overall frequency determination. In other
>>> words, there comes a point where you'd be as well off to just do an
>>> LC oscillator. But to double, say, the range, it's a good way to go.
>>>
>>> I guess I re-discovered what was already well known, but a few years
>>> ago I designed such a VCXO, and was amazed how linear the
>>> freq-vs-controlvoltage curve was (a good thing for use in a PLL).
Don't know what range you're trying to achieve, but I had no trouble
>>> getting a bit more than 0.1% (~20kHz at 14MHz) that way, with a
>>> crystal.
>>
>>
>> An inductor in series with the varactors, then another one in
parallel with the series combo can get you a very wide range of
impedance from
>> a decent varactor.
>
>
>
> Sounds good. How about a specific example?
>
> Thanks,
> - Win
>
> whill_at_picovolt-dot-com
>
Last time I used this was with an MV104 common-cathode dual hyperabrupt,
to make a 110-MHz phase shifter. It used a Mini-Circuits quadrature
hybrid in the usual way, coming in the 0 degree port, coming out the 180
degree port, and hanging matched reactances on the 90 degree ports.

Each section had its own inductors, and the cathodes were bypassed
heavily (1000 pF) to ground so that the two sides didn't interact too
much. The component values were 45 nH in series and 43 nH in parallel.

It was linear to within +-4 degrees, and the one section gave phase shifts from 12 to 164 degrees, both dramatically better than I could get with a bare varactor.

The idea is to have the varactor resonate with the series inductor just off the low-voltage end of the range, and have the series combination resonate with the parallel L just off the high-voltage end of the range. Since the series-resonance doesn't even notice the parallel L, the design equations decouple nicely, too. You adjust the placement of the resonances to get the range and linearity desired.

Cheers,

Phil Hobbs

4201. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 01:11:23 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <cm7dtvc7qgr7u0eaa5sdbljin212it6a37@4ax.com>
Source record: 30309

On Mon, 8 Dec 2003 12:56:45 -0800 "Joel Kolstad"
<JKolstad71HatesSpam@Yahoo.Com> wrote:

>I am going to get myself a nice 2465B or perhaps a 2467 after finish school
>and find myself a Real Job again -- in a sense those scopes seem like the
>pinnacle of pure-analog scope development and even if they are only good to
>400MHz, there'll continue to be plenty of designs that can be serviced by
>such scopes for years to come.

I had to smile when I read this. I realize that there certainly are
jobs out there which require this kind of bandwidth, but I think for
the vast majority of us, 20MHz is more than enough.

I know that I often pull the 20 MHz bandwidth limit switch on my 465B,
just to quiet down the noise, and I actually have a 10 MHz scope which
is still extrememly useful.

It's nice to know that the extra bandwidth is there, but for almost
any servicing job (TV, radio, CD, DVD, audio...) 50 MHz is way more
than enough.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

4202. Re: Wacky Idea ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 02:19:46 UTC
From: Lou DeChris <bit-bucket@config.com>
Message-ID: <slrnbtfl21.1pvs.bit-bucket@localhost.config.com>
Source record: 30311

On Wed, 10 Dec 2003 23:31:54 +0000 (UTC), Mike Andrews hath writ:

<pedantic>

> Did anyone else here in the US catch the piece on NPR about Bill
> Marconi's first transmission from Poldhu to Newfoundland, about a
> week ago?

I doubt if Marconi did any transmitting "...about a week ago." <g>
Your english teacher must be turning over in her grave. :-)

</pedantic>

4203. Re: FA: Ugliest homebrew linear project EVER - Ebay ad, but ya gotta see this

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 02:23:27 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FD7D51F.9030003@bellsouth.net>
Source record: 30310

GS wrote:
> http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3064839871
>
>
> Please - I almost never post Ebay stuff in this group, unless it very
> specifically relates to the homebrew crowd.
>
> I'm posting just cuz you HAVE TO SEE this piece of work. LOTS
> of photos - possibly the most hideous homebrew amplifier ever!
> If the guy didn't die testing it, I'd be surprised....
>
> Again, sorry for the Ebay post. Don't bid - just look. It's amazing
>
> GS
>
>
Looks like this amp was designed for 3 811A's (three sockets), maybe he dropped
one of the tubes?

BTW I built an amp almost as ugly about 15 years ago using a pair of 4-400A's.
Mine was at least safe, and it even worked on 80-20, above that the tank was not optimal and it worked poor. On 80 it tuned as broad as a barn, but I've seen SB-200's do that too. Mine was built in a pair of boxes one on top of the
other that came out of a surplus computer system. The top box was the rf box (used
to hold the disk drives) the bottom box was the power supply (used to hold the rest
of the computer) so it looked like a sick Henry 2K. The only power transformer
I could find had a 120v primary, but it was good for a real 2kw. (when ever I tuned up for more than 20 seconds I blew the 20A breaker). The plate supply
was plugged into one outlet on it's own line, the relay and filament supply was
plugged into a second outlet on a different line. I had a FWB rectifier using
1N4007's, each leg had 10 diodes in series with equalizing resistors and caps
(WAY over built). The secondary put out almost 3kv no load, so the tubes were

running a little over 4kv. The filter was 10 400uf 450v computer grade caps
in series, with 20k resistors across each. A real MONSTER of a supply.
There was a power resistor in series with the primary that was shorted
out by a relay
across a sensing resistor in series with the primary as well. This gave
the HV
supply a soft start so the capacitors charging wouldn't zap the diodes.
Wish I kept a photo of my Frankenstein machine.

4204. Re: FA: Ugliest homebrew linear project EVER - Ebay ad, but ya gotta see this

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 05:12:51 UTC
From: GS <Greatsurplus@hotmail.com>
Message-ID: <br8uml$md9m$1@ID-133475.news.uni-berlin.de>
Source record: 30314

> ____
>
> I used to have a car I'm pretty sure was built by this guy.
>

ROTFLMAO!!!!

That is SO funny! Ya know? I think I DID TOO!!!

Dave
Greatsurplus

4205. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 05:36:04 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3fd7ffdf$1@wobble>
Source record: 30315

duckman wrote:
> Had a question for open discussion
>
> Is there available, can it be done to have an AM and/ and or FM transmitter
> that will broadcast over the entire AM and FM broadcast band at the same
> time. Or at least multiple stations. E.G.
>
> From 88 - 108 at once or 88-98, then 98-108
> Same on AM band.
>
> It would have to be a low power to be able to be used on private property
> and limiy range to 300 mtrs
>
> Can this be done, where can l buy it, or how do l make it
>
> Told you it was a dousy of a question, whats your thoughts.

Conceptually, you're describing something similar to
ODFM, used in 802.11(a) and (g). Basically, you create
numerous independently modulated carriers across a band,
combine them and amplify them. If you're intent on
transmitting the same information on each carrier, then I
suppose a simplifying trick might be to produce a comb,
but the general case is basically identical to something
that exists already.

Now, here's a question that follows - suppose you built
an ODFM transmitter that was able to place a signal on
each 'channel' in the FM broadcast band. What could
power-level/signal-strength would be permitted under
Part 15? Would the aggregate ODFM signal be considered a
single signal for Part 15 purposes, or would each 'channel'
be considered an independent signal (since, technically, it
is)?

Dana

4206. Re: Wacky Idea ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 11:05:53 UTC
From: wot.email.addr@which.email.addr.com
Message-ID: <oqjgtvo2ak896b068u0k44tj5gph0gn42p@4ax.com>
Source record: 30323

Yup, speak to any electronic car ignition designer, they will tell you how accurately you can time a spark.

Clive

4207. Re: Ugliest homebrew linear project EVER - Ebay ad, but ya gotta see this

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 11:43:00 UTC
From: Bob P <uce@ftc.gov>
Message-ID: <8LYBb.15547$P%1.14419035@newssvr28.news.prodigy.com>
Source record: 30324

Well, at least the builder had the initiative to actually build some radio
gear, albiet a bit rough around the edges. Every edge.
Bob
kb8tl at arrl dot net

4208. Re: Homebrew HF Lab System

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 11:50:30 UTC
From: Bob P <uce@ftc.gov>
Message-ID: <aSYBb.15548$P%1.14420299@newssvr28.news.prodigy.com>
Source record: 30325

Positively excellent. Will you be offering a kit?

4209. Re: Is it really hard? - VHF RX

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 15:22:51 UTC
From: yokeman65bb@netscape.net
Message-ID: <7fbb0af.0312110722.7e950837@posting.google.com>
Source record: 30326

jvereker@wp.pl (Julian Vereker) wrote in message
news:<25102a3d.0311200206.3fd3957d@posting.google.com>...
> Hello,
>
> I'm trying to find some simple receiver (or at least a converter)
> project for 440 or 144 MHz to build. I'm interested in CW mode. But
> there's nothing.
> Is it very hard to build something for 70 cm or there are another
> reasons, that I can't find anything?
>
> jvereker@wp.pl

I've been designing xmitters for low power fast scan video on 70cm.
For an rx I use an old vcr. I put a 10 turn pot on the BT terminal of
the tuner. Works fine.
Grumpy

4210. Re: Wacky Idea ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 16:19:51 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vth69lfrgosm29@corp.supernews.com>
Source record: 30327

yes, but not in real time without going broke..
hank wd5jfr
"David Forsyth" <foda01@ncx.com> wrote in message
news:vtfae5sfalp9e5@corp.supernews.com...
> I know this is a wacky idea but...
>
> Would it be at least theoretically possible to transmit digital (hi-fi?)
> audio signals using a spark-gap transmitter?
>
>
> Dave
>
>
>
>

4211. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 17:31:55 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <2d9htvcpqrtr0jfnptppt6vihoevigdvd9@4ax.com>
Source record: 30328
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Wed, 10 Dec 2003 23:28:06 GMT, nospam@nouce.bellatlantic.net wrote:

>Myself I'd use an opamp to create a saw generator and then I can
>control the swings.

Thanks, nospam. I can't imagine why I didn't think of this before. Got
just the circuit lying about for a 741 sawtooth too!
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4212. Re: Homebrew HF Lab System

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 17:31:55 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <vi9htv47geqnl7v0uanvkipmmnqg35cgvc@4ax.com>
Source record: 30329

On Thu, 11 Dec 2003 11:50:30 GMT, "Bob P" <uce@ftc.gov> wrote:

>Positively excellent. Will you be offering a kit?

Is the Pope Catholic?

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4213. Re: FA: Ugliest homebrew linear project EVER - Ebay ad, but ya gotta see this

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 17:31:56 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <7eahtvo7hchc97fsgipg35jeu2ljmh21s4@4ax.com>
Source record: 30330

On Wed, 10 Dec 2003 22:22:07 GMT, "GS" <greatsurplus@hotmail.com>
wrote:

>http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3064839871
>
>
>Please - I almost never post Ebay stuff in this group, unless it very
>specifically relates to the homebrew crowd.
>
>I'm posting just cuz you HAVE TO SEE this piece of work. LOTS
>of photos - possibly the most hideous homebrew amplifier ever!
>If the guy didn't die testing it, I'd be surprised....
>
>Again, sorry for the Ebay post. Don't bid - just look. It's amazing

LOL! Sure is! BTW, you'll probably find the guy who built is is just
no good with his hands. He's probably a genius when it comes to the
theoretical side of the hobby. Seen it before so many times it works
that way.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4214. Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 18:24:17 UTC
From: kizerian@xmission.com
Message-ID: <ee6182da.0312111024.418b2687@posting.google.com>
Source record: 30331

I have seen remote cutoff pentodes such as the 1T4 used in regenerative receivers. I'm guessing there is a good reason...perhaps something to do with the decrease in gain with increasing signal level...so that the pentode oscillator "fights" going into to oscillation enough to give a very smooth transistion...rather than the more abrupt transistion of some solid state circuits.

I know of no solid state equivalent (without some sort of AGC feedback loop) for the remote cutoff pentode. Does anyone know if there is?

And speaking of the 1T4...has anyone played with these enough to give me some ideas for using them in regenerative radios. I also wondering how much you can starve the plate and still get good results in a regen receiver.

Thanks

Bruce Kizerian
www.elmerdude.com

4215. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 18:36:59 UTC
From: averyfineman@aol.com
Message-ID: <20031211133659.21232.00002640@mb-m13.aol.com>
Source record: 30332

In article <br5coadcs1@newshost.mot.com>, "Steve Nosko"
<suteuve.nosukowicuz@moutouroula.com> writes:

>You're still doing it. Paul (I think) said "measure" and Bill, no, looks
>like Len (I think) said "finding", meaning "calculating".
>
>"Avery Fineman" <averyfineman@aol.com> wrote in message
>news:20031207132551.21232.00002572@mb-m13.aol.com...
>> In article <7g66tvovpg0net6bel900aier8po6uogas@4ax.com>, Bill Turner
>> <noway@nohow.com> writes:
>>
>> >On Sun, 07 Dec 2003 13:55:35 +0200, Paul Keinanen <keinanen@sci.fi>
>> >wrote:
>> >
>> .snip > >
>> >Not only can you *not* measure them separately, they can not be
>> >physically separated either, since the parasitic capacitance is always
>> >present between adjacent windings....
>
>> Nonsense. General Radio had a nice little formula way back
>> before 1956 for finding the distributed capacity of an inductor.

If you are measuring an inductor that has distributed capacity, you
are actually measuring BOTH L and C together.

If the measuring instrument is calibrated in inductance (most Q
Meters are), then the "inductance" reading will be in error at
frequencies near self-resonance. That error is NOT in the
instrument. It is the cause of measuring TWO things at once.

To find the real value of the inductance, another measurement way
is required to derive the distributed capacitance. That way uses the
calibrated capacitance of the Q Meter and the ability of the Q Meter
to set measuring frequencies in a 1:2 ratio.

The calculation required is minimal and the result finds the true
inductance of the coil...as well as the equivalent parallel
capacitance of the windings' distributed capacity. Once those two
values are known, it is an easy task (again, minimal calculation)
to determine total reactance of the whole coil.

The inductance of the coil assembly will NOT change due to
frequency. Reactance of the coil assembly does change with
frequency and follows the basic relationship for the COMBINATION
of inductive reactance AND capacitve reactance in parallel.

In practical matters, for most of UHF and below, the distributed capacity of a "coil" is least with a toroidal form, is greatest with a solenoidal form having overlapping layers of windings. Single-layer solenoidal forms are in between. Spaced-out turns on a solenoidal form (one to two wire diameters' gap between turns) also approaches minimal distributed capacity of the coil. That's one of the reasons I did a bunch of tests with solid wire coils formed on common screw threads a few decades ago...to get some practical data and quit all the "intellectual arguments" on inductance formula values. :-)

Again, in practical matters, a 1.0 uHy coil is not likely to be used in any tuned circuit within an octave of 100 MHz...and the distributed capacity of that 1.0 uHy coil is likely to be less than 1.5 pFd. The amount of error in application as a tuned circuit at 10 MHz that uses an added parallel capacitance for resonance is likely to be less than the tolerances of individual component measurement error capability.

I suppose that all these "intellectual arguments" (the kind done without touching parts or instruments) is "fun" in a weird, wired way, but it is so much phlogiston tossed on the web. When push comes to shove on the bench, one has to do some internal thinking about what is being measured, what the measuring instrument is doing (at least in general) when it is presenting data to the user. To measure a "coil's" properties it doesn't matter whether it is a Q Meter or some kind of bridge...every user needs to know what the instrument is presenting and whether or not it presents data as a combination of components of the "coil."

A common "dipper" is usually one of the worst kinds of RF measuring instruments for qualitative data. The oscillation frequency of the dipper is pulled all over the place by external coupling (easily seen by a very loosely coupled frequency counter). A dipper is good only for quick, rough indications. An absorption wavemeter is better but very rare (frequency is much more stable). A Q Meter with a calibrated variable capacitor is best but also expensive as #$%^!!! The in-between instrument is a bridge of some sort but that bridge isn't guaranteed to sort out the difference of THREE components: Resistive part and the imaginary part due to combination of inductive and capacitive reactance. Bridges vary in types and ability to separate the components.

With the ability of newer specialty ICs to separate magnitude from phrase angle, there's a whole new set of instrumentation possible to do L-C combination measurment. That started with vector voltmeters three decades ago and several homebrewers have adapted Analog Devices and others' ICs for some decent bench instruments that can be made and calibrated in the home workshop. Those operate a bit differently than passive-element bridges but can yield qualitative data on "coils" and "condensers" as good as passive instruments. With the aid of good calculators (an HP 32S II costs $65) anyone can get down to fine nitty-gritty detail and include compensation for other

things. [see other thread on homemade vector voltmeter progress]

Or...one can get on newsgroups and argue the Whichness
of the What in jolly flamefests that last weeks. :-)

Len Anderson
retired (from regular hours) electronic engineer person

4216. help on ad9830 programing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 19:13:17 UTC
From: payam79bb@yahoo.com
Message-ID: <a8588a89.0312111113.2e9b43fa@posting.google.com>
Source record: 30333

hi
i have read ad9830 dds ic datasheet, but i have steel problem how i should program it, for example i want to use pararel port for interfacing , and for example want 3.1MHZ on out put, how i should use D0 to D15 and A0,A1,A2? should i use both freq reg (0,1) and all 4 phase reg ? or one is enouth?
any help would be most appreciated
thanks
payam

4217. Re: 450ma led backlite question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 19:51:31 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <fa2dnbWN4pbdV0WiRVn-uA@comcast.com>
Source record: 30334

Use a switching regulator -- you can even get an LM317 to "oscillate" by putting an RC network in the feedback network -- and use it as a buck converter -- the schematic is on the Nat Semi website -- just search under LM117.

"Tim" <letter T letter H @lakeoriongroup.com> wrote in message news:28mdncVOV9alDEqiRVn-jw@comcast.com...
> Went with a KA3406 DC/DC converter pulled off an old motherboard, seems to
> be working fine, had to play with the charge caps a bit to get what I wanted
> but lost the heat for sure!
>
> Thanks
>
> Tim
>
> "Tim" <letter T letter H @lakeoriongroup.com> wrote in message
> news:KNCdnX9YpNQ5rEuiRVn-sw@comcast.com...
> > Not sure why this one is elluding me, but , I have a graphics display with
> > an led backlight drawing about 450ma @ 5v. While a large 7805 is rated for
> > an amp it's getting pretty hot even with a nice sized heat sink.
> >
> > Any thoughts on another way to drive this backlight? I was thinking of
> > running it at 12v (it's going in a radio) and a dropping resistor. What
> say?
> >
> > ddz
> >
> >
>
>

4218. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 19:55:57 UTC
From: averyfineman@aol.com
Message-ID: <20031211145557.11022.00002667@mb-m14.aol.com>
Source record: 30335

In article <ee6182da.0312111024.418b2687@posting.google.com>,
kizerian@xmission.com (Bruce Kizerian) writes:

>I have seen remote cutoff pentodes such as the 1T4 used in
>regenerative receivers. I'm guessing there is a good reason...perhaps
>something to do with the decrease in gain with increasing signal
>level...so that the pentode oscillator "fights" going into to
>oscillation enough to give a very smooth transistion...rather than the
>more abrupt transistion of some solid state circuits.

A 1T4 is an old directly-heated cathode tube. Played with those
a 56 years ago...in regenerative receivers...:-)

Looking back at those old magazine article projects, I'd surmise
that the "reason" a particular tube was used was that it was
AVAILABLE to use.

A regen operates at the hairy transition of self-oscillation where
positive feedback yields a tremendous increase in gain. Doesn't
matter whether it is vacuum tube or transistor. The only difference
between remote-cutoff and sharp cutoff characteristics (transistors
of the bipolar junction type are very sharp cutoff equivalents to
tubes) would be on the amount of spurious garbage created when
the regen jumps into full oscillation.

>I know of no solid state equivalent (without some sort of AGC feedback
>loop) for the remote cutoff pentode. Does anyone know if there is?

"AGC in a regen?" If you bias the control grid of a 1T4 about all you
will do is change the feedback setting for that hairy transition just
prior to going into self-oscillation.

>And speaking of the 1T4...has anyone played with these enough to give
>me some ideas for using them in regenerative radios.

The last time I played with battery-filament tubes (including the 1T4)
was in helping a friend restore an AN/PRC-8 Korean War era walkie-
talkie in the 70s (I wore one once in 1953). Nice VHF FM transceiver
very stable. The first time I played with a 1T4 was in a regenerative
receiver back in 1947 and it was very touchy on feedback setting
versus frequency on MF to HF bands (plug-in coil thing).

>I also wondering
>how much you can starve the plate and still get good results in a
>regen receiver.

Experiment with it. There's not a large amount of data on regenerative receivers any more and very little in the way of vacuum tube info. A 1T4 power demand is minimal, 1.5 VDC filament at 50 mA and about 2.4 mA plate and screen current at 45 VDC supply. [183 mW total supply drain] That's fairly "starved" considering the transconductance is only 700 umhos (typ) at 0 VDC control grid. Even at "maximums" of 90 V plate and 67 V on screen, the transconductance is only 900 umho.

A 1L4 is a close cousin to the 1T4 as a sharp-cutoff pentode, same envelope, filament, etc., but the gm is about ten percent higher. A 3Q4 or 3S4 (a 1S4 was made but was not recommended for new designs back in 1956) has a gm of 1500 umho at twice the filament voltage and 8.8 mA plate+screen at 90/67 V. Those "power pentodes" have a semi-remote-cutoff characteristic. [800 mW power supply demand would be "power" from a battery pack way back then...]

Regenerative receivers were all the rage among hobbyists back about 1930 when tubes were relatively expensive and lacked transconductance for effective RF amplification. Such were a cheap way to get more sensitivity out of a single tube stage...but at the expensive of instability and lack of uniform selectivity. Once the superheterodyne was into production, it proved far better overall.

For experimentation purposes, a high gain-bandwidth product op-amp IC might produce some interesting results. The gain-bandwidth (or 0 db open-loop gain frequency) of some op-amp ICs is up at 30 to 70 MHz now and the DC open-loop gain is enormous in comparison to vacuum tubes. I sense possibilities of an op-am regen or even a superregen on up through HF. Just a thought... :-)

Len Anderson
retired (from regular hours) electronic engineer person

4219. Re: Homebrew HF Lab System

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 21:27:22 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <_i5Cb.2568$il6.1973@nwrdny02.gnilink.net>
Source record: 30336

Yes, the Pope is Catholic;
Yes, bears do it in the woods, and
Yes, I intend to develop kit and assembled versions.

I also intend to have a set of detailed "public domain" construction articles for the ham community.

Right now I'm looking for a few very experienced and knowledgeable homebrewers who want to try to reproduce my results with my handholding. I'll support them with programmed PIC's and other necessities. Credentials are solicited.

Joe
W3JDR
Check it out:
http://mysite.verizon.net/jdrocci/

"Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message news:vi9htv47geqnl7v0uanvkipmmnqg35cgvc@4ax.com...
> On Thu, 11 Dec 2003 11:50:30 GMT, "Bob P" <uce@ftc.gov> wrote:
>
> >Positively excellent. Will you be offering a kit?
>
> Is the Pope Catholic?
>
>
> --
>
> "I expect history will be kind to me, since I intend to write it."
> -
Winston Churchill

4220. Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-11 23:10:56 UTC
From: Joel <Joel@cyberbest.com>
Message-ID: <qQ6Cb.3622$1k5.821744755@twister1.starband.net>
Source record: 30337

My NiCad battery gave up the ghost in my HT for the second time. They only seem to last a few years, at the most. I was wondering if I replace the NiCad's with newer NMHi batteries can I use the same charger? Both type batteries are about 1.2 volts when charged. But I'm not sure about their charging requirements.

Joel AG4QC

4221. Re: Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 00:25:47 UTC
From: dplatt@radagast.org
Message-ID: <vti2obdbpqg0c5@corp.supernews.com>
Source record: 30338

>My NiCad battery gave up the ghost in my HT for the second time. They only
>seem to last a few years, at the most.

Not uncommon. NiCd batteries _can_ have a fairly long service life
(up to 1000 charge/discharge cycles) if treated gently.

Unfortunately, in many applications they aren't treated gently...
they're run down all the way to zero (which tends to reverse-polarize
the weakest cells and damage them), and are recharged too rapidly
without proper charge management.

Even when treated very well, 1000 charge/discharge cycles wouldn't
last you more than 3 years if you run 'em down fairly far every
day, and recharge every night.

> I was wondering if I replace the
>NiCad's with newer NMHi batteries can I use the same charger? Both type
>batteries are about 1.2 volts when charged. But I'm not sure about their
>charging requirements.

In general, I believe that the answer is "maybe".

NiMH batteries can usually be trickle-charged using the same basic
method used for NiCd batteries. If your HT and its charger normally
required somewhere between 10 and 16 hours to fully recharge your
existing battery pack, then it'd probably work well enough for NiMH
batteries.

Fast-charging is a different issue, because the methods used to detect
"full charge, stop cramming!" on NiCd and NiMH batteries are somewhat
different. A fast-charge circuit originally designed for NiCd
batteries only, may end up damaging NiMH batteries.

Many of the aftermarket-batterypack companies which advertising in QST
etc. will either sell you a NiCd-based replacement pack, or a
NiNH-based pack with the option of buying a NiMH-aware fast charger.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

4222. Re: Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 01:10:21 UTC
From: "Dr. A.T. Squeegee" <SpammersArePondScum@Dev.Null>
Message-ID: <MPG.1a42b5575cf482d2989b77@192.168.42.131>
Source record: 30339

In article <qQ6Cb.3622$1k5.821744755@twister1.starband.net>,
Joel@cyberbest.com says...

> My NiCad battery gave up the ghost in my HT for the second time. They only
> seem to last a few years, at the most. I was wondering if I replace the
> NiCad's with newer NMHi batteries can I use the same charger? Both type
> batteries are about 1.2 volts when charged. But I'm not sure about their
> charging requirements.

I seem to recall that NiMH batteries can use the same chargers as
NiCd. HOWEVER -- LiON batteries cannot.

I'm sure others will correct me if I screwed up. ;-)

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

4223. Re: Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 01:39:16 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FD91C44.1020709@bellsouth.net>
Source record: 30340

Dr. A.T. Squeegee wrote:
> In article <qQ6Cb.3622$1k5.821744755@twister1.starband.net>,
> Joel@cyberbest.com says...
>
>
>>My NiCad battery gave up the ghost in my HT for the second time. They only
>>seem to last a few years, at the most. I was wondering if I replace the
>>NiCad's with newer NMHi batteries can I use the same charger? Both type
>>batteries are about 1.2 volts when charged. But I'm not sure about their
>>charging requirements.
>
>
> I seem to recall that NiMH batteries can use the same chargers as
> NiCd. HOWEVER -- LiON batteries cannot.
>
> I'm sure others will correct me if I screwed up. ;-)
>
>

Some of those battery packs have more than 2 contacts, I think the
reason might
be extra internal compoenents that help detect when the charger should
shut down.
A NMHi battery pack made to replace a NiCd for a specific radio might
have the
correct network in it to work with the original charger.

4224. Re: Ugliest homebrew linear project EVER - Ebay ad, but ya gotta see this

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 01:41:42 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FD91CD6.7010907@bellsouth.net>
Source record: 30341

Bob P wrote:
> Well, at least the builder had the initiative to actually build some radio
> gear, albiet a bit rough around the edges. Every edge.
> Bob
> kb8tl at arrl dot net
>
>

If you look in some of the old QST's from the 20's you'll see
most of the early transmitters were just as ugly. Old spark gap
monsters!

4225. Re: Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 01:49:32 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnbti7lb.19kl.bit-bucket@localhost.config.com>
Source record: 30342

On Thu, 11 Dec 2003 23:10:56 GMT, Joel hath writ:
> My NiCad battery gave up the ghost in my HT for the second time. They only
> seem to last a few years, at the most. I was wondering if I replace the
> NiCad's with newer NMHi batteries can I use the same charger? Both type
> batteries are about 1.2 volts when charged. But I'm not sure about their
> charging requirements.

In addition to the other postings here, do a Google groups
search on "nmhi" , or "battery" over in

rec.photo.digital

Those folks talk incessantly about using NMHi batteries. And,
due to their intense need for good battery service life, there
are some pretty knowledgeable folks there with suggestions.
As well, there'll be some refereneces to web sites with
beau coup technical talk on using NMHi batteries.

HTH
73
Jonesy
--
| Marvin L Jones | jonz | W3DHJ | OS/2
| Gunnison, Colorado | @ | Jonesy | linux __
| 7,703' -- 2,345m | config.com | DM68mn SK

4226. load lines and such

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 02:10:42 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBFE8DD2.9D72%outhouse@midcoast.com>
Source record: 30343

I am reading through the 2003 ARRL Handbook, learning about circuit design, characteristic curves for common emmitter configuration, load lines and such things, just about ready to test all this exciting knowledge on a simple amplifier stage using a 2N2222 transistor and now I can't find the set of characteristic curves for this transistor (I actually downloaded the spec sheet and looked).

Where is this set of curves to be found? Is it not part of a regular spec sheet for a transistor??

Baffled

Uwe

4227. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 03:27:23 UTC
From: John Moriarity <k6qq@hdo.net>
Message-ID: <vtl1o5joeoh69@corp.supernews.com>
Source record: 30260
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

> I'm looking forward
> to making some outdoor antenna measurements using the new N2PK vector
> network analyser... but not today <brrrr!>

Gee, Ian, you only will have to go out and do
the short-open-50R calibration at the end of
the coax. The software can move the reference
plane from the VNA out to the antenna feedpoint,
and you can do the rest from the comfort of
your shack!

Yes, I'm on Harold's list for a kit.

73, John - K6QQ, who thought that after retirement
he'd never have the use of a VNA again!

4228. Re: load lines and such

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 03:37:53 UTC
From: Uwe Langmesser <outhouse@midcoast.com>
Message-ID: <BBFEA244.9D7B%outhouse@midcoast.com>
Source record: 30345

in article 5JmdnRez2bFkskSiRVn-gQ@ctc.net, Ralph Mowery at rmowery@ctc.net
wrote on 12/11/03 10:48 PM:

>> I am reading through the 2003 ARRL Handbook, learning about circuit
> design,
>> characteristic curves for common emmitter configuration, load lines and
> such
>> things, just about ready to test all this exciting knowledge on a simple
>> amplifier stage using a 2N2222 transistor and now I can't find the set of
>> characteristic curves for this transistor (I actually downloaded the spec
>> sheet and looked).
>>
>> Where is this set of curves to be found? Is it not part of a regular spec
>> sheet for a transistor??
>>
>> Baffled
>>
>> Uwe
>
> Here is a curve for the 2n2222.
>
> http://hibp.ecse.rpi.edu/~connor/education/IEE/lectures/Lecture_3_Transistors.
> pdf
>
> http://hyperphysics.phy-astr.gsu.edu/hbase/electronic/loadline.html
>
>
> Go about 3/4 the way down the page.
>
> The curves are in many books the manufactors publish.
>
>
>

Great info, thanks Uwe

4229. Re: load lines and such

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 03:48:01 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <5JmdnRez2bFkskSiRVn-gQ@ctc.net>
Source record: 30344

> I am reading through the 2003 ARRL Handbook, learning about circuit
design,
> characteristic curves for common emmitter configuration, load lines and
such
> things, just about ready to test all this exciting knowledge on a simple
> amplifier stage using a 2N2222 transistor and now I can't find the set of
> characteristic curves for this transistor (I actually downloaded the spec
> sheet and looked).
>
> Where is this set of curves to be found? Is it not part of a regular spec
> sheet for a transistor??
>
> Baffled
>
> Uwe

Here is a curve for the 2n2222.

http://hibp.ecse.rpi.edu/~connor/education/IEE/lectures/Lecture_3_Transistors.pdf

http://hyperphysics.phy-astr.gsu.edu/hbase/electronic/loadline.html

Go about 3/4 the way down the page.

The curves are in many books the manufactors publish.

4230. FS Ad - Electronic Components including TIL311 Hex Displays - LEDs - TTL Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 08:25:31 UTC
From: jrpart@excite.com
Message-ID: <357f4a42.0312120025.2023bc52@posting.google.com>
Source record: 30346
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.homebrew,uk.radio.amateur

Most of the components below are still available.
Some of the quantities have changed. E-mail for
details.

jrpart@excite.com (Parts & Stuff) wrote:
> All prices are in US Funds.
>
> QTY. Part # Unit Price Description
> ---- --------- ---------- -----------
> OPTO.
>
> 125 TIL311 $7.00 ea. The TI TIL-311 is a Hexadecimal Dot
> Matrix Display with integral TTL driver
> electronics to accept, store & display
> 4-bit binary data, Epoxy package
> (Note: This part wholesales at about $16.50 each)
>
> 8 TIL311A $7.00 ea. The TI TIL-311A is a Hexadecimal Dot
> Matrix Display with integral TTL driver
> circuit to accept, store & display
> 4-bit binary data, Plastic package
>
> 10 DIS1417 $7.00 ea. The TI DIS-1417 is a Hexadecimal Dot
> Matrix Display with integral TTL driver
> circuit to accept, store & display
> 4-bit binary data, Epoxy package
>
> For a copy of the TIL311 Datasheet see:
> http://www-s.ti.com/sc/ds/til311.pdf and it is mirrored at
> http://umwnt1.physics.lsa.umich.edu/mttc/images/til311.pdf
>
> 275 Green LED $0.10 ea. Rectangular 5mm x 2mm face/lens
> $17.50 per bag of 250 ($0.07 each) and
>
> 8,750 Red LED $0.10 ea. T1 3/4, 5mm Diameter or 0.2" Diameter
> Sharp P/N: GL5PR4 (5mA at 1.9V)
> $17.50 per bag of 250 ($0.07 each) and
> $100 per box of 2000 ($0.05 each)
>
> 106 MAN6440 $0.95 ea. Dual Digit, Green 7 Segment display,
> 0.56" tall character, Common Cathode
> $15 per tube of 20 MAN- 6440 ($0.75 ea.)

>
> 85 FND6740 $0.95 ea. Dual Digit, Red 7 Segment display,
> 0.56" tall character, Common Cathode
> $15 per tube of 20 FND-6740 ($0.75 ea.)
>
>
> TTL CHIPS, DIP Package
>
> 550 7407N $0.18 ea. $4.00 per tube of 25 ($0.16 each)
> Hex Non-Inverted Buffer with
> Open-Collector outputs
>
> 605 74ALS20AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
> Dual 4-Input Positive NAND Gates
>
> 240 74ALS27AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
> Triple 3-Input Positive NOR Gates
>
> 1350 74LS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
> Dual D-Type Positive Edge-triggered
> Flip-Flops with Preset and Clear.
>
> 100 74ALS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
> Dual D-Type Positive Edge-triggered
> Flip-Flops with Preset and Clear.
>
>
> RESISTORS
>
> 55,000 100 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
> $15 per box of 5000 or
> $100 for 50,000 pieces.
>
> 4,000 220 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
> $12 per box of 4000 or
>
> 4,000 680 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
> $12 per box of 4000 or
>
> A pack of 100 resistors is $4 inclusive shipping to anywhere
> in the US and Canada
>
> e-mail: jrpart@excite.com
>
> Minimum purchase $4 including postage.
>
> No shipping is included in the above prices. To quote a
> total including shipping, I require your full ZIP code or
> postal code in addition to a list of what you are interested
> in. Please specify the country for international orders

> outside of North America. The shipping you will be quoted
> is the cost of the postage stamp (plus insurance if requested).
>
> The only part that I will ship for a total of $4 (by regular
> mail) to anywhere in the US and Canada is a pack of 100
> resistors.
>
> All components are new. All semi-conductors are stored in
> anti-static tubes/bags or on anti-static foam if you purchase
> less than a tube/bag.
>
> Offers on the lot are welcome. Keep in mind that I am looking
> for a price below wholesale, but more than the commercial buyers
> of surplus electronic parts are offering.

4231. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 09:12:55 UTC
From: PaoloC <ollollo@hotpop.com>
Message-ID: <brc0ql$1lobn$2@ID-199778.news.uni-berlin.de>
Source record: 30247

John Popelish wrote:

>>Unfortunately I have never been able to find any datasheet for those beads.
>
> (snip)
>
> Fair-rite makes many of these beads, and their catalog has some
> impedance versus frequency data for them:
>
> http://www.fair-rite.com/products.htm

OUCH! I never thought ferrite beads could end up in such a complete catalog! I feel quite stupid :-) I'm reading the PDF as fast as kids do with Harry Potter's latest adventures :-)

> You can also roughly sort ferrite material roughly versus frequency
> capability by measuring the resistance with an ohm meter. Low

[snip]

Thanks for the extra-useful tips John. I owe you a drink if you happen to pass by here :-)

Paolo ik1zyw

4232. Audio Cable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 12:47:02 UTC
From: fazamy@aol.com
Message-ID: <20031212074702.14191.00000814@mb-m28.aol.com>
Source record: 30248

I need to wire RCA and Phone plugs for my keyer. I have 24 AWG audio cable, 2 conductors plus shield, that is too large for that application. Is there a smaller gauge available? Is there an alternative cable if a smaller gauge is not available?

I need a source for this cable. Internet/mail order is ok.

Thanks
KB2AMY

4233. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 14:58:57 UTC
From: kizerian@xmission.com
Message-ID: <ee6182da.0312120658.58e7619@posting.google.com>
Source record: 30249

> A regen operates at the hairy transition of self-oscillation where
> positive feedback yields a tremendous increase in gain. Doesn't
> matter whether it is vacuum tube or transistor. The only difference
> between remote-cutoff and sharp cutoff characteristics (transistors
> of the bipolar junction type are very sharp cutoff equivalents to
> tubes) would be on the amount of spurious garbage created when
> the regen jumps into full oscillation.

But it does matter. In the heirarchy of regen devices tubes provide the "smoothest" regeneration, followed by FETs, with bipolar transistors generally taking a distant third. I am not asking because I have never built a regen. I have built DOZENS of them, and I sell a simple version on my website...but I'm always looking for a new approach.

> >I know of no solid state equivalent (without some sort of AGC feedback
> >loop) for the remote cutoff pentode. Does anyone know if there is?
>
> "AGC in a regen?"

Here, I was speaking in more general terms and not referring to regenerative circuits.

>
> Experiment with it.

I plan on it.

> For experimentation purposes, a high gain-bandwidth product op-amp
> IC might produce some interesting results. The gain-bandwidth (or
> 0 db open-loop gain frequency) of some op-amp ICs is up at 30 to
> 70 MHz now and the DC open-loop gain is enormous in comparison
> to vacuum tubes. I sense possibilities of an op-am regen or even a
> superregen on up through HF. Just a thought... :-)

The voltage gain of an effective regenerative stage is can be as high as 100,000 as reported by Charles Kitchin. That's 100dB...not many op amps have that kind of gain at say 10MHz.

Thanks for your comments. I always appreciate hearing from folks with lots of valuable radio experience to share.

Bruce kk7zz
www.elmerdude.com

4234. Re: Audio Cable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 15:09:58 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FD9DA2C.1A312A85@earthlink.net>
Source record: 30250

FAZAMY wrote:
>
> I need to wire RCA and Phone plugs for my keyer. I have 24 AWG audio cable, 2
> conductors plus shield, that is too large for that application. Is there a
> smaller gauge available? Is there an alternative cable if a smaller gauge is
> not available?
>
> I need a source for this cable. Internet/mail order is ok.
>
> Thanks
> KB2AMY

The old single conductor shielded "Microphone cable" with a braided
shield was commonly used with these connectors. Belden, Alpha,
Consolidated wire and other companies made the cable, and you should be
able to ge a little at a music store that does repair, form a commercial
sound business, or any electronics parts house that sells cut cable.

It used to be sold on spools as small as 25 feet, but I haven't
bought any in years. I may have some scraps, but I would have to look
for it.
--
14 days!

Michael A. Terrell
Central Florida

4235. Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 16:41:06 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <udrjtvk9fqg6qm3d3o160nf2te5c44dr1f@4ax.com>
Source record: 30251
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hi all,

I wanted to build an RF relative field strength meter, so set about searching on the Web for any existing designs. Those I turned up weren't particularly impressive, so I decided to start from scratch and design my own. I've just completed that this afternoon. I've allowed for 0.25mV input to give rise to FSD on the microammeter. Question being, however, is that going to be sensitive enough? Does anyone have any idea what the field strength in microvolts or millivolts is from a half Watt transmitter at about 6 feet away? I guess I should have posed this question *before* designing it, but who among us can honestly say they haven't designed something without knowing what the spec is? :-)
Anyway, ballpark figures gentlemen, please.

p.
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4236. Power supply plus deep cycle battery, blocking diode, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 17:21:22 UTC
From: denton <denton@oregontrail.net>
Message-ID: <brcsvv$a3v$1@news.oregontrail.net>
Source record: 30252

Hi all...
I am currently using a homebrew 35 amp power supply that has a 50 amp blocking diode in series with the B+ line going to a lead acid deep cycle battery to feed two hf rigs and one vhf/uhf rig.

The power supply has no real current limiting and I want to insert a bit of resistance in the B+ line to keep the current from exceeding 8 amps or so on battery charge up. Can anyone give me an idea of what value would be appropriate.

I am also thinking of replacing the deep cycle battery with a sealed battery...one of those that is advertised to never need fluids, won't leak, etc....are these appropriate for this application?

Thanks in advance....de Denton WB7TDG

4237. Re: load lines and such

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 17:34:14 UTC
From: averyfineman@aol.com
Message-ID: <20031212123414.11022.00002682@mb-m14.aol.com>
Source record: 30253

In article <BBFE8DD2.9D72%outhouse@midcoast.com>, Uwe Langmesser
<outhouse@midcoast.com> writes:

>I am reading through the 2003 ARRL Handbook, learning about circuit design,
>characteristic curves for common emmitter configuration, load lines and such
>things, just about ready to test all this exciting knowledge on a simple
>amplifier stage using a 2N2222 transistor and now I can't find the set of
>characteristic curves for this transistor (I actually downloaded the spec
>sheet and looked).
>
>Where is this set of curves to be found? Is it not part of a regular spec
>sheet for a transistor??
>
>Baffled

The two links provided by Ralph Mowrey are good ones and the first
has an "approximate" set of curves for the good old 2N2222.

Contrary to what Ralph said, manufacturers seldom publish
collector-v-base curves now because few designers use such
information. Silicon BJTs are so nice and straight-line-ish on
the common-emitter collector graphs that it isn't needed. The
only non-linear part is at very low collector-emitter voltages but
that is almost a given and the same for every transistor.

Vacuum tube internal geometry variations created the variations in
"plate curves" along with the different types of pentodes: Sharp
cutoff, remote cutoff, etc. Positioning of the electrodes in the
electron stream and their interaction with each other created the
different curves. With transistor junctions the only variation is the
low V_sub_CE and low base current...which can generally be
graphed by hand from a variable bench supply without blowing up the
device. In trying to create one's own curves at high V_sub_CE, a
pulsed supply MUST be used or the transistor dissipation ratings are
exceeded.

If you are going to present a low-resistance DC load to a transistor
driver but the load is a medium-impedance at RF, the collector
current is chosen from two main factors: (1) Small-signal h_sub_fe
(which can vary from lot to lot and sometimes has its own curves);
(2) Collector-emitter junction dissipation (it's the full V_sub_CC times
the collector current at DC). That holds at AF as well as RF if the
circuit is a transformer-coupled amplifier.

If you are doing something like a "resistance-coupled" amplifier, then
you can trust the curves to be nice and straight and set the "load

line" center point by arithmetic. Voltage across the load resistor is the same at DC as at AF or RF...but the LOAD impedance of the driven stage is going to be in parallel with that resistor...plus the h_sub_oe (internal resistance of the collector-emitter junction) at AF or RF.

FETs are the closest active device to vacuum tubes. Very high input impedance, drain voltage signal variation a function of trans-conductance times total load impedance. A no-sweat calculation. Bipolars are another story and gain of bipolar stages MUST be calculated in terms of power out v. power in due to the base current being the input. Bipolar Junction Transistors (BJTs) have to be thought of as different from vacuum tubes' design rules.

As you go into frequencies approaching the "transition frequency" or f_sub_t, there's a whole potfull of new and different curves for BJTs that tubes never had. Those ARE published on BJTs designed for RF work; to use them properly, you must also know complex number quantities and admittance-impedance transformations (not hard at all with a good scientific calculator).

For applications at frequencies below about 1/20th of the f_sub_t, no problem on not using collector-v-base-current curves. You will find that there might be some small-signal current gain variation at different collector currents and some BJTs might have curves for that. Load lines with BJTs in linear amplifier circuits gets a bit unneccessary.

Len Anderson
retired (from regular hours) electronic engineer person

4238. poppet top band am tx

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 18:11:43 UTC
From: David Roper <davidandpearl@m0dad.freeserve.co.uk>
Message-ID: <brd0a4$qi1$1@newsg4.svr.pol.co.uk>
Source record: 30254

I have built the poppet top band am transmitter from the sprat cd. It is transmitting the am carrier ok, but there is no modulation.
Can anyone suggest how I can test the microphone amplifier circuit.
73 David

4239. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 19:28:52 UTC
From: averyfineman@aol.com
Message-ID: <20031212142852.25815.00005163@mb-m07.aol.com>
Source record: 30256

In article <ee6182da.0312120658.58e7619@posting.google.com>,
kizerian@xmission.com (Bruce Kizerian) writes:

>> A regen operates at the hairy transition of self-oscillation where
>> positive feedback yields a tremendous increase in gain. Doesn't
>> matter whether it is vacuum tube or transistor. The only difference
>> between remote-cutoff and sharp cutoff characteristics (transistors
>> of the bipolar junction type are very sharp cutoff equivalents to
>> tubes) would be on the amount of spurious garbage created when
>> the regen jumps into full oscillation.
>
>But it does matter. In the heirarchy of regen devices tubes provide
>the "smoothest" regeneration, followed by FETs, with bipolar
>transistors generally taking a distant third. I am not asking because
>I have never built a regen. I have built DOZENS of them, and I sell a
>simple version on my website...but I'm always looking for a new
>approach.
>
>> >I know of no solid state equivalent (without some sort of AGC feedback
>> >loop) for the remote cutoff pentode. Does anyone know if there is?
>>
>> "AGC in a regen?"
>
>Here, I was speaking in more general terms and not referring to
>regenerative circuits.

If you are speaking in general terms then there are plenty of gain-
control elements out there. For a single-IC type of device, the
old Motorola MC1350 (8-pin DIP) is a sort-of Gilbert Cell arrangement
inside, differential-in, differntial-out, constant parallel Z-in of 5 KOhm
in parallel with a couple pFd each input. The gain control portion is
done by "starving" or actually redirecting the DC emitter current in the
input differential pair. Jameco (www.jameco.com) still sells this IC
at around $1.20 (?) in singles and has a copy of the Motorola data
for download on their website. That datasheet has a schematic of the
insides. That's good up into mid-VHF.

Some of the older JFETs had non-linear source-drain curves v. gate
voltage curves...see the difference in biasing for "depletion" and
"enhancement" mode operation. I don't know if they will work to
the top of HF range, though.

>> For experimentation purposes, a high gain-bandwidth product op-amp
>> IC might produce some interesting results. The gain-bandwidth (or
>> 0 db open-loop gain frequency) of some op-amp ICs is up at 30 to

>> 70 MHz now and the DC open-loop gain is enormous in comparison
>> to vacuum tubes. I sense possibilities of an op-am regen or even a
>> superregen on up through HF. Just a thought... :-)
>
>The voltage gain of an effective regenerative stage is can be as high
>as 100,000 as reported by Charles Kitchin. That's 100dB...not many op
>amps have that kind of gain at say 10MHz.

I was suggesting using op-amp ICs WITH positive feedback. :-)

I'm just not going to buy "100 db voltage gain" in a regen based on
my own experiences...unless I see the bench layout and check the
calibration stickers on the test equipment determining this. :-)

Frankly, to get a simple receiver for HF, the Tayloe Mixer and its
separate LO followed by a low-noise AF range op-amp has the
most sensitivity for the fewest parts...and with little possibility of
re-radiating the oscillations of a regenerative due to a twitch of the
regeneration control. As a direct-conversion receiver, it can handle
CW or SSB and, with a stable LO, can take in conventional AM
with a lot less tweaking than a regen with a touchy regen control.

The most stable regen I ever built (three in all, the first using that
1T4) was with a 117N7 beam-power pentode and rectifier diode, AF
out driving an old, old high-impedance dynamic speaker. Plate curves
of that tube were of the sharp-cutoff variety. AM BC band, not much
else to listen to for entertainment in 1948. I suspect it was acting
more like a "plate detector" but it had the sensitivity of a common
"all-American-five" AM table top radio receiver.

Some of the minimal-tube-complement receiver designs of older times
used regenerative detectors at the IF for sensitivity improvement. I
know of one old Hallicrafters S-38 (?) reworked that way. That receiver
had essentially an "all-American-five" tube lineup and no power
transformer. Somewhat unsafe, but useable.

Nostalgia isn't what it used to be...

Len Anderson
retired (from regular hours) electronic engineer person

4240. Re: Power supply plus deep cycle battery, blocking diode, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 19:28:54 UTC
From: averyfineman@aol.com
Message-ID: <20031212142854.25815.00005164@mb-m07.aol.com>
Source record: 30255

In article <brcsvv$a3v$1@news.oregontrail.net>, "denton"
<denton@oregontrail.net> writes:

>Hi all...
>I am currently using a homebrew 35 amp power supply that has a 50 amp
>blocking diode in series with the B+ line going to a lead acid deep cycle
>battery to feed two hf rigs and one vhf/uhf rig.
>
>The power supply has no real current limiting and I want to insert a bit of
>resistance in the B+ line to keep the current from exceeding 8 amps or so on
>battery charge up. Can anyone give me an idea of what value would be
>appropriate.

If you want to limit the charging current to a maximum, then you
need a current-limiting regulator circuit with some form of current
sensing in series with the battery line.

A series "resistor" can be made from standard magnet wire with the
value of resistance taken proportional to the resistance per whatever
length is stated. Copper draw dies and general manufacturing of
magnet wire, plus slight changes in dimension due to winding it all
up on some kind of form, allow about a 10% tolerance on such a
"resistor." A very small value resistance is hard to measure in the
home workshop environment so a length of magnet wire is a
reasonable substitute.

Any common op-amp can be used to sense the voltage drop across
a milliOhm resistance (the magnet wire "resistor"). The voltage drop
will be in the milliVolt range but the op-amp can amplify that to drive
a meter or whatever. If put in the return lead rather than the hot lead,
you avoid most of the "swing" in voltage possible in the hot lead. With
only milliVolt drops in the sensing resistor, there isn't a great deal of
upset with to the charging voltage. That sort of current measurement
can be used both for visual indication of charge current and for coupling
to the current regulating circuit.

["B+" is the very old term for plate voltage supply for tubes, ain't really
appropriate for these new-fangled contraptions known as
semiconductors...:-)]

If the charging circuit is basically a constant-current supply (which can
be set), then the output voltage will be set by the battery being charged.
The charging can be halted by limiting the maximum voltage supplied
to the battery(s). That's the opposite of what is normally done; i.e., a
constant-voltage supply with a high current limit. Just as feasible in
practice to have either constant-voltage or constant-current. Some of

the older power supply manufacturer's data will explain various regulators' configurations. I used an old Kepco softcover book back in the late 1960s as a model for a "universal" bench supply.

It isn't clear how you have the arrangement of charger, rigs, and blocking diode(s). There's all sorts of variations possible on those. Any blocking diode will always have some voltage drop across it in forward conduction. For a silicon diode that is in the neighborhood of 0.6 VDC; at 8 A that is 4.8 W of loss across the diode. That will also affect the charge voltage. If you "float" the charger across the battery, then you have to account for that and keep the radio primary input current from affecting the charger.

You aren't accomplishing much but just sticking a resistor in series with a charger supply. If the series resistance is high you create a quasi-constant-current supply with a wide variation of output voltage (called "compliance" in constant-current circuits). If the series resistance is too low, there's little compliance and voltage is basically that of the basic charger rectifier and capacitor.

>I am also thinking of replacing the deep cycle battery with a sealed
>battery...one of those that is advertised to never need fluids, won't leak,
>etc....are these appropriate for this application?

Those should work fine - provided - you stay within battery manufacturer's ratings.

Uninterruptible power supplies exist in the tens of thousands out there in cyberland with little problem. Their internal batteries are sealed and the chargers float across the battery regardless of the load being on or off.

Len Anderson
retired (from regular hours) electronic engineer person

4241. Re: Power supply plus deep cycle battery, blocking diode, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 21:35:16 UTC
From: "Bob Lewis (AA4PB)" <rlewis@staffnet.com>
Message-ID: <vtkd62m1frmr8b@corp.supernews.com>
Source record: 30257

Use ohm's law. The voltage drop across the resistor will be the supply voltage (13.8) minus the discharged battery voltage (10 volts) or 3.8 volts. R = E / I so 3.8 / 8 = 0.475 ohms. So a 0.5 ohm resistor. The power disipated is I*I*R or 8*8*0.5 = 32W.

The battery voltage will quickly climb and the charging current will drop accordingly so the battery takes longer to charge this way but it should be fine if you normally "float" it across the supply to keep it charged *and* it will protect the battery and the supply from over current when it is discharged.

4242. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-12 23:39:02 UTC
From: jgboyles@aol.com
Message-ID: <20031212183902.10794.00000497@mb-m24.aol.com>
Source record: 30258

>I wanted to build an RF relative field strength meter, I've allowed for 0.25mV input to give rise to FSD on the microammeter.
>Question being, however, is that going to be sensitive enough?
>Does
>anyone have any idea what the field strength in microvolts or
>millivolts is from a half Watt transmitter at about 6 feet away?

Figuring the field strenth of a .5 W xmtr at 6 feet is difficult. Depends on the antennas on the xmtr and the FSM and their polarization. Also, depends on the sensisitivty of your FSM (field strength doesn't depend on sensisitivty but your reading will).
Since this is a *relative FSM* I would get something working, use that as a reference, and go from there.

73 Gary N4AST

4243. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 00:40:02 UTC
From: Mr G H Ireland <igor@argonet.co.uk>
Message-ID: <na.53e6de4c5f.a80320igor@argonet.co.uk>
Source record: 30270

This argument could have been obviated, if the parties concerned had agreed
on the definition of inductance.
Is it an inherent property of an arrangement of current-carrying conuctors,
or the result of measuring the current and voltage applied to that
arrangement?

--
igor

Acorn RISC OS4

4244. Re: Ferrites from old PC motherboards

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 00:59:20 UTC
From: John Popelish <jpopelish@rica.net>
Message-ID: <3FDA649F.A03B3EF5@rica.net>
Source record: 30259

PaoloC wrote:
(snip)
> Thanks for the extra-useful tips John. I owe you a drink if you happen
> to pass by here :-)

You are welcome. And it is nice to have a drink waiting.

--
John Popelish

4245. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 01:34:29 UTC
From: ddwyer <dd@ddwyer.demon.co.uk>
Message-ID: <m7tJGIAIym2$EwSQ@ddwyer.demon.co.uk>
Source record: 30271
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <br7tuk019u8@drn.newsguy.com>, Winfield Hill
<Winfield_member@newsguy.com> writes
>Phil Hobbs wrote...
>>
>> Tom Bruhns wrote:
>>>
>>> So the right way to do this is to lower the _effective_ minimum
>>> capacitance. You can do that by adding an inductor, to cancel out
>>> capacitance. You can end up making the tuning range as wide as you
>>> want, but at the expense of the crystal (ceramic resonator in your
>>> case) being less of the overall frequency determination. In other
>>> words, there comes a point where you'd be as well off to just do an
>>> LC oscillator. But to double, say, the range, it's a good way to go.
>>>
>>> I guess I re-discovered what was already well known, but a few years
>>> ago I designed such a VCXO, and was amazed how linear the
>>> freq-vs-controlvoltage curve was (a good thing for use in a PLL).
>>> Don't know what range you're trying to achieve, but I had no trouble
>>> getting a bit more than 0.1% (~20kHz at 14MHz) that way, with a
>>> crystal.
>>
>> An inductor in series with the varactors, then another one in parallel
>> with the series combo can get you a very wide range of impedance from
>> a decent varactor.
>
> Sounds good. How about a specific example?
>
> Thanks,
> - Win
>
> whill_at_picovolt-dot-com
>
Thats the way its done to pull crystals a long way.
The thought/real experiment to assist is to assume that the acoustic
resonator is resistive (zero phase) at series resonance.
The maintaining circuit can then be replaced by an equivalent resistor.
The circuit with resistor should oscillate at approx the resonator
frequency.The inductor across the varicap is selected to almost tune
out/parallel resonate with the varicap.
The series inductor is phase retard to ensure the maintaining circuit
tis zero phase . Adjustment of the varicap then moves the circuit above
and below the series resonance of the resonator.

--
ddwyer

4246. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 06:40:55 UTC
From: Scott Stephens <scottxs@comcast.net>
Message-ID: <XvyCb.529684$Tr4.1458058@attbi_s03>
Source record: 30261
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:

> Does
> anyone have any idea what the field strength in microvolts or
> millivolts is from a half Watt transmitter at about 6 feet away?

I'll SWAG & hope I'll be corrected if I tell ya wrong. Assuming a 1/2 wave antenna on the xmit & rcv, take the volts/meter you're applying on the antenna, divide by 4 PI / (distance)^2, with distance being in wavelengths.

Then there is the famous propogation equations which involves 32, recieve and transmit antenna gains, and the log of the distance and frequency. You can then go from power to voltage according to the antenna Z. I'll look up the equation for you if you don't get a better answer.

--
Scott

****

DIY Piezo-Gyro, PCB Drill Bot & More Soon!

http://home.comcast.net/~scottxs/

****

4247. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 07:55:05 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <TuFxtKAZXs2$EwUs@jmwa.demon.co.uk>
Source record: 30264
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that Ian White, G3SEK
<G3SEK@ifwtech.co.uk> wrote (in <MyKT$zEB9C1$EAeW@ifwtech.co.uk>) about
'Measuring radiation resistance', on Mon, 8 Dec 2003:
>I'm looking forward
>to making some outdoor antenna measurements using the new N2PK vector
>network analyser

Is N2PK a call-sign? Are there any details of this analyser on the
Internet?
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4248. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 09:55:06 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a44ac07737f38f89896b3@news.west.earthlink.net>
Source record: 30262
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Fri, 12 Dec 2003 16:41:06 +0000, pb@osiris1.notthisbit.co.uk
said...
> Hi all,
>
> I wanted to build an RF relative field strength meter, so set about
> searching on the Web for any existing designs. Those I turned up
> weren't particularly impressive, so I decided to start from scratch
> and design my own. I've just completed that this afternoon. I've
> allowed for 0.25mV input to give rise to FSD on the microammeter.
> Question being, however, is that going to be sensitive enough? Does
> anyone have any idea what the field strength in microvolts or
> millivolts is from a half Watt transmitter at about 6 feet away? I
> guess I should have posed this question *before* designing it, but who
> among us can honestly say they haven't designed something without
> knowing what the spec is? :-)
> Anyway, ballpark figures gentlemen, please.
>
> p.
>

E = sqrt(30PG)/d Volts/meter - Field Strength

P = Tx power
G = Tx antenna gain - and don't forget the gain of the meter's
dipole.

S = PG / (4.pi.R^2) Watts/meter^2 - Power density

R = distance

S = E^2/377 (E field^2)/(Z of free space in the far field)

Where the far-field starts is antenna dependant, but it is
acceptaed the the boundary is where the inverse-square-law for
power density above becomes invalid, that is, as you approach the
antenna, the rate of change of S decreases and S is no longer
inverse-square-law dependant.

For large aperature antennas (dishes, dipoles, etc.) this seems to
work out to

R = 2L^2/lambda

lambda is wavelength and L is length of antenna

HTH,
Mike

4249. 2SC1947

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 10:14:25 UTC
From: Neil <nobody@nospam.net>
Message-ID: <breor3$l1g$1$830fa7a5@news.demon.co.uk>
Source record: 30263
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

How safe is it to run these without forced air cooling?

I've got one as a 1 - 4w driver (feeding a BLW60C) and although has a finned TO5 heatsink, it gets up to 70+ degrees Celsius when running. The Mitsubishi spec says it is safe up to 175 degrees Celsius but am not sure if what I'm doing will do the device damage?

Any thoughts anyone?

Neil

4250. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 10:56:53 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.co.uk>
Message-ID: <SekUU4C1Bv2EAW@ifwtech.co.uk>
Source record: 30265
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

John Woodgate wrote:
>I read in sci.electronics.design that Ian White, G3SEK
><G3SEK@ifwtech.co.uk> wrote (in <MyKT$zEB9C1$EAeW@ifwtech.co.uk>) about
>'Measuring radiation resistance', on Mon, 8 Dec 2003:
>>I'm looking forward
>>to making some outdoor antenna measurements using the new N2PK vector
>>network analyser
>
>Is N2PK a call-sign? Are there any details of this analyser on the
>Internet?

Yes; it belongs to Paul Kiciak.

And yes -

The original website URL is:

ï¿½ï¿½ http://users.adelphia.net/~n2pk/

ï¿½ï¿½ There is also a mirrored website at:

ï¿½ï¿½ http://www.qsl.net/n2pk/

Very briefly, it's a 0.05-60MHz VNA based on a DDS signal source feeding the Device Under Test. Output from the DUT goes to a 'zero IF' detector (multiplicative mixer) that converts to a DC signal level, which in turn goes to an ADC.

The local oscillator for the detector is a second identical DDS, programmed to the same frequency. Phase information is obtained by making two sequential measurements, one with the LO at the same phase as the signal source, and the second with the LO switched to 90deg.

Control is via the PC parallel port, which also accepts the signal level data from the ADC. The support software includes full calibration facilities (open/through for transmission measurements, and open/short/load for reflection measurements with a bridge attachment).

For such a simple concept, the accuracy is astonishingly high, approaching that of a commercial VNA. Paul Kiciak has investigated these issues very thoroughly indeed, and the results are fully documented.

Everything is on the website, including full constructional information, board layouts, software and extremely detailed documentation.

--
73 from Ian G3SEK 'In Practice' columnist for RadCom (RSGB)

Editor, 'The VHF/UHF DX Book'
http://www.ifwtech.co.uk/g3sek

4251. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 10:58:54 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FDAF0CB.3F83D3F7@earthlink.net>
Source record: 30266
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Scott Stephens wrote:
>
> Scott
>
> **********
>
> DIY Piezo-Gyro, PCB Drill Bot & More Soon!
>
> http://home.comcast.net/~scottxs/
>
> **********

Your web site is very hard to read with the dark blue background and
black text. A lot of people have vision problems, and can not read this
color combination.
--
13 days!

Michael A. Terrell
Central Florida

4252. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 11:15:49 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <ttqOdhDITv2$Ewio@jmwa.demon.co.uk>
Source record: 30267
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I read in sci.electronics.design that Ian White, G3SEK
<G3SEK@ifwtech.co.uk> wrote (in <SekUU4C1Bv2EAW@ifwtech.co.uk>) about
'Measuring radiation resistance', on Sat, 13 Dec 2003:
>Yes; it belongs to Paul Kiciak.
>
>And yes -
>
> The original website URL is:
>
>ï¿½ï¿½ http://users.adelphia.net/~n2pk/
>
>ï¿½ï¿½ There is also a mirrored website at:
>
>ï¿½ï¿½ http://www.qsl.net/n2pk/
>
>
>
>Very briefly, it's a 0.05-60MHz VNA based on a DDS signal source feeding
>the Device Under Test. Output from the DUT goes to a 'zero IF' detector
>(multiplicative mixer) that converts to a DC signal level, which in turn
>goes to an ADC.

Thank you very much.
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4253. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 11:50:41 UTC
From: peg@slingshot.co.nz
Message-ID: <62069f15.0312130350.4c65fdaa@posting.google.com>
Source record: 30268
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

What you are descrbing is a "signal sniffer", not a signal strength meter.

4254. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 11:58:39 UTC
From: john_c@tpg.com.au
Message-ID: <3fdaed35.1245026@News.CIS.DFN.DE>
Source record: 30269
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Fri, 12 Dec 2003 16:41:06 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>Hi all,
>
>I wanted to build an RF relative field strength meter, so set about
>searching on the Web for any existing designs. Those I turned up
>weren't particularly impressive, so I decided to start from scratch
>and design my own. I've just completed that this afternoon. I've
>allowed for 0.25mV input to give rise to FSD on the microammeter.
>Question being, however, is that going to be sensitive enough? Does
>anyone have any idea what the field strength in microvolts or
>millivolts is from a half Watt transmitter at about 6 feet away? I
>guess I should have posed this question *before* designing it, but who
>among us can honestly say they haven't designed something without
>knowing what the spec is? :-)
>Anyway, ballpark figures gentlemen, please.
>
>p.
>--
>
>"I expect history will be kind to me, since I intend to write it."
> - Winston Churchill

Hello Paul,
have a look here,
http://www.alphalink.com.au/~parkerp/noapr97.htm

Here is a crystal set circuit.
http://circuitos.tripod.cl/schem/r85.gif
Convert it to a field strength meter by
Replacing the headphones with a large sensitive meter,
something big enough that you can still see the pointer,
when viewed from across the room. Bigger the better.
Use a germanium diode.
Use a metal box.
Use a short telescopic aerial.
Coil and variable capacitor to cover, 40Mhz,. 35Mhz and 27Mhz,
I am guessing those are the frequencies of interest, use
a switch if necessary to add/remove some turns or
add/remove a capacitor.

I know you have a grid dip oscillator so fiddling the
coil and capacitor values to get the frequency ranges

will be a snack for you.

Using your field strength meter only six feet away is too close. Keep it as far away as possible from your radio control transmitter but still being able to see it, that is the reason for the big meter movement. I am thinking of big cheap plastic 6 inch square types. Anything will do so long as you can see it from across the room and the movement is microamps full scale and not milliamps.

I am sure I have explained this to you yonks ago, well, if I have, never mind. maybe you forgot :-)

Set up your known good commercial radio control set at one end of the room, and field strength meter at the other side of the room. Note the meter reading. Now compare readings with your experimental transmitter. Is it more or less? Make adjustments to your experimental transmitter. This is the fun part.

I found that sitting my field strength meter (even though it had rubber feet) on my wife's metal serving tray reduced hand capacitance and made it nicer to adjust. So experiment with and without a sheet metal base. Maybe the first circuit without a parallel tuned circuit would be less fuss to use. Maybe you can knock up both types and tell us which was better. Heh heh heh....

Regards,
John Crighton
Sydney

4255. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 12:51:34 UTC
From: peg@slingshot.co.nz
Message-ID: <62069f15.0312130451.2d59b45a@posting.google.com>
Source record: 30272
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

> Perhaps you didn't see the earlier posts on the subject. The frequency
> is 40Mhz (radio control band) and the tx output stage as it stands
> puts out maximum power of 475mW with a 140 ohm resistor as load. I
> only *need* 50mW ERP., however, so can stand to see quite a bit of
> loss from an inefficient antenna. The antenna I will be using is a
> telescopic whip - exactly the same set-up as you see with model
> vehicle radio control transmitters- which is what it is, in fact.
> It ain't rocket science.
> Someone out there must know the radiation resistance of such a
> telescopic whip (which has a ground plane of just around 16 square
> inches contained within the remote control handset) and the best way
> to couple it to a PA with a 140 ohm output impedance?

Google "electrically short"

4256. Re: Tektronix is Grrreeaatttt!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 13:12:50 UTC
From: w4pqw@cox.net
Message-ID: <84b5ffd4.0312130512.13ea6078@posting.google.com>
Source record: 30273

haf47@juno.com (Howard) wrote in message
news:<f03bf94f.0312080800.22c1d69b@posting.google.com>...
> Isn't free speech a wonderful thing? I followed the Tek thread with
> interest and am wondering if the whiners actually:
>
> 1. Have a use for instruments of this caliber
> 2. Know how to use them properly
>
> I have used Tektronix instruments for almost 30 years now, and don't
> know how I could have got along without them. Most of my work has been
> in commercial radio and television.
>
> The manuals are written incredibly well, and I have received
> assistance from tech support on devices more than 25 years old. Try
> that with Hitachi, Leader or Phillips or Sony. And I could still get
> parts for them!
>
> I reflect with fondness on repairing a device like a waveform monitor,
> more than 20 years old, and finding a small coil of silver solder on
> the chassis in a place that was designed for it, tucked neatly in its
> own "home." Tek has used silver solder for decades now...they have
> always known it makes a better solder joint...and they want their
> stuff to keep on working, 24/7 for years and years. So they put their
> money where their mouth is, and provide the end user with what they
> consider to be a lifetime supply (for that instrument) of the stuff.
>
> And now I hear that they desroy their own equipment so they can sell
> more new stuff?! Baloney.
>
> I think I am hearing from people who not only do not understand that
> "you get what you pay for," but have no use for the quality and
> accuracy of the products they are complaining about.
>
> Merry Chirstmas and Happy Holidays to all.
>
> de WA2AFD
I worked for Federal government for about 30 years,last 10 years I did
acceptance testing and evaluation of government purchases, mostly
Tektronix scopes,out of hundreds of new scopes I NEVER FOUND ONE
factory defect..Only two or three that had minor shipping damage from
improper handling,like fork lift dents etc.. in these cases Tek
replaced them instantly ,no questions. I have been to tek plants many
times for seminars, technical training etc..One of the most respected
companies ever to operate in this country...Tektronixs is not just

scopes,they have done a complete line of test equipment,medical ,TV broadcast equipment and many other lines. PLEASE,PLEASE lets get off this subject..Harold W4PQW

4257. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 13:27:57 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a44ddef45f7fe749896b4@news.west.earthlink.net>
Source record: 30274
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On 13 Dec 2003 03:50:41 -0800, peg@slingshot.co.nz said...
> What you are descrbing is a "signal sniffer", not a signal strength meter.
>
Who are you replying to? Paul did not say Signal Stength Meter, but
the guy you replied to kinda hints at it when he mentions power
level.

I would have to say that my 1GHz Signal Level Meter, which cost
$1500 would be the better than a relative field strength meter, but
if he measures say, 1V with his Tx off and 2V with it on, then
that's 1V and if his Rx antenna is a 1m dipole, that's 1V/m.

Mike

4258. Re: Audio Cable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 14:12:40 UTC
From: fazamy@aol.com
Message-ID: <20031213091240.12189.00000855@mb-m05.aol.com>
Source record: 30275

Thanks Mike. I'll research those sources.
73,
KB2AMY
Evan

4259. Re: 2SC1947

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 14:23:36 UTC
From: TOM <noname@noprovider.nodomain>
Message-ID: <IhFCb.3013$xO.841@nwrddc02.gnilink.net>
Source record: 30276
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Neil:

Attached is a link to the Mitsubishi datasheet for the 2SC1947.
Regarding the thermal
specifications, the maximum junction temperature is 175C. The thermal
impedance is
15C-per-watt junction-to-case, and 150C-per-watt junction-to-ambient.

What this means is that the junction temperature will be hotter than the
case temperature
by 15C times the numer of watts dissipated. For example, if the transistor
is dissipating 4 watts,
the junction will be 60C hotter than the case temperature. Thus the maximum
case temperature
should be limited to 175-60 = 115C (pretty darn hot).

There will be some thermal impedance between the heatsink and the case,
but if well designed,
and well attached, it should be only 1 or 2 C/watt, almost negligible in
this example.

The 150C/watt junction-to-ambient spec means that the metal case of the
transistor is not
too effective at rediating heat by itself. Without any heatsink, and
assuming 1 watt dissipation, the
ambient temp would have to be limited to 175-150 = 25C (room temperature).

http://www.mitsubishichips.com/data/datasheets/hf-optic/hf-opticpdf/ds/sc1947.pdf

-- Tom, N5EG

"Neil" <nobody@nospam.net> wrote in message
news:breor3$l1g$1$830fa7a5@news.demon.co.uk...
> How safe is it to run these without forced air cooling?
>
> I've got one as a 1 - 4w driver (feeding a BLW60C) and although has a
finned
> TO5 heatsink, it gets up to 70+ degrees Celsius when running. The
Mitsubishi
> spec says it is safe up to 175 degrees Celsius but am not sure if what I'm
> doing will do the device damage?
>
> Any thoughts anyone?
>
>

>
> Neil
>
>
>
>

4260. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 15:15:42 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <brfaeu$3u6$1@sparta.btinternet.com>
Source record: 30277

The dimensions of both inductance and capacitance are Length.

Length is idependent of frequency.

4261. Rec SIEMENS E311e1

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 15:25:00 UTC
From: canale <canale@pointest.com>
Message-ID: <7fCdnfm9lJp-skaiRVn-vA@kpnqwest.it>
Source record: 30278

My Siemens receiver is missing of the subassembly
1Khz Raster PN 451N301b.
Anybody wants to sell it to me .
Thanks

--
Gianfranco Canale
Via Mazzini 9/B
20060 Cassina de Pecchi
ITALY

4262. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 16:37:04 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FDB4030.4050204@bellsouth.net>
Source record: 30279

Avery Fineman wrote:
> In article <ee6182da.0312120658.58e7619@posting.google.com>,
> kizerian@xmission.com (Bruce Kizerian) writes:
>
>
>>> A regen operates at the hairy transition of self-oscillation where
>>> positive feedback yields a tremendous increase in gain. Doesn't
>>> matter whether it is vacuum tube or transistor. The only difference
>>> between remote-cutoff and sharp cutoff characteristics (transistors
>>> of the bipolar junction type are very sharp cutoff equivalents to
>>> tubes) would be on the amount of spurious garbage created when
>>> the regen jumps into full oscillation.
>>
>>But it does matter. In the heirarchy of regen devices tubes provide
>>the "smoothest" regeneration, followed by FETs, with bipolar
>>transistors generally taking a distant third. I am not asking because
>>I have never built a regen. I have built DOZENS of them, and I sell a
>>simple version on my website...but I'm always looking for a new
>>approach.
>>
>>
>>>>I know of no solid state equivalent (without some sort of AGC feedback
>>>>loop) for the remote cutoff pentode. Does anyone know if there is?
>>>
>>> "AGC in a regen?"
>>
>>Here, I was speaking in more general terms and not referring to
>>regenerative circuits.
>
>
> If you are speaking in general terms then there are plenty of gain-
> control elements out there. For a single-IC type of device, the
> old Motorola MC1350 (8-pin DIP) is a sort-of Gilbert Cell arrangement
> inside, differential-in, differntial-out, constant parallel Z-in of 5 KOhm
> in parallel with a couple pFd each input. The gain control portion is
> done by "starving" or actually redirecting the DC emitter current in the
> input differential pair. Jameco (www.jameco.com) still sells this IC
> at around $1.20 (?) in singles and has a copy of the Motorola data
> for download on their website. That datasheet has a schematic of the
> insides. That's good up into mid-VHF.
>
> Some of the older JFETs had non-linear source-drain curves v. gate
> voltage curves...see the difference in biasing for "depletion" and
> "enhancement" mode operation. I don't know if they will work to

> the top of HF range, though.
>
>
>
>>> For experimentation purposes, a high gain-bandwidth product op-amp
>>> IC might produce some interesting results. The gain-bandwidth (or
>>> 0 db open-loop gain frequency) of some op-amp ICs is up at 30 to
>>> 70 MHz now and the DC open-loop gain is enormous in comparison
>>> to vacuum tubes. I sense possibilities of an op-am regen or even a
>>> superregen on up through HF. Just a thought... :-)
>>
>>The voltage gain of an effective regenerative stage is can be as high
>>as 100,000 as reported by Charles Kitchin. That's 100dB...not many op
>>amps have that kind of gain at say 10MHz.
>
>
> I was suggesting using op-amp ICs WITH positive feedback. :-)
>
> I'm just not going to buy "100 db voltage gain" in a regen based on
> my own experiences...unless I see the bench layout and check the
> calibration stickers on the test equipment determining this. :-)
>
> Frankly, to get a simple receiver for HF, the Tayloe Mixer and its
> separate LO followed by a low-noise AF range op-amp has the
> most sensitivity for the fewest parts...and with little possibility of
> re-radiating the oscillations of a regenerative due to a twitch of the
> regeneration control. As a direct-conversion receiver, it can handle
> CW or SSB and, with a stable LO, can take in conventional AM
> with a lot less tweaking than a regen with a touchy regen control.
>
> The most stable regen I ever built (three in all, the first using that
> 1T4) was with a 117N7 beam-power pentode and rectifier diode, AF
> out driving an old, old high-impedance dynamic speaker. Plate curves
> of that tube were of the sharp-cutoff variety. AM BC band, not much
> else to listen to for entertainment in 1948. I suspect it was acting
> more like a "plate detector" but it had the sensitivity of a common
> "all-American-five" AM table top radio receiver.
>
> Some of the minimal-tube-complement receiver designs of older times
> used regenerative detectors at the IF for sensitivity improvement. I
> know of one old Hallicrafters S-38 (?) reworked that way. That receiver
> had essentially an "all-American-five" tube lineup and no power
> transformer. Somewhat unsafe, but useable.
>
> Nostalgia isn't what it used to be...
>
> Len Anderson
> retired (from regular hours) electronic engineer person

IIRC the original nation sw-3 used a remote cutoff tetrode as the
regen detector, with a remote cutoff tetrode as the rf stage.
Of course they were first referred to as "supercontrol" tubes.

4263. Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 17:37:35 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vtmjj7q56aga23@corp.supernews.com>
Source record: 30280

Do the lenses out of old projection TVs have any interesting use or value?
tnx
hank wd5jfr

4264. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 17:57:29 UTC
From: washitaw_warrior@hotmail.com
Message-ID: <ed268d1a.0312130957.1d66e764@posting.google.com>
Source record: 30281

averyfineman@aol.com (Avery Fineman) wrote in message
news:<20031211145557.11022.00002667@mb-m14.aol.com>...
> In article <ee6182da.0312111024.418b2687@posting.google.com>,
> kizerian@xmission.com (Bruce Kizerian) writes:
>
> >I have seen remote cutoff pentodes such as the 1T4 used in
> >regenerative receivers. I'm guessing there is a good reason...perhaps
> >something to do with the decrease in gain with increasing signal
> >level...so that the pentode oscillator "fights" going into to
> >oscillation enough to give a very smooth transistion...rather than the
> >more abrupt transistion of some solid state circuits.
>
> A 1T4 is an old directly-heated cathode tube. Played with those
> a 56 years ago...in regenerative receivers...:-)
>
> Looking back at those old magazine article projects, I'd surmise
> that the "reason" a particular tube was used was that it was
> AVAILABLE to use.
>
> A regen operates at the hairy transition of self-oscillation where
> positive feedback yields a tremendous increase in gain. Doesn't
> matter whether it is vacuum tube or transistor. The only difference
> between remote-cutoff and sharp cutoff characteristics (transistors
> of the bipolar junction type are very sharp cutoff equivalents to
> tubes) would be on the amount of spurious garbage created when
> the regen jumps into full oscillation.
>
> >I know of no solid state equivalent (without some sort of AGC feedback
> >loop) for the remote cutoff pentode. Does anyone know if there is?
>
> "AGC in a regen?" If you bias the control grid of a 1T4 about all you
> will do is change the feedback setting for that hairy transition just
> prior to going into self-oscillation.
>
> >And speaking of the 1T4...has anyone played with these enough to give
> >me some ideas for using them in regenerative radios.
>
> The last time I played with battery-filament tubes (including the 1T4)
> was in helping a friend restore an AN/PRC-8 Korean War era walkie-
> talkie in the 70s (I wore one once in 1953). Nice VHF FM transceiver
> very stable. The first time I played with a 1T4 was in a regenerative
> receiver back in 1947 and it was very touchy on feedback setting
> versus frequency on MF to HF bands (plug-in coil thing).
>

> >I also wondering
> >how much you can starve the plate and still get good results in a
> >regen receiver.
>
> Experiment with it. There's not a large amount of data on regenerative
> receivers any more and very little in the way of vacuum tube info.
> A 1T4 power demand is minimal, 1.5 VDC filament at 50 mA and about
> 2.4 mA plate and screen current at 45 VDC supply. [183 mW total
> supply drain] That's fairly "starved" considering the transconductance
> is only 700 umhos (typ) at 0 VDC control grid. Even at "maximums"
> of 90 V plate and 67 V on screen, the transconductance is only 900
> umho.

There is loads of info on the net about regenerative recievers and
there are quite a few tube manuals online and lots of tube
information.

Most of the homebrews I have seen using the 1T4 use it hooked up in a
triode confiquration.........

Search the net.......Tube mansual online, tube data online,
regenerative recievers, homebrew tube radios,.......all the info you
want and more is on the net.

> A 1L4 is a close cousin to the 1T4 as a sharp-cutoff pentode, same
> envelope, filament, etc., but the gm is about ten percent higher. A
> 3Q4 or 3S4 (a 1S4 was made but was not recommended for new
> designs back in 1956) has a gm of 1500 umho at twice the filament
> voltage and 8.8 mA plate+screen at 90/67 V. Those "power pentodes"
> have a semi-remote-cutoff characteristic. [800 mW power supply
> demand would be "power" from a battery pack way back then...]
>
> Regenerative receivers were all the rage among hobbyists back
> about 1930 when tubes were relatively expensive and lacked
> transconductance for effective RF amplification. Such were a
> cheap way to get more sensitivity out of a single tube stage...but at
> the expensive of instability and lack of uniform selectivity. Once the
> superheterodyne was into production, it proved far better overall.
>
> For experimentation purposes, a high gain-bandwidth product op-amp
> IC might produce some interesting results. The gain-bandwidth (or
> 0 db open-loop gain frequency) of some op-amp ICs is up at 30 to
> 70 MHz now and the DC open-loop gain is enormous in comparison
> to vacuum tubes. I sense possibilities of an op-am regen or even a
> superregen on up through HF. Just a thought... :-)
>
> Len Anderson
> retired (from regular hours) electronic engineer person

4265. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 17:58:44 UTC
From: la8ak.xnd@online.no
Message-ID: <3fdb485c.62145907@news.online.no>
Source record: 30282

On Mon, 08 Dec 2003 05:10:02 GMT, Uwe Langmesser
<outhouse@midcoast.com> wrote:

>> Crystals will operate on a number of fo's.
>> I use three oscillators to test them and each gives a different fo.
>> Be careful and keep the drive level down as some oscillators can cause damage.
>
>I had to laugh when I read your post, it sort of reflects my experience, eg.
>every experiment gives you new and unexpected answers.
>
>And I thought it was only me...
>
>Uwe
>
....and it is better when you can laugh about it.... sometimes it is
difficult to understand why your xtal won't operate on a 3rd or 5th
harmonic when it seems to work for everybody else - and you specified
proper overtone xtal for the manufacturer,
But it is a lot of bad constructions!

In the butler-type xo (popular in UK) you may operate a 27MHz xtal on
45 and even 81MHz (believe it was DCoDA who first described it)

But I believe the original question was something else? Xtals testers
were so popular in the 60's when amateur run around to surplus stores
buying FT-243 xtals, and several such xtal testers are described in
CQ, Ham Radio, QST, 73 DL-QTC, QRV, CQ-DL, Electron and other, they
run on fundamental frequency using colpitts or pierce type oscillator
and measured grid current as measure for excitation

73
Jan-Martin, LA8AK
--
remove ,xnd to reply (Spam precaution!)

4266. Re: Data for MSA0304 MMIC

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 17:58:44 UTC
From: la8ak.xnd@online.no
Message-ID: <3fdb52b5.64795842@news.online.no>
Source record: 30283

On 8 Dec 2003 00:19:57 +0100, Lasse SM5GLC <no_email@today.sri> wrote:

>It took me 5 seconds to load up Google and type in "msa0304 data"
>http://hamradio.lakki.iki.fi/new/Datasheets/RF/msa0304.pdf
>
>/SM5GLC
>
>
Well,
soon I discovered the "fingertrouble" and deleted the first poster,
but the second question hasn't been answered until I made my own
measurements. Later posted a modified question, but no comments were
seen, so one may wonder if nobody else is experiemting any more?
The actual construction and variations are shown on
http://home.online.no/~la8ak/c13.htm
It is some frequency limitation, but not important since I need only
to cover the 100kHz to 10MHz band, so LPF and HPF should be added if
they can be made simple.
Suppose it is much gain in the first amplifier and this is the reason
for the bandlimit. We tested LA4WN's IC706 using a program, but it
seems to be some distortion in the audio stage so a simple external
product detector with some offset from zero beat is needed for more
real measurements where harmonic distortion on audio doesn't increase
the background noise level which is on the loadspeaker audio output

Unfortunately I forgot the box at LA4WN last night, and since he lives
220km away, the easiest would be to build a new version, possibly with
a more proper box, hi.

73
Jan-Martin, LA8AK

--
remove ,xnd to reply (Spam precaution!)

4267. Re: Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 18:10:48 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-39D046.13105013122003@news.verizon.net>
Source record: 30284

In article <vtmjj7q56aga23@corp.supernews.com>,
"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote:

> Do the lenses out of old projection TVs have any interesting use or value?
> tnx
> hank wd5jfr
>

I take them apart and use some of the elements as large magnifying
lenses. You can have one in each room in the house ;-)

Al

--
There's never enough time to do it right the first time.....

4268. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 18:41:30 UTC
From: la8ak.xnd@online.no
Message-ID: <3fdb595c.66498707@news.online.no>
Source record: 30285
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

On Mon, 8 Dec 2003 07:58:57 +0000, "Ian White, G3SEK"
<G3SEK@ifwtech.co.uk> wrote:

>
>You can't directly measure radiation resistance, because it's embedded
>in loss resistances and usually reactance too. Also there's more than
>one definition of radiation resistance: some would say that the
>radiation resistance of a half-wave dipole depends on where and how it
>is fed (centre, end, off-centre); while others would say that the
>radiation resistance stays the same, and it's only the feedpoint
>impedance that depends on the method of feed.
>
>Since you can't measure it and there isn't even a universally agreed
>definition, it's best to tiptoe quietly away from "radiation resistance"
>before the Holy Wars begin...
>

I don't wish to participate in this real discussion since I have only
a vague memory of what we had at school over 30 years ago, and math -
and in particular integration - is not my strong side.
Could you suggest any values of what one could expect to find for
radiiation resistance for some variations of half wave dipoles,
dependent on wire size, height and other?

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/a.htm
--
remove ,xnd to reply (Spam precaution!)

4269. bsr turntable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 19:25:07 UTC
From: lou1@westnet.com
Message-ID: <9f565180.0312131125.66353593@posting.google.com>
Source record: 30286

hi
my old bsr xl-1200 cartridge is wired onto the pins so it wont pop out with the 4 prongs as normal one's do. i think i could remove the wires and put each one onto the prongs of a new cartridge but it seems that the bsr cartridge is proprietary. there is one screw on top of the tone arm that holds my cartridge. i'm not sure it will screw into a new one such as the at3482u. anyone here ahve a solution? i could get another direct replacement for the bsr cartridge perhaps but i thought the 3482u (or another) would give me better sound than what i have now. i could perhaps just snap the new cartridge in without screws. all the wires in the tonearm are very thin so its hard to solder in there.
please email me a copy of your response.
thanks
louis
Lou1@westnet.com

4270. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 19:44:21 UTC
From: Bill Hennessy <hennessy@281.com>
Message-ID: <3fdb6c30$0$7488$9a6e19ea@news.newshosting.com>
Source record: 30287

I have used the 1Q5 with 18 volts and it worked well. It worked better with 27 volts.

Bill, N5NOB

4271. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 20:50:46 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <8rqmtvcst630b8s0lq5nr2aq4f9igin8de@4ax.com>
Source record: 30288

On Sat, 13 Dec 2003 15:15:42 +0000 (UTC), "Reg Edwards"
<g4fgq.regp@ZZZbtinternet.com> wrote:

>The dimensions of both inductance and capacitance are Length.
>
>Length is idependent of frequency.

??? You feeling alright, Reg?
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4272. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 20:50:47 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <i4rmtvk20cpnscqihr1o5pc1i7853rmd69@4ax.com>
Source record: 30289
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 13 Dec 2003 11:58:39 GMT, john_c@tpg.com.au (John Crighton)
wrote:
>
>Hello Paul,
>have a look here,
>http://www.alphalink.com.au/~parkerp/noapr97.htm

Hi John,

Always nice to have your input. I did actually come across the circuit
you point to above during my search of the Web, but rejected it as
probably not being sensitive enough. I thought I could maybe do a
little better by having a stab at it myself - with the assistance of
LTSpice of course!
Many thanks to the other respondents to this thread, but no one seems
to have been able to SWAG the actual likely signal level in mV or uV.
So I thought what the hell and built my original design from
yesterday. I've just finished it and am surprised and pleased to
report that it worked fine first time! The sensitivity is a little on
the low side, but *remarkably* close to what I'd set out to achieve.
With a 100mW transmitter some 4 feet away, I can tune for 40Mhz and
tweak the sensitivity and get a peak at S9 on the CB radio type signal
meter I'm using for this purpose. That would have done me just fine
had you not suggested making the measurements from some greater
distance! So I either live with it as it is and use is at say 6 feet
away or stick in an extra voltage amplification stage for 'far field'
testing (do I *really* need this for my purposes?)
Incidentally, you were dead right about the tea-tray idea. It turns
out the grounded areas of the PCB really need to be earthed to a
decent, proper ground/earth rod via the mains supply. It makes a
huge difference to the sensitivity and drastically reduces the
annoying effects of hand capacitance when tuning and tweaking.
I'll post the schematic I arrived at later under another thread and
maybe someone can suggest a few mods that might up the sens. without a
complete redesign. Is it really that important to make the
measurements from 10 feet or more away?
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4273. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 22:24:59 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FDB91BB.3080901@bellsouth.net>
Source record: 30290
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

W3JDR wrote:
> Paul,
> The amount of tuning range is a function of the ratio of Cmax/Cmin. If you
> parallel varactors, Cmax will double, but so will Cmin. The ratio hasn't
> changed.
>
> If you're not already using a "hyper-abrupt" type of varactor, you should
> look into one. They offer a wider capacitance range.
>
> What type of varactor are you using, and what's the frequency of the
> resonator? What's the application...linear frequency modulation like FM or
> data keying like FSK???
>
> Joe
> W3JDR
>
>
> "Paul Burridge" <pb@osiris1.notthisbit.co.uk> wrote in message
> news:0koctvoopa283if8t6sbgj7j9ec04oknkp@4ax.com...
>
>>Hi,
>>
>>I'm currently working on this VCXO that achieves frequency shift by
>>applying DC bias to two varactor diodes connected cathode to cathode
>>(bias applied to the junction between them). If I can't get enough
>>shift with the available bias voltage, is there any problem with just
>>putting another pair of the same diodes in parallel with the existing
>>ones?
>>This is a ceramic resonator oscillator, BTW, so will stand a lot more
>>'pulling' than a xtal would, so don't worry about that aspect of it.
>>
>>p.
>>--
>>
>>"I expect history will be kind to me, since I intend to write it."
>> -
>
> Winston Churchill
>
>

If he puts two diodes in parallel he will double the capacitance and
will have to reduce the amount of inductance to have the same

min. frequency. Im not sure that the high end won't be greater than before, even though the capacitance ratio is the same, since the fixed inductance is lower.

Another idea would be to put the two varicaps in parallel, but switch one of them out as you approach the upper frequency.

4274. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 22:25:02 UTC
From: la8ak.xnd@online.no
Message-ID: <3fdb8fd2.6905008@news.online.no>
Source record: 30291
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Fri, 12 Dec 2003 16:41:06 +0000, Paul Burridge
<pb@osiris1.notthisbit.co.uk> wrote:

>Hi all,
>
>I wanted to build an RF relative field strength meter, so set about
>searching on the Web for any existing designs. Those I turned up
>weren't particularly impressive, so I decided to start from scratch
>and design my own.
PA0SE made a good one for 136kHz and higher, believe you'll find it
described on http://www.qsl.net/on7yd/ and many other places

73
Jan-Martin, LA8AK
http://home.online.no/~la8ak/c.htm
--
remove ,xnd to reply (Spam precaution!)

4275. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 23:27:24 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <wfNCb.4536$w23.840@nwrdny02.gnilink.net>
Source record: 30292
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> If he puts two diodes in parallel he will double the capacitance and
> will have to reduce the amount of inductance to have the same
> min. frequency. Im not sure that the high end won't be greater than
> before, even though the capacitance ratio is the same, since the
> fixed inductance is lower.
>
> Another idea would be to put the two varicaps in parallel, but switch
> one of them out as you approach the upper frequency.
>

Kenneth,

F=1/((2*PI)*SQR(L*C))

If you double C, you have to halve L to maintain the same frequency. If you do this, you only changed the LC ratio, not the delta tuning range.
The only way to get more delta F is to get more delta C. If you use the switching technique, you'll have a discontinuous tuning curve (Vtune vs Freq) which makes it hard to implement a closed loop tuning system. It can be done, but the control loop gets complicated.

A previous poster suggested what I'd called a "synthetic reactance", which is a series-parallel LC combination. This technique can produce very large effective-capacitance changes with a modest varactor range, however it also comes with the susceptibility of mode-jumping in the output frequency.

Joe
W3JDR

4276. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-13 23:59:21 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a4571ee2357d2a29896ce@news.west.earthlink.net>
Source record: 30293
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 13 Dec 2003 20:50:47 +0000, pb@osiris1.notthisbit.co.uk
said...
> On Sat, 13 Dec 2003 11:58:39 GMT, john_c@tpg.com.au (John Crighton)
> wrote:
> >
> >Hello Paul,
> >have a look here,
> >http://www.alphalink.com.au/~parkerp/noapr97.htm
>
> Hi John,
>
> Always nice to have your input. I did actually come across the circuit
> you point to above during my search of the Web, but rejected it as
> probably not being sensitive enough. I thought I could maybe do a
> little better by having a stab at it myself - with the assistance of
> LTSpice of course!
> Many thanks to the other respondents to this thread, but no one seems
> to have been able to SWAG the actual likely signal level in mV or uV.

Because you didn't provide enough info, dude. That much could've
been inferred from the eqs I gave you. And you asked for "field
strength" in the wrong units. it's V/m or mV/m or uV/m. Hell I'd
give it to you in kV/m if you wanted. You'll never know what it is
if you can't determine the voltage present at the meter antenna's
terminals and it should be a dipole.

> So I thought what the hell and built my original design from
> yesterday. I've just finished it and am surprised and pleased to
> report that it worked fine first time! The sensitivity is a little on
> the low side, but *remarkably* close to what I'd set out to achieve.
> With a 100mW transmitter some 4 feet away, I can tune for 40Mhz and

clues. so you're still on that project.

> tweak the sensitivity and get a peak at S9 on the CB radio type signal
> meter I'm using for this purpose.

:) ! Adjust the meter to get the answer you want. Ok.

> That would have done me just fine
> had you not suggested making the measurements from some greater
> distance! So I either live with it as it is and use is at say 6 feet
> away or stick in an extra voltage amplification stage for 'far field'
> testing (do I *really* need this for my purposes?)

lessee 40MHz is 7.5m lambda so the far field starts at around 3.75
meter per the eq I gave you for that.

I think that 1st eq I gave was for a vertical and it's fucking with
me.

I'll use a distance of 6m.

since you seem to want to know power try the path loss eq

32.45 + 20log(f) + 20log(d) = 20db

f in MHz, d in km

10log(Pr/Pt) = -20dB

but EIRP = Pt.G

G is antenna gain and you didn't give that info.

so I'll use G = 1

Pr = 1mW

Pr.G = E^2/Z voltage at input to Rx

G is Rx antenna gain, I'll use 1

E = 224 mV rms

Let me know if I f'd up anything. Lots of distractions and I'm
trying to hurry and do other work.

Mike

Buy 'em books, send 'em to school, and all they want to do is eat
the teachers ;)

> Incidentally, you were dead right about the tea-tray idea. It turns
> out the grounded areas of the PCB really need to be earthed to a
> decent, proper ground/earth rod via the mains supply. It makes a
> *huge* difference to the sensitivity and drastically reduces the
> annoying effects of hand capacitance when tuning and tweaking.
> I'll post the schematic I arrived at later under another thread and
> maybe someone can suggest a few mods that might up the sens. without a
> complete redesign. Is it really that important to make the
> measurements from 10 feet or more away?

4277. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 00:48:18 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <brgc0illq1@titan.btinternet.com>
Source record: 30294
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Download program DIPCAGE2 from website below.

....
Regards from Reg, G4FGQ
For Free Radio Design Software go to
http://www.btinternet.com/~g4fgq.regp
....

> Could you suggest any values of what one could expect to find for
> radiiation resistance for some variations of half wave dipoles,
> dependent on wire size, height and other?

4278. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 00:57:54 UTC
From: mikea@mikea.ath.cx
Message-ID: <brgcii$f8l$1@puck.litech.org>
Source record: 30295
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In <3FDAF0CB.3F83D3F7@earthlink.net> (rec.radio.amateur.homebrew), Michael A. Terrell wrote:
> Scott Stephens wrote:
> >
> > Scott
> >
> > **********
> >
> > DIY Piezo-Gyro, PCB Drill Bot & More Soon!
> >
> > http://home.comcast.net/~scottxs/
> >
> > **********

> Your web site is very hard to read with the dark blue background and
> black text. A lot of people have vision problems, and can not read this
> color combination.

On my system (FreeBSD) with the Mozilla FireBird browser, the text and images are in light-colored windows inside the dark background, and it's not at all difficult to read. The Netscape 4.6 browser on the same system _does_ put the black text directly on the dark-blue background, and it is decidedly unpleasant.

A newer browser might be nice, but it also would be good if web page designers built pages with older code in mind.

It _definitely_ has some cool stuff. Thanks, Scott!

--
Comparing Knuth with O'Reilly books is like comparing
Unix with Windows.
-- Abigail, in the Monastery

4279. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 01:39:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vtnfqmkttos5a5@corp.supernews.com>
Source record: 30296
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

It's too bad it isn't that simple.

A 1V/m field doesn't result in one volt at the feedpoint of a perfectly matched one meter dipole or monopole, and the value it does induce depends on the quality of the impedance match as well as the fraction of a wavelength the one meter antenna length represents. And, if one volt does appear at the feedpoint, it's very unlikely that a simple circuit will measure it as one volt.

Probably best to stick with your $1.5 kilobuck meter if you really want to measure field strength.

Roy Lewallen, W7EL

Active8 wrote:
> On 13 Dec 2003 03:50:41 -0800, peg@slingshot.co.nz said...
>
>>What you are descrbing is a "signal sniffer", not a signal strength meter.
>>
>
> Who are you replying to? Paul did not say Signal Stength Meter, but
> the guy you replied to kinda hints at it when he mentions power
> level.
>
> I would have to say that my 1GHz Signal Level Meter, which cost
> $1500 would be the better than a relative field strength meter, but
> if he measures say, 1V with his Tx off and 2V with it on, then
> that's 1V and if his Rx antenna is a 1m dipole, that's 1V/m.
>
> Mike
>

4280. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 02:10:56 UTC
From: Rich Grise <spamdump@nowhere.net>
Message-ID: <3FDBC721.55858810@nowhere.net>
Source record: 30147
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

I remember as WN0GJS tuning the pi-net output to a piece of
300-ohm twin-lead thru a PL-259!

So make a little amp. with a pi output, tune it up, and
measure the components.

Since I learned this kind of stuff only in the school
of hard-knox, I refer to it as the "empirical" method. ;-)

Cheers!
Rich

Paul Burridge wrote:
>
> I'm simply trying to establish the radiation resistance of a non-ideal
> antenna so I can reasonably match it to the output impedance of the
> transmitter PA stage. The figure is likely to be very low, given that
> this antenna is highly non-ideal. I'm not interested in plotting polar
> patterns of the radiation distribution!
> --
>
> "I expect history will be kind to me, since I intend to write it."
> - Winston Churchill

4281. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 02:37:15 UTC
From: la8ak.xnd@online.no
Message-ID: <3fdbb9b4.17628417@news.online.no>
Source record: 30148
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 13 Dec 2003 23:27:24 GMT, "W3JDR" <joe@roccis.com> wrote:

>> Another idea would be to put the two varicaps in parallel, but switch
>> one of them out as you approach the upper frequency.
>>
>
>Kenneth,
>
>F=1/((2*PI)*SQR(L*C))
>
>If you double C, you have to halve L to maintain the same frequency. If you
>do this, you only changed the LC ratio, not the delta tuning range.
>The only way to get more delta F is to get more delta C.

Suppose you mean greater Cmax/Cmin, larger delta C was already
achieved above, but as you say "it doesn't work"
The tuning range can be calculated as follows:
(Cmax/Cmin)^2 = Fmax/Fmin

>If you use the
>switching technique, you'll have a discontinuous tuning curve (Vtune vs
>Freq) which makes it hard to implement a closed loop tuning system. It can
>be done, but the control loop gets complicated.

>
>Joe
>W3JDR
>
>
You could always divide the tuning into two ranges and it shouldn't be
too difficult to adjust the trimmer capacitors

73
LA8AK
--
remove ,xnd to reply (Spam precaution!)

4282. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 03:18:35 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a45a095da2dbfca9896d1@news.west.earthlink.net>
Source record: 30149
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 13 Dec 2003 17:39:27 -0800, w7el@eznec.com said...
> It's too bad it isn't that simple.
>
> A 1V/m field doesn't result in one volt at the feedpoint of a perfectly
> matched one meter dipole or monopole, and the value it does induce
> depends on the quality of the impedance match

you mean antenna to free space, right?

> as well as the fraction of
> a wavelength the one meter antenna length represents.

amplify, very please. por favor. Refresh my ram.

| E(uV/m) |
V (dBmV) = 20log | --------- / 1000 |
| 0.021f(MHz) |

plus correction for distance (regulations for limits are for
specific measuring distances), etc. I'll mull the above eq over.
Gotta figure out where the .021 came from, but not now. My eyes are
getting fatigued from this 'puter.

> And, if one volt
> does appear at the feedpoint, it's very unlikely that a simple circuit
> will measure it as one volt.

It would have to be calibrated to compensate for the circuit. Maybe
that's why it's called a "relative" field strength meter. Relative
to another signal or no signal ;)

>
> Probably best to stick with your $1.5 kilobuck meter if you really want
> to measure field strength.

I don't. He does :) At least not tonight. But my SLM *will* measure
field strenth using a cheap ass dipole cut to the frequency of
interest with or without an external preamp and do it to the
satisfaction of the FCC, assuming it's calibrated. I even have a
near-field probe, not so cheap. It beats guess work.

I wouldn't expect his sniffer to be real accurate but he did ask
for guesstimates. Started off as "around 4 feet" for a half watter
now we're at 100mW - prob his reference Tx.

BRs,
Mike

>
> Roy Lewallen, W7EL
>
> Active8 wrote:
> > On 13 Dec 2003 03:50:41 -0800, peg@slingshot.co.nz said...
> >
> >>What you are descrbing is a "signal sniffer", not a signal strength meter.
> >>
> >
> > Who are you replying to? Paul did not say Signal Stength Meter, but
> > the guy you replied to kinda hints at it when he mentions power
> > level.
> >
> > I would have to say that my 1GHz Signal Level Meter, which cost
> > $1500 would be the better than a relative field strength meter, but
> > if he measures say, 1V with his Tx off and 2V with it on, then
> > that's 1V and if his Rx antenna is a 1m dipole, that's 1V/m.
> >
> > Mike
> >
>
>

4283. Re: Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 05:54:43 UTC
From: averyfineman@aol.com
Message-ID: <20031214005443.07578.00002171@mb-m25.aol.com>
Source record: 30150

In article <vtmjj7q56aga23@corp.supernews.com>, "Henry Kolesnik"
<wd5jfr@oklahoma.net> writes:

>Do the lenses out of old projection TVs have any interesting use or value?
>tnx

With a small flat mirror and light source they can become an
opaque projector...they kind used in classrooms and meetings
of not so long ago when the speaker could point to the paper
being projected.

With a high-intensity spot lamp, they can be a background "fill"
or "color wash" for outdoor Christmas decorations.

...or, collect a bunch of them and resell them, saving profits for a
wide-screen plasma screen TV. :-)

LA

4284. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 06:31:14 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FDC038E.49697F74@earthlink.net>
Source record: 30151
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Mike Andrews wrote:
>
> On my system (FreeBSD) with the Mozilla FireBird browser, the text
> and images are in light-colored windows inside the dark background,
> and it's not at all difficult to read. The Netscape 4.6 browser on
> the same system _does_ put the black text directly on the dark-blue
> background, and it is decidedly unpleasant.
>
> A newer browser might be nice, but it also would be good if web page
> designers built pages with older code in mind.
>
> It _definitely_ has some cool stuff. Thanks, Scott!
>
> --
> Comparing Knuth with O'Reilly books is like comparing
> Unix with Windows.
> -- Abigail, in the Monastery

I have several other browsers, but I prefer using Netscape 4.79. Some websites are a royal pain. I recently ran into an electronics distributor who put their entire website in "Flash". There is no way I will wait five minutes or more per page to download and run stupid animation when I am looking for parts. I have seen a bunch of sites with a white background and a very pale yellow text.

My website isn't perfect, but I but a lot of work into making it easy to use and I asked for, and used, feedback from members of a couple newsgroups. You can see it at:
http://home.earthlink.net/~mike.terrell/ I still have a lot of work to do to the site, but a website is never really finished, is it?
--
11 days!

Michael A. Terrell
Central Florida

4285. Question for all - Digital VFO displays

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 10:41:59 UTC
From: Tim <"letter T letter H"@lakeoriongroup.com>
Message-ID: <p5SdneJonbRko0GiRVn-hA@comcast.com>
Source record: 30152
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

With respect to the nifty digital displays these days. Describe your
preference.
For example, 14.295.55 or 14.295 55 or 14.29555 the other options are half
height
for hundreds and tens.

I personally like the format of one decimal and then half height for tens
and hundreds.
What do you like?

ddz

4286. Re: Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 11:23:39 UTC
From: wot.email.addr@which.email.addr.com
Message-ID: <9thotvsmm9ofusjv8n9dfefg8lhamsuaps@4ax.com>
Source record: 30153

>> Do the lenses out of old projection TVs have any interesting use or value?
>> tnx
>> hank wd5jfr
>>
>
>I take them apart and use some of the elements as large magnifying
>lenses. You can have one in each room in the house ;-)

I don't suppose theirs someone/somewhere in the UK that sells these as surplus is their ?

They sound useful for using in a long range IR/Laser link (though I'd also need a small diverging lens for the laser).

Clive

4287. Re: Measuring radiation resistance

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 12:53:19 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <fijotvoj8oc34h491bevkod6ukbvkh9cpn@4ax.com>
Source record: 30156
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

On Sun, 14 Dec 2003 02:10:56 GMT, Rich Grise <spamdump@nowhere.net>
wrote:

>I remember as WN0GJS tuning the pi-net output to a piece of
>300-ohm twin-lead thru a PL-259!
>
>So make a little amp. with a pi output, tune it up, and
>measure the components.

Can you exand a bit on this please, Rich? Sounds like it might be a
useful technique.

>Since I learned this kind of stuff only in the school
>of hard-knox, I refer to it as the "empirical" method. ;-)

The best school all right, but the fees are high. :-(
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4288. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 12:53:20 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <pukotv8r0h4ilrreucc4afso94c9etkqlt@4ax.com>
Source record: 30157
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 13 Dec 2003 23:59:21 GMT, Active8
<mTHISREMOVEcolasono@earthlink.net,invalid> wrote:

> clues. so you're still on that project.

Well, it's *related* to "that" project, yes.

>> tweak the sensitivity and get a peak at S9 on the CB radio type signal
>> meter I'm using for this purpose.
>
>:) ! Adjust the meter to get the answer you want. Ok.

Yes! I'm only interested in *relative* field strength. That's why I
asked for a "ballpark figure" to be plucked from the air. I think you
may be thinking of some fancy type of instrument like some guy
mentioned he had that cost 1500 bux. These ham-type jobs I'm
interested in cost just pennies to make as they don't need any
absolute standard of accuracy; only a relative indication. You tweak
the meter's sensitivity control to show antenna A of the TX giving
rise to say S5 on the meter. You then change to antenna B and see if
the reading is any higher or lower. It's really as simple as that.

>I'll use a distance of 6m.

Noted, thanks.

--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4289. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 13:08:03 UTC
From: bozidar.pasaric@ri.hinet.hr
Message-ID: <1g5yku6.b9qdi4n997e4N%bozidar.pasaric@ri.hinet.hr>
Source record: 30155

Bruce Kizerian <kizerian@xmission.com> wrote:

> But it does matter. In the heirarchy of regen devices tubes provide
> the "smoothest" regeneration, followed by FETs, with bipolar
> transistors generally taking a distant third. I am not asking because
> I have never built a regen. I have built DOZENS of them, and I sell a
> simple version on my website...but I'm always looking for a new
> approach.

My first regen RX was in 1947 with an A415 direct filament triode. (Does anyone remember it?) It was followed by DC11 - a steel 1.5 V filament tube - both excellent ones for regen receivers. (We used to call them Audions.) Bruce says there are three types of regens : with tubes, with FETs and with bipolar transistors. There is also a forth type: a negative resistance reganeration receiver, an invention of mine (also known as Lambda receiver). You can find its scematic in the British QRP Club's magazine SPRAT: number 111, page 4 - with a correction in number 112, page 25, and a complete construction in SPRAT 113, page 17 - with a correction in SPRAT 114, page 24. The schematic is a simulation of a tunnel diode and works in the negative part of the U/I characteristic. It does not have a feedback coil, and the regeneration is very soft - so the worst problem has been solved. Its stability is not convenient for CW or SSB, but it is excellent for broadcast stations from 500 kHz to 30 MHz; a real project for beginners. If someone duplicates it, I will be happy to hear about his experience - by e-mail (bozidar.pasaric@ri.hinet. hr) or on this group. Best wishes,
Bozidar, 9A2HL

4290. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 13:08:04 UTC
From: bozidar.pasaric@ri.hinet.hr
Message-ID: <1g5yn2y.6y15to14zd90sN%bozidar.pasaric@ri.hinet.hr>
Source record: 30154

Bruce Kizerian <kizerian@xmission.com> wrote:

> But it does matter. In the heirarchy of regen devices tubes provide
> the "smoothest" regeneration, followed by FETs, with bipolar
> transistors generally taking a distant third. I am not asking because
> I have never built a regen. I have built DOZENS of them, and I sell a
> simple version on my website...but I'm always looking for a new
> approach.

I built my first regenerative receiver in 1947 with an A415 direct filament tube, followed by one with a steel DC11 - 1,5 V direct filament tube - both excellent ones for the purpose. (Does anyone remember them?). Bruce says there are three types of regen receivers: the tube ones, the ones with a FET, and the ones with bipolar transistors. However, there is also a fourth one: the negative resistance reganerative receiver, known also as a Lambda receiver . The oscillator is a transistor immitation of the tunnel diode, and the negative resistance substitutes the feedback coil. It is my own construction. You can find its schematic in the British QRP Club magazine SPRAT No. 111, page 4 (with a correction in No. 112, page 25). The whole construction with a PCB has been published in SPRAT No. 113, page 17 (with a correction in SPRAT 114, page 24). The RX does not have a feedback coil, and the regeneration is very smooth and rather even over the whole band. So, that problem has been solved for good. It is not stable enough for CW or SSB, but it is excellent for AM broadcast stations from 500 kHz up to 30 MHz (with corresponding coils, of course). So, according to my opinion, it is excellent for beginners because they do not have to bother with the feedback coils.

If anyone would care to duplicate it, I would appreciate it very much if I could hear about his experiences with it (on this group or by e-mail: bozidar.pasaric@ri.hinet.hr). The whole project is still open for experimentation. Best wishes,

Bozidar, 9A2HL

4291. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 13:59:38 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a4636dbc845b0d99896d6@news.west.earthlink.net>
Source record: 30158
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 14 Dec 2003 12:53:20 +0000, pb@osiris1.notthisbit.co.uk
said...
> On Sat, 13 Dec 2003 23:59:21 GMT, Active8
> <mTHISREMOVEcolasono@earthlink.net,invalid> wrote:
>
> > clues. so you're still on that project.
>
> Well, it's *related* to "that" project, yes.
>
> >> tweak the sensitivity and get a peak at S9 on the CB radio type signal
> >> meter I'm using for this purpose.
> >
> >:) ! Adjust the meter to get the answer you want. Ok.
>
> Yes! I'm only interested in *relative* field strength. That's why I
> asked for a "ballpark figure" to be plucked from the air. I think you
> may be thinking of some fancy type of instrument like some guy
> mentioned he had that cost 1500 bux.

'twas me talking to someone else.

> These ham-type jobs I'm
> interested in cost just pennies to make as they don't need any
> absolute standard of accuracy; only a relative indication. You tweak
> the meter's sensitivity control to show antenna A of the TX giving
> rise to say S5 on the meter. You then change to antenna B and see if
> the reading is any higher or lower. It's really as simple as that.

Yup. gave you the eqs to figure out your ballpark figure. I figured
a ballpark figure might work if you gould figure out how much
voltage appeared at your RFSM antenna. had I known you had a
reference transmitter i might have suggested checking your RFSM
reading at one location with the ref and another closer location
with the test Tx, identical readings indicating sucess or close to
it.
>
> >I'll use a distance of 6m.
>
> Noted, thanks.
>
>
>
>

4292. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 15:18:34 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <pnvotvob3uoq5hhrrveg0mg6ian5a8fh8d@4ax.com>
Source record: 30159
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 14 Dec 2003 13:59:38 GMT, Active8
<mTHISREMOVEcolasono@earthlink.net,invalid> wrote:

>Yup. gave you the eqs to figure out your ballpark figure. I figured
>a ballpark figure might work if you gould figure out how much
>voltage appeared at your RFSM antenna. had I known you had a
>reference transmitter i might have suggested checking your RFSM
>reading at one location with the ref and another closer location
>with the test Tx, identical readings indicating sucess or close to
>it.
>>
>> >I'll use a distance of 6m.
>>
>> Noted, thanks.

Just curious, but would carrying out comparative measurements at say
only 6 to 10 feet give rise to invalid readings??
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4293. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 16:47:09 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a465e1ac19b2d9d9896da@news.west.earthlink.net>
Source record: 30160
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 14 Dec 2003 15:18:34 +0000, pb@osiris1.notthisbit.co.uk
said...
> On Sun, 14 Dec 2003 13:59:38 GMT, Active8
> <mTHISREMOVEcolasono@earthlink.net,invalid> wrote:
>
> >Yup. gave you the eqs to figure out your ballpark figure. I figured
> >a ballpark figure might work if you gould figure out how much
> >voltage appeared at your RFSM antenna. had I known you had a
> >reference transmitter i might have suggested checking your RFSM
> >reading at one location with the ref and another closer location
> >with the test Tx, identical readings indicating sucess or close to
> >it.
> >>
> >> >I'll use a distance of 6m.
> >>
> >> Noted, thanks.
>
> Just curious, but would carrying out comparative measurements at say
> only 6 to 10 feet give rise to invalid readings??
>

Lots of things can foul you up.

I think I estimated the near field/far-field at 3.7m so I wouldn't
do it. IIRC the change in field strengh with respect to distance in
one of the zones of the near field varies inversely with the cube
of the distance, as opposed to the square as it does in the far-
field.

BTW, I've seen other far-field eqs where the antenna diameter (not
aperature size) is used and I haven't bothered looking into the
origin, but I'm just trying to impress upon you the fact that
nothing's written in stone.

The 6m I gave as an example might not be all that great. These
short distances you mention have me thinking you're locked in a
dungeon somewhere so I tried to keep it reasonable. A sniffer might
be ok at close range and an active RFSM would be good at greater
distances.

Personally, since you've got a reference Tx, I'd take the whole
deal outside (they do let you out, don't they) and see what happens
with greater distances. Even a gym or auditorium would work if
you're concerned with how well it works indoors.

I remember the 40MHz part, but I'm not sure what yer up to. Just curious.

-mike

4294. Interfacing current driven differential output to voltage driven differential input

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 20:18:46 UTC
From: Sebastian Tombs <tombssebastian@hotmail.com>
Message-ID: <GA3Db.27783$ea%.19321@news01.bloor.is.net.cable.rogers.com>
Source record: 30161

Hi All,

I am trying to interface the output of an Analog Devices 9857 DDS modulator to a Maxim upconverter. The problem is that the output of the DDS is a current driven differential DAC, and the input to the upconverter is a voltage driven differential input. No problem, you say? But there is one...

The output of the DDS has spurs and aliases caused by the fact that this is a signal generated by the DAC from digital data. SInce I would rather not upconvert the spurs, etc. as well as the desired signal, I need to filter the output of the DAC. I want to keep the differential signal for noise-reduction purposes. The guy I spoke to at Maxim says that I must filter both arms of the DAC output before feeding the signal to the upconverter. Another alternative, of course, is to just connect the two with a shunt resistor and filter the upconverter output, but I would rather reduce the spurs as soon as possible rather than have them amplified on the board. Is there an efficient, elegant way to do this? And yes, I have also thought of taking the differential output, converting it to single ended, filtering it and then converting it back to differential...that's why I emphasize "elegant" above :)

Thanks in advance

4295. Vintage Nascom FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 20:28:25 UTC
From: G4BXD@qsl.net
Message-ID: <3fdcc63c.249558@news.compuserve.com>
Source record: 30162

Vintage Nascom FS

upc board, mem board, psu unit.
was working when put away. sold as a vintage collectors item

£30

contact Ben on: G4BXD@qsl.net

4296. Re: Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 20:38:18 UTC
From: donutbandit <none@none.com>
Message-ID: <brihnq$ml1$9@news.snowcrest.net>
Source record: 30163

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in
news:vtmjj7q56aga23@corp.supernews.com:

> Do the lenses out of old projection TVs have any interesting use or
> value?

What is it's diameter?

4297. Re: Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 21:01:06 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vtpkfuebsg0r74@corp.supernews.com>
Source record: 30164

I have: 3", 3.5", and 4.75" in diameter.
hank

"donutbandit" <none@none.com> wrote in message
news:brihnq$ml1$9@news.snowcrest.net...
> "Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in
> news:vtmjj7q56aga23@corp.supernews.com:
>
> > Do the lenses out of old projection TVs have any interesting use or
> > value?
>
> What is it's diameter?

4298. Building external higher quality product detector for RX tests

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-14 22:39:31 UTC
From: la8ak.xnd@online.no
Message-ID: <3fdce5bb.94447308@news.online.no>
Source record: 30165

To check some IF responses of surplus receivers I am constructing some units including a white noise generator and product detector to use with a pc with soundcard to display the IF selectivity curve, or at least the upper 30-40dB of it, with an external BFO set outside the IF passband

it is outlined on http://home.online.no/~la8ak/c13.htm
so I would be interested to hear comments and if I am doing something which should be better

73
Jan-Martin
LA8AK
--
remove ,xnd to reply (Spam precaution!)

4299. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 00:50:09 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <hjvptvsscnlt8vgdf63ae7tkbu328k2r2a@4ax.com>
Source record: 30166
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sun, 14 Dec 2003 16:47:09 GMT, Active8
<mTHISREMOVEcolasono@earthlink.net,invalid> wrote:

>I remember the 40MHz part, but I'm not sure what yer up to. Just
>curious

You once referred to me as the "battlebots guy" - although I post on
many other aspects of electronic design as well, so that's not
entirely accurate. I trust this jogs your memory. :-)
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4300. Re: Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 02:00:43 UTC
From: donutbandit <none@none.com>
Message-ID: <brj4kb$291$2@news.snowcrest.net>
Source record: 30167

"Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in
news:vtpkfuebsg0r74@corp.supernews.com:

> I have: 3", 3.5", and 4.75" in diameter.
> hank
>

If they have decent achromatic qualities, they could be used to make a
short focus refracting telescope. I'm sure the focal length is quite short,
though.

I've never seen one. More than one lens inside?

4301. Re: Projection TV lens ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 02:34:53 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vtq7epn227m4f0@corp.supernews.com>
Source record: 30168

The latest ones are single lens while the `5 yr old ones are 2 or 3
lenses...
73
hank wd5jfr

"donutbandit" <none@none.com> wrote in message
news:brj4kb$291$2@news.snowcrest.net...
> "Henry Kolesnik" <wd5jfr@oklahoma.net> wrote in
> news:vtpkfuebsg0r74@corp.supernews.com:
>
> > I have: 3", 3.5", and 4.75" in diameter.
> > hank
> >
>
> If they have decent achromatic qualities, they could be used to make a
> short focus refracting telescope. I'm sure the focal length is quite
short,
> though.
>
> I've never seen one. More than one lens inside?
>

4302. Re: bsr turntable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 04:13:57 UTC
From: fmmck@aol.com
Message-ID: <20031214231357.26136.00000851@mb-m15.aol.com>
Source record: 30169

<< my old bsr xl-1200 cartridge is wired onto the pins so it wont pop out with the 4 prongs as normal one's do >>

Louis-

I have an old cheap BSR changer that was sold by Radio Shack. It has slide-on terminals that connect to the cartridge pins. The cartridge is held in place by two screws. Are you sure your cartridge doesn't have slide-on terminals?

I also have an old Dual changer that uses a cartridge adapter. The adapter pops out when a "lift arm" is rotated. The original Shure cartridge is glued into the adapter, but it also has slide-on terminals. I believe it would ruin both the cartridge and the adapter, if I tried to separate the two.

I've had the Dual for about 25 years, but recall adapters that used cartridge mounting screws, were available for other cartridges. If BSR is still in business, perhaps they would have an adapter that is compatible with your turntable.

Fred

4303. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 04:21:23 UTC
From: ehsjr@bellatlantic.net
Message-ID: <3FDD366D.64B661A7@bellatlantic.net>
Source record: 30170
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:
>
> Hi all,
>
> I wanted to build an RF relative field strength meter, so set about
> searching on the Web for any existing designs. Those I turned up
> weren't particularly impressive, so I decided to start from scratch
> and design my own. I've just completed that this afternoon. I've
> allowed for 0.25mV input to give rise to FSD on the microammeter.
> Question being, however, is that going to be sensitive enough?

Yes. If it's not, either move closer, or add an op amp with
a gain control after the diode(s) & cap. Mine uses 2 gain
controls - 1 on the input to the op amp, and one that sets
the gain of the op amp. A further improvement is the use
of a cheap DPM - no parallax and a wider "full scale" range
with no loss of sensitivity. The downside of the cheap DPM
was the need for 2 9 volt batteries. (I have since built a
small DC-DC converter that occupies the volume of a single
9V battery. That may allow using a single rechargeable
9V to power the converter - but I haven't tried it yet
to be sure that the converter doesn't produce noise that
would be detected by the instrument. The converter does
produce dual 9V fully isolated outputs at at least 10 ma
per output, way more than the instrument needs.)

> Does
> anyone have any idea what the field strength in microvolts or
> millivolts is from a half Watt transmitter at about 6 feet away? I
> guess I should have posed this question *before* designing it, but who
> among us can honestly say they haven't designed something without
> knowing what the spec is? :-)
> Anyway, ballpark figures gentlemen, please.
>
> p.
> --
>
> "I expect history will be kind to me, since I intend to write it."
> - Winston Churchill

4304. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 06:47:45 UTC
From: Scott Stephens <scottxs@comcast.net>
Message-ID: <lOcDb.545950$HS4.4162268@attbi_s01>
Source record: 30171
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Mike Andrews wrote:

The Netscape 4.6 browser on
> the same system _does_ put the black text directly on the dark-blue
> background, and it is decidedly unpleasant.

Mozilla 1.4a doesn't have any problems.

> A newer browser might be nice, but it also would be good if web page
> designers built pages with older code in mind.

Like trying to accommodate fighting parents, having Micro$oft constantly extending and subverting standards.

> It _definitely_ has some cool stuff. Thanks, Scott!

Thanks. Any things you like more than others? When I make time, I plan on documenting my tinkering with windows html/hta app to md5 sign and test your pc files, laser-pointer velocimeter and interferometers, PIC hardware and software for alarm system, and micro-power radar sensors. I should update the bookmarks and clean all the dead-links too.

--
Scott

****

DIY Piezo-Gyro, PCB Drill Bot & More Soon!

http://home.comcast.net/~scottxs/

****

4305. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 06:59:30 UTC
From: Scott Stephens <scottxs@comcast.net>
Message-ID: <mZcDb.354818$Dw6.1169152@attbi_s02>
Source record: 30172
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Paul Burridge wrote:

I'll add that my Optoelectronics handi-counter's fsm bargraph can detect a few hundred milliwatts at several feet away.

I visualize a radio-field power density being grid-lines painted on a balloon around a 1/2 wave dipole. As the balloon is blown up, the grid-line expand, given by 4 pi r^2.

For some good app notes on designing electrically small antennas and radio link calculations:

Goto -
http://www.rfm.com/corp/apnotes.htm

Checkout:
http://www.rfm.com/corp/appdata/antenna.pdf
http://www.rfm.com/products/tr_des24.pdf

HP (now Agilent) has some app-notes on designing diode detectors, and has some utility programs that will help you design and calculate performance. Some I think, in context of RFID reading devices. But they point out you get a square-law for small signals, which gets nonlinear for larger signal levels. And what bias the detector diode has on it.

--
Scott

****

DIY Piezo-Gyro, PCB Drill Bot & More Soon!

http://home.comcast.net/~scottxs/

****

4306. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 06:59:36 UTC
From: Scott Stephens <scottxs@comcast.net>
Message-ID: <sZcDb.551098$Tr4.1501167@attbi_s03>
Source record: 30173
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Michael A. Terrell wrote:

> Your web site is very hard to read with the dark blue background and
> black text. A lot of people have vision problems, and can not read this
> color combination.

Sorry. The next time I update it I'll see if I can find a better color.
I think I noticed that once while I was developing it - I think it is
due to a low-color VGA mode. I spent too long fooling around trying to
develop the fractal-smith chart background (thanks to da GIMP) to mess
with it any further. You can always edit the HTML yourself and change my
background color. Its not like I've got advertisers paying me.

--
Scott

****

DIY Piezo-Gyro, PCB Drill Bot & More Soon!

http://home.comcast.net/~scottxs/

****

4307. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 07:16:35 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a4729e5600e55aa9896e5@news.west.earthlink.net>
Source record: 30174
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Mon, 15 Dec 2003 00:50:09 +0000, pb@osiris1.notthisbit.co.uk
said...
> On Sun, 14 Dec 2003 16:47:09 GMT, Active8
> <mTHISREMOVEcolasono@earthlink.net,invalid> wrote:
>
>
> >I remember the 40MHz part, but I'm not sure what yer up to. Just
> >curious
>
> You once referred to me as the "battlebots guy" - although I post on
> many other aspects of electronic design as well, so that's not
> entirely accurate. I trust this jogs your memory. :-)
>
Yes, but I thought the 40MHz project was *not* bot related.

Mike

4308. RF Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 07:47:54 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <KGdDb.710704$pl3.357358@pd7tw3no>
Source record: 30175

Does anyone know how common 10.7MHz oscillator crystals are and where I can get them, preferable in Canada.

The reason, I've decided to build a 21MHz xcvr and the 10.7MHz crystal, when multiplied by 2 is at 21.4MHz which is at the top end of that band. The 10.7MHz crystal will be running the LO (obviously).

TIA

--
Donovan Hill
VA7LNX (Basic, Advanced)

4309. Re: Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 10:29:03 UTC
From: Markus L <uo9oew@lnubb.pbz>
Message-ID: <3fdd8cef$0$245$4d4ebb8e@read-nat.news.nl.uu.net>
Source record: 30176

Joel wrote:
> My NiCad battery gave up the ghost in my HT for the second time. They
> only seem to last a few years, at the most. I was wondering if I
> replace the NiCad's with newer NMHi batteries can I use the same
> charger? Both type batteries are about 1.2 volts when charged. But
> I'm not sure about their charging requirements.

Take a look at Isidor Buchmann's excellent articles at
http://www.buchmann.ca/
Takes a bit of time to study, but will answer 99% of your battery-related
questions.

4310. Re: RF Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 10:33:06 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <C5gDb.13186$OJ.1921@edtnps84>
Source record: 30177

West Crystal, Kelowna, BC :-)

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4311. Re: RF Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 11:03:36 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <cygDb.5535$D66.4375@nwrdny03.gnilink.net>
Source record: 30178

Donovan,
Out of curiosity, what IF frequency are you planning to use that required a
10.7 MHz crystal?

Joe
W3JDR

"VA7LNX" <spamtrap@gwsn.com> wrote in message
news:KGdDb.710704$pl3.357358@pd7tw3no...
> Does anyone know how common 10.7MHz oscillator crystals are and where I
can
> get them, preferable in Canada.
>
> The reason, I've decided to build a 21MHz xcvr and the 10.7MHz crystal,
when
> multiplied by 2 is at 21.4MHz which is at the top end of that band. The
> 10.7MHz crystal will be running the LO (obviously).
>
> TIA
>
> --
> Donovan Hill
> VA7LNX (Basic, Advanced)

4312. Re: Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 11:32:12 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <4ZgDb.5374$R6.1611853@newsfep2-win.server.ntli.net>
Source record: 30179

"Markus L" <uo9oew@lnubb.pbz> wrote in message
news:3fdd8cef$0$245$4d4ebb8e@read-nat.news.nl.uu.net...
> Joel wrote:
> > My NiCad battery gave up the ghost in my HT for the second time. They
> > only seem to last a few years, at the most. I was wondering if I
> > replace the NiCad's with newer NMHi batteries can I use the same
> > charger? Both type batteries are about 1.2 volts when charged. But
> > I'm not sure about their charging requirements.
>
> Take a look at Isidor Buchmann's excellent articles at
> http://www.buchmann.ca/
> Takes a bit of time to study, but will answer 99% of your battery-related
> questions.
>
>
>

4313. Re: Battery replacement..

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 11:34:16 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <%_gDb.5375$R6.1815272@newsfep2-win.server.ntli.net>
Source record: 30180

> Take a look at Isidor Buchmann's excellent articles at
> http://www.buchmann.ca/
> Takes a bit of time to study, but will answer 99% of your battery-related
> questions.
==========
Indeed this is an excellent tutorial
Tnx for this reference

Frank GM0CSZ / KN6WH

4314. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 12:22:27 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <o97rtvgn9jpkm817ppbkl6ljhtp3k7bumr@4ax.com>
Source record: 30181
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Mon, 15 Dec 2003 07:16:35 GMT, Active8
<mTHISREMOVEcolasono@earthlink.net,invalid> wrote:

>Yes, but I thought the 40MHz project was *not* bot related.

Nope. *All* the 40Mhz stuff I post about is 'bot related. That's the
r/c band we're permitted to use. There's an alternative option to use
something up in UHF but I'm giving that a miss for obvious reasons.
:-)
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4315. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 14:22:32 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a478dbd8768909b9896ed@news.west.earthlink.net>
Source record: 30182
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Mon, 15 Dec 2003 12:22:27 +0000, pb@osiris1.notthisbit.co.uk
said...
> On Mon, 15 Dec 2003 07:16:35 GMT, Active8
> <mTHISREMOVEcolasono@earthlink.net,invalid> wrote:
>
> >Yes, but I thought the 40MHz project was *not* bot related.
>
> Nope. *All* the 40Mhz stuff I post about is 'bot related. That's the
> r/c band we're permitted to use. There's an alternative option to use
> something up in UHF but I'm giving that a miss for obvious reasons.
> :-)
>
you'd shit if you knew how easy it can be to do a UHF radio with an
RFIC, but I'm not sure you're permitted to use the same modulation
methods. Hell, you can get a pre-approved module for $100. FSK -
you can use that! isn't you're deal PPM FSK? or PCM FSK?

BRs,
Mike

4316. FA:RF SW,Ungar tips, more

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 14:36:21 UTC
From: Heytubeguy <heytubeguy@worldnet.att.net>
Message-ID: <FFjDb.460935$0v4.21090567@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30183

5 day on Ebay(Christmas to Atlanta 23-27 may delay shipping unless paid via Pay Pal etc.Can ship items on Monday the 22nd.):

RF SWITCH
UNGAR SOLDERING TIPS:23.5,42,50 WATT
INTERSTAGE XFMR
DIAL
TAPE RECORDER MIC
ANTIQUE COIL
1" STAND OFFS,ROUND

AT:http://cgi6.ebay.com/ws/eBayISAPI.dll?ViewSellersOtherItems&userid=heytubeguy&completed=0&sort=3&since=-1&include=0&page=1&rows=25

4317. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 14:55:05 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a47955fa85047e79896f0@news.west.earthlink.net>
Source record: 30184
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Mon, 15 Dec 2003 06:59:36 GMT, scottxs@comcast.net said...
> Michael A. Terrell wrote:
>
> > Your web site is very hard to read with the dark blue background and
> > black text. A lot of people have vision problems, and can not read this
> > color combination.
>
> Sorry. The next time I update it I'll see if I can find a better color.
> I think I noticed that once while I was developing it - I think it is
> due to a low-color VGA mode. I spent too long fooling around trying to
> develop the fractal-smith chart background (thanks to da GIMP) to mess
> with it any further. You can always edit the HTML yourself and change my
> background color. Its not like I've got advertisers paying me.
>
>
I missed that. For my snith chart program. I wrote out the eqs for
intersecting circles, coded the graphics in VBA, and captured them
as bmps for the C++ version af the app.

I'll be damned. Thar's fractal impedance admittance charts in them
thar backgrounds!

Mike

4318. Relm WHS450 UHF (450-480)MHZ RADIO NR For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 15:48:51 UTC
From: Compsimple <compsimple@hotmail.com>
Message-ID: <DJkDb.27383$Dt6.623137@twister.tampabay.rr.com>
Source record: 30185
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.space,rec.radio.amateur.swap,relcom.radio.ham,tnn.radio.amateur

For Sale no reserve. see ebay link below. This radio cost almost $500

and has never been used.

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3065770970

4319. Re: RF Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 16:40:12 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <MtlDb.713247$6C4.695701@pd7tw1no>
Source record: 30186

W3JDR wrote:

> Donovan,
> Out of curiosity, what IF frequency are you planning to use that required
> a 10.7 MHz crystal?
>

10.7MHz. (I used to work in commercial 2-way, so that's what I'm used to.)

> Joe
> W3JDR
>
> "VA7LNX" <spamtrap@gwsn.com> wrote in message
> news:KGdDb.710704$pl3.357358@pd7tw3no...
>> Does anyone know how common 10.7MHz oscillator crystals are and where I
> can
>> get them, preferable in Canada.
>>
>> The reason, I've decided to build a 21MHz xcvr and the 10.7MHz crystal,
> when
>> multiplied by 2 is at 21.4MHz which is at the top end of that band. The
>> 10.7MHz crystal will be running the LO (obviously).
>>
>> TIA
>>
>> --
>> Donovan Hill
>> VA7LNX (Basic, Advanced)

--
Donovan Hill
VA7LNX (Basic, Advanced)

4320. Re: RF Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 16:41:04 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <AulDb.720087$9l5.492785@pd7tw2no>
Source record: 30187

Gregg wrote:

> West Crystal, Kelowna, BC :-)
>

Oh! Thanks! I couldn't remember the name of those guys. I used to deal with
them for my xtal needs for commercial 2-way.

--
Donovan Hill
VA7LNX (Basic, Advanced)

4321. Re: RF Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 16:43:08 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <wwlDb.713267$6C4.172873@pd7tw1no>
Source record: 30188

W3JDR wrote:

> Donovan,
> Out of curiosity, what IF frequency are you planning to use that required
> a 10.7 MHz crystal?
>
> Joe
> W3JDR
>
> "VA7LNX" <spamtrap@gwsn.com> wrote in message
> news:KGdDb.710704$pl3.357358@pd7tw3no...
>> Does anyone know how common 10.7MHz oscillator crystals are and where I
> can
>> get them, preferable in Canada.
>>
>> The reason, I've decided to build a 21MHz xcvr and the 10.7MHz crystal,
> when
>> multiplied by 2 is at 21.4MHz which is at the top end of that band. The
>> 10.7MHz crystal will be running the LO (obviously).
>>
>> TIA
>>
>> --
>> Donovan Hill
>> VA7LNX (Basic, Advanced)

actually, I've changed my design. I'm going to go with a direct conversion reciever instead of building a heterodyne reciever this time around. It's a lot simpler and smaller to build and will be a good refresher for 2-way. (It's been about 4 years since I touched a radio.)

--
Donovan Hill
VA7LNX (Basic, Advanced)

4322. Re: bsr turntable

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-15 17:01:10 UTC
From: fmmck@aol.com
Message-ID: <20031215120110.29555.00000204@mb-m02.aol.com>
Source record: 30189

<< i think i could remove the wires
and put each one onto the prongs of a new cartridge but it seems that
the bsr cartridge is proprietary. there is one screw on top of the
tone arm that holds my cartridge. i'm not sure it will screw into a
new one such as the at3482u. >>

Louis-

I wonder if the single screw actually mounts an assembly consisting of the cartridge and a spring-clip that holds it? Have you disassembled it for close inspection?

From what you say, and observing my own changers, I don't think there is a "standard" method of attaching the cartridge. The closest I find, is that some cartridges are mounted with a screw on each side, through elongated holes so it can fit a variety of tone arms.

Looking closely at the cartridge near the terminals, you may find small letters L, R, LS, RS, indicating Left, Right, Left Shield and Right Shield. This should help you figure out how to wire a replacement cartridge if you can find one that fits.

I recently dug out my old Stereo equipment, hoping to restore it. Two out of three old changers no longer work reliably. The BSR was a cheap one from Radio Shack, and the needle skips several grooves when it is close to a speaker and a loud bass note is played. The best solution seemed to be to buy a new changer, but I find that none are available. The only thing I find is a simple, cheap turntable intended for disc jockeys to make scratching noises! Do you know of any recent High End changers or turntables?

73, Fred, K4DII

4323. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 14:28:30 UTC
From: Spajky <Spajky##@volja.net>
Message-ID: <po4utv0lfra8qbttka3fhbi1ci94fmgpfv@4ax.com>
Source record: 30191

On Sun, 14 Dec 2003 06:31:14 GMT, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

> Some
>websites are a royal pain. I recently ran into an electronics
>distributor who put their entire website in "Flash". There is no way I
>will wait five minutes or more per page to download and run stupid
>animation when I am looking for parts.

I share your opinion completelly; I hate Flash made sites & banners,
but not downlodable fun stuff in Flash ... /like jokes/ :-)

-- Regards, SPAJKY
& visit site - http://www.spajky.vze.com
Celly-III OC-ed,"Tualatin on BX-Slot1-MoBo!"
E-mail AntiSpam: remove ##

4324. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 14:28:31 UTC
From: Spajky <Spajky##@volja.net>
Message-ID: <i05utv4s5jb93c29pgfr65asd0gt932rot@4ax.com>
Source record: 30192

On Sun, 14 Dec 2003 03:18:35 GMT, Active8
<mTHISREMOVEcolasono@earthlink.net,invalid> wrote:
>Refresh my ram.

> | E(uV/m) |
>V (dBmV) = 20log | --------- / 1000 |
> | 0.021f(MHz) |
>
>plus correction for distance (regulations for limits are for
>specific measuring distances), etc. I'll mull the above eq over.
>Gotta figure out where the .021 came from, but not now.

I use simplified formula for practical life with also some antenna
mismatchings & soft obstacles in-calculated:

dBm = ~90dB x 1Mhz x 1km or better dBm = 100dB x 1Mhz x 1km
for having better Rx SINAD

since voltage on Rx antenna drops linearly with rising a frequency &
distance & vice-versa. From dBm´s got I just recalculate RX voltage on
RX input

simple & effective calculation IMHO ...

-- Regards, SPAJKY
& visit site - http://www.spajky.vze.com
Celly-III OC-ed,"Tualatin on BX-Slot1-MoBo!"
E-mail AntiSpam: remove ##

4325. Yaesu FC-1000 Tuner Assistnace Required

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 14:35:25 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <pLEDb.7787$8Y4.332805@read2.cgocable.net>
Source record: 30190
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Picked up this Used FC-1000 Automatic Long Wire Tuner and need some coaching.

The Yaesu FC-1000 Automatic Long Wire Tuner was designed to be used with the FT-747GX/ FT-757GX Series Transceivers in that the Freq being used is fed to the Tuner via a cable.

Has anyone had any experience useing this tuner "Stand Alone" without the "matching" Transceiver feeding Freq Data to it? OR has any more Technical Info on its operation? I would like to try to use the tuner with other Transceivers

I am sure there were a number of these units sold into Amateur Service and/or Marine use.
I am presently using an FT-100D with ATAS-120 Screwdriver in my Explorer.

I have the manaul with schematics, and will probably find the answers to my questions EVENTUALLY...just looking to speed up the process ! !

Thank You for any replies
73...Norm VE3CZI

4326. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 17:06:27 UTC
From: ddwyer <dd@ddwyer.demon.co.uk>
Message-ID: <6OheLLATuz3$EwK5@ddwyer.demon.co.uk>
Source record: 30193

In article <3fdb485c.62145907@news.online.no>, J M Noeding
<la8ak.xnd@online.no> writes
>On Mon, 08 Dec 2003 05:10:02 GMT, Uwe Langmesser
><outhouse@midcoast.com> wrote:
>
>
>>> Crystals will operate on a number of fo's.
>>> I use three oscillators to test them and each gives a different fo.
>>> Be careful and keep the drive level down as some oscillators can cause
>damage.
>>
>>I had to laugh when I read your post, it sort of reflects my experience, eg.
>>every experiment gives you new and unexpected answers.
>>
>>And I thought it was only me...
>>
>>Uwe
>>
>....and it is better when you can laugh about it.... sometimes it is
>difficult to understand why your xtal won't operate on a 3rd or 5th
>harmonic when it seems to work for everybody else - and you specified
>proper overtone xtal for the manufacturer,
>But it is a lot of bad constructions!
>
>In the butler-type xo (popular in UK) you may operate a 27MHz xtal on
>45 and even 81MHz (believe it was DCoDA who first described it)
>
>But I believe the original question was something else? Xtals testers
>were so popular in the 60's when amateur run around to surplus stores
>buying FT-243 xtals, and several such xtal testers are described in
>CQ, Ham Radio, QST, 73 DL-QTC, QRV, CQ-DL, Electron and other, they
>run on fundamental frequency using colpitts or pierce type oscillator
>and measured grid current as measure for excitation
>
>73
>Jan-Martin, LA8AK
>--
>remove ,xnd to reply (Spam precaution!)
The butler type is a tuned amplifier were there is ideally zero phase
across the crystal and hence the crystal can be simulated by a resistor
of equal (in practise lower) resistance than the crystal loss.
Hence a butler tuned to 100MHz will oscillate a 50R resistor at that
frequency.
The 100MHZ crystal if 5th overtone will have a fundamental response at

approx. 20MHz and a 3rd overtone response at 60MHz .
The fundamental response (resistance) will be much lower than the 5th
resistance and in a zero phase amplifier with flat response the crystal
will preferentially oscillate at 20MHz.
Higher order overtones have the same C0 or stray capacitance as the
fundamental but this has a lower reactance at higher frequencies.
This is the reason and increase in resistance at higher overtones that
overtone oscillators get increasingly tricky.

--
ddwyer

4327. 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 17:41:02 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vtugtm5igvla32@corp.supernews.com>
Source record: 30194

I have a small quantity of RCA 40673 mosfets for anyone interested. I will sell them for $2.50 each. These are NOS and I am selling them at half the market value. If you get them through NTE they are over $11.00 or you get them through Dan`s small parts (if he has any) at$5.00 each. Thanks, Rob

4328. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 18:17:59 UTC
From: kizerian@xmission.com
Message-ID: <ee6182da.0312161017.3a2e53c5@posting.google.com>
Source record: 30195

Thanks everyone for the interesting and useful information.

For the record, I am not particularly in love with tubes, but if there is something they will do better than solid state devices I'm willing to give it a try. When I can buy PN2222 bipolars for $.02ea and PN4416 JFETS two for a quarter, and dual gate MOSFETS for a nickel, the expenditure for one of those fragile glass things better be well worth it. It can' be different or just a little better. It has to be "knock your socks off" superior...I make radio kits for kids and schools and I want them to be able to afford the purchase.

Bruce kk7zz
www.elmerdude.com

4329. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 19:26:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vtun3n51ndnr3f@corp.supernews.com>
Source record: 30196

People here have recently mentioned tubes intended for portable operation, with plate voltages of around 20 volts. Much more common are tubes intended for running from mains-powered supplies. These mostly require plate voltages that can be lethal. You should consider this when designing kits for kids.

Roy Lewallen, W7EL

Bruce Kizerian wrote:
> Thanks everyone for the interesting and useful information.
>
> For the record, I am not particularly in love with tubes, but if there
> is something they will do better than solid state devices I'm willing
> to give it a try. When I can buy PN2222 bipolars for $.02ea and PN4416
> JFETS two for a quarter, and dual gate MOSFETS for a nickel, the
> expenditure for one of those fragile glass things better be well worth
> it. It can' be different or just a little better. It has to be "knock
> your socks off" superior...I make radio kits for kids and schools and
> I want them to be able to afford the purchase.
>
> Bruce kk7zz
> www.elmerdude.com

4330. FS: Variacs

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 20:52:05 UTC
From: Walter Treftz <pendragon@netsignia.net>
Message-ID: <3FDF7062.89E681D3@netsignia.net>
Source record: 30197

(22) Variac:
Ohmite Cat. #VT2. Input 120v 60-400 hz, single
phase.Output #l: 0-120v, #2: 0-132v, 1.5A,
2-7/8" dia x 1-7/8" long, 1/4" shaft.

(23) Variac:
Ohmite Cat. #VT8HN. Input: 120/240v 50/60 hz.
Output: 0-120v @ 2A & 0-240v @ 4A. Mounted on
metal bracket. 4-1/2" dia x 4-1/2" deep,
3/16" & 3/8" shafts.

(24) Variac:
"Powerstat" (Superior Electric). Type 216BU.
Input: 240v, 50/60 hz, 1-phase. Output: 0-280v
3.5A, 0.98kva. 4-1/4" dia x 4-1/4" deep.
3/8" shaft.

(25) Variac:
General Radio Co. Type W5. Input: 115v 6a 50/60
hz. Output: fixed 20v & 95v (taps) & variable
0-135v. With 0-130 & 0-110v original dials and
knob. 4-1/4" dia x 4" deep.

These are from estates our ARC is helping with. Digital pix are
available.
No charge for packing -- buyer pays shipping only.
73 Walt (N4GL)
hvalver/at/hotmail(dot)com
pendragon(at)netsignia(dot)net

4331. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 23:16:02 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a495c38655f28c89896f9@news.west.earthlink.net>
Source record: 30198
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Mon, 15 Dec 2003 06:59:30 GMT, scottxs@comcast.net said...
> Paul Burridge wrote:
>
> I'll add that my Optoelectronics handi-counter's fsm bargraph can detect
> a few hundred milliwatts at several feet away.
>
> I visualize a radio-field power density being grid-lines painted on a
> balloon around a 1/2 wave dipole. As the balloon is blown up, the
> grid-line expand, given by 4 pi r^2.
>
> For some good app notes on designing electrically small antennas and
> radio link calculations:
>
> Goto -
> http://www.rfm.com/corp/apnotes.htm
>
> Checkout:
> http://www.rfm.com/corp/appdata/antenna.pdf
> http://www.rfm.com/products/tr_des24.pdf
>
> HP (now Agilent) has some app-notes on designing diode detectors, and
> has some utility programs that will help you design and calculate
> performance. Some I think, in context of RFID reading devices. But they
> point out you get a square-law for small signals, which gets nonlinear
> for larger signal levels. And what bias the detector diode has on it.
>
>
>
Any particular search string to use for that Agilent stuff? They're
usually good for info on stuff like that.

Mike

4332. Kenwood TM-741A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 23:25:14 UTC
From: Carl Domanico <vze2686b@verizon.net>
Message-ID: <uvMDb.714$LS.587@nwrdny01.gnilink.net>
Source record: 30199

Need Help with my Kenwood TM-741A Triband FM Mobile Radio.....I purchased the radio new some 12 years ago, with the 220MHz. Module Installed....The Radio Has 144 Mhz / 220Mhz / 440 Mhz.....For years the radio worked excellent....Then about 5 years ago I had lost the out put on 144 (two meters)... However , the other two bands functioned fine...220/440mhz... I sent the radio back to kenwood...and they indicated that the Driver Transistor Q23 2SD1902R on the two meter module was defective. This transistor is an inexpensive part...$ 3.05 ea. Anyway...It seems like the same problem occured the other day...all the symptoms seem the same...Can anyone shed some light on why this seems to happen often?? Also is it possible to replace this 2SD1902R transister with something capable of handling some what more power dissapation?? What ever happened to those motorola hep sustatutes?? Any and all info supplied here will be greatly appreciated....

Thanks
Carl
N2MFW

4333. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 23:26:18 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vtv54tft9rotb5@corp.supernews.com>
Source record: 30200

I think I remember the number from the dlate 1960s but can't recall what
their main use was, refreesher?
tnx
hank wd5jfr
"rob34" <rob34@infinet.com> wrote in message
news:vtugtm5igvla32@corp.supernews.com...
> I have a small quantity of RCA 40673 mosfets for anyone interested. I
> will sell them for $2.50 each. These are NOS and I am selling them at
> half the market value. If you get them through NTE they are over $11.00
> or you get them through Dan`s small parts (if he has any) at$5.00 each.
> Thanks, Rob

4334. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 23:42:13 UTC
From: jgboyles@aol.com
Message-ID: <20031216184213.26112.00000919@mb-m15.aol.com>
Source record: 30201

>I think I remember the number from the dlate 1960s but can't recall what
>their main use was

The 40673 as I recall was a dual gate FET. Used in mixers and other stuff
dual gates were used. They were in a small metal package (TO-??) with 4 leads.
I think I remember their orginal application was CB xcvrs.
73 Gary N4AST

4335. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-16 23:56:14 UTC
From: Scott Stephens <scottxs@comcast.net>
Message-ID: <yYMDb.410021$ao4.1339168@attbi_s51>
Source record: 30202
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Active8 wrote:

> On Mon, 15 Dec 2003 06:59:30 GMT, scottxs@comcast.net said...
>
>>HP (now Agilent) has some app-notes on designing diode detectors

> Any particular search string to use for that Agilent stuff? They're
> usually good for info on stuff like that.

I though Agilent made you answer a bunch of questions before they would let you at their stuff. Doing a web search on one of the app notes I downloaded, I get:
http://rf.rfglobalnet.com/library/ApplicationNotes/files/1/An1089.pdf

RF Globalnet's got lots of good stuff. Probably where I got the design apps from too.

HP app notes I collected:

pin diode pi atten an1048
pin diode switch an1049
x-band mixer an1052
pin diode freq mult. an1054
(comb gen)
pin diode t/r switch an1067
schottkey diode apps an1069
schot. diode det - RFID an1089
atf-36163 10GHz LNA an1091
pin diode switch an957-1,2,3
z-mtchng for mix & dets an963
0-bias schotky diode an969
broadbnd mixers an976
square-law detectors an986
diode bias an987
zero-bias an988
harmonic mixing an991
shttky diode mixer an995
choke network design ana001
osc design ana008
vco design anm024
5ghz active mixer ans010
transistors primer1
noise and s-parms primer2
thermal primer3
thermal primer3a

gasfets primer4
HP product line quickguide

"Designing Detectors for RF/ID Tags Application Note 1089"

--
Scott

****

DIY Piezo-Gyro, PCB Drill Bot & More Soon!

http://home.comcast.net/~scottxs/

****

4336. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 00:05:45 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FDF9DBB.C46E0F00@earthlink.net>
Source record: 30203

JGBOYLES wrote:
>
> >I think I remember the number from the dlate 1960s but can't recall what
> >their main use was
>
> The 40673 as I recall was a dual gate FET. Used in mixers and other stuff
> dual gates were used. They were in a small metal package (TO-??) with 4 leads.
> I think I remember their orginal application was CB xcvrs.
> 73 Gary N4AST

A lot of early solid state garage door openers used it, as well.
--
9 days!

Michael A. Terrell
Central Florida

4337. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 00:07:19 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vtv7i0sk02tjf5@corp.supernews.com>
Source record: 30204

rob34 wrote:

> I have a small quantity of RCA 40673 mosfets for anyone interested. I
> will sell them for $2.50 each. These are NOS and I am selling them at
> half the market value. If you get them through NTE they are over $11.00
> or you get them through Dan`s small parts (if he has any) at$5.00 each.
> Thanks, Rob

For starters, Heathkit used them for their dip meters. There are a lot of uses for this mosfet, and I am afraid they are scarce!! I have 20 of them right now and I think I might be able to get more, but I am not sure. If anyone is serious about this, I will sell this lot for $40.00 , so e-mail me. Rob WB8VWI

4338. Looking to swap Ham Software

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 00:10:22 UTC
From: Ham Swap <hamswap@aol.com>
Message-ID: <Xns9453C2B6CD1B7hamswapaolcom@66.250.146.156>
Source record: 30205
Cross-posted to: rec.ham-radio.swap,de.comm.ham,uk.radio.amateur,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,alt.ham-radio.vhf-uhf,alt.ham-radio.marketplace,rec.radio.amateur.swap,rec.radio.amateur,alt.radio.amateur,alt.ham-radio,alt.ham-radio.mods,alt.ham-radio.morse,rec.ham-radio,free.uk.amateur-radio

I'm looking for the ADMS software for the Yaesu FT-3000 and FT-1500.

I will trade the serial key for NUMORSE PRO and the current software
Hamstudy and WY5I Code.

Send email to hamswap@aol.com

4339. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 00:18:31 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a496ae4be992d709896fd@news.west.earthlink.net>
Source record: 30206
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Tue, 16 Dec 2003 23:56:14 GMT, scottxs@comcast.net said...
> Active8 wrote:
>
> > On Mon, 15 Dec 2003 06:59:30 GMT, scottxs@comcast.net said...
> > >
> >>HP (now Agilent) has some app-notes on designing diode detectors
> >
> > > Any particular search string to use for that Agilent stuff? They're
> > > usually good for info on stuff like that.
> >
> > I though Agilent made you answer a bunch of questions before they would
> > let you at their stuff. Doing a web search on one of the app notes I
> > downloaded, I get:

I don't remember having to do that. I better get a sneakemail
(.com) addys ready for the next registration proceeses, though :)

> http://rf.rfglobalnet.com/library/ApplicationNotes/files/1/An1089.pdf

Ah. RFID. Big market in the works.
>
> RF Globalnet's got lots of good stuff. Probably where I got the design
> apps from too.

Thanks. You're right. I haven't had time to hit RF Globalnet in a
while. I used to get the news letter. Tnx for the reminder.

I wish I had more time. Maybe someone has the time to collect all
our app notes and get permission to organize them with
comprehensive synopses and mirror them on a free site. Maybe
qsl.net or something.

>
> HP app notes I collected:

That's all? ;) Oh, just from HP, ok.

Mike
>
> pin diode pi atten an1048
> pin diode switch an1049
> x-band mixer an1052
> pin diode freq mult. an1054
> (comb gen)
> pin diode t/r switch an1067
> schottkey diode apps an1069

> schot. diode det - RFID an1089
> atf-36163 10GHz LNA an1091
> pin diode switch an957-1,2,3
> z-mtchng for mix & dets an963
> 0-bias schotky diode an969
> broadbnd mixers an976
> square-law detectors an986
> diode bias an987
> zero-bias an988
> harmonic mixing an991
> shttky diode mixer an995
> choke network design ana001
> osc design ana008
> vco design anm024
> 5ghz active mixer ans010
> transistors primer1
> noise and s-parms primer2
> thermal primer3
> thermal primer3a
> gasfets primer4
> HP product line quickguide
>
> "Designing Detectors for RF/ID Tags Application Note 1089"
>
>

4340. Re: Kenwood TM-741A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 00:26:42 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FDFA29F.E481AEE7@earthlink.net>
Source record: 30207

Carl Domanico wrote:
>
> Need Help with my Kenwood TM-741A Triband FM Mobile Radio.....I purchased
> the radio new some 12 years ago, with the 220MHz. Module Installed....The
> Radio Has 144 Mhz / 220Mhz / 440 Mhz.....For years the radio worked
> excellent....Then about 5 years ago I had lost the out put on 144 (two
> meters)... However , the other two bands functioned fine...220/440mhz... I
> sent the radio back to kenwood...and they indicated that the Driver
> Transistor Q23 2SD1902R on the two meter module was defective. This
> transistor is an inexpensive part...$ 3.05 ea. Anyway...It seems like the
> same problem occured the other day...all the symptoms seem the same...Can
> anyone shed some light on why this seems to happen often?? Also is it
> possible to replace this 2SD1902R transister with something capable of
> handling some what more power dissapation?? What ever happened to those
> motorola hep sustitutes?? Any and all info supplied here will be greatly
> appreciated....
>
> Thanks
> Carl
> N2MFW

Motorola dropped the HEP line at least 15 years ago. So did GE,
Workman, and several other replacement lines. ECG was recently bought by
NTE, the sole survivor of the universal semi replacement business.
http://www.nteinc.com/ has a downloadable database for finding
replacement parts. There is no cross reference for this part, but you
can check their on line parts search to see if it has recently been
added.
--
9 days!

Michael A. Terrell
Central Florida

4341. Looking to swap software

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 00:41:41 UTC
From: Ham Swap <hamswap@aol.com>
Message-ID: <Xns9453C805B5346hamswapaolcom@66.250.146.156>
Source record: 30208
Cross-posted to: rec.ham-radio.swap,de.comm.ham,uk.radio.amateur,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,alt.ham-radio.vhf-uhf,alt.ham-radio.marketplace,rec.radio.amateur.swap,rec.radio.amateur,alt.radio.amateur,alt.ham-radio,alt.ham-radio.mods,alt.ham-radio.morse,rec.ham-radio,free.uk.amateur-radio

I'm looking for the ADMS software for my Yaesu FT-3000 and FT-1500.

I will swap the following: Serial number for NUMORSE PRO and
Hamstudy, which includes Hamstudy 5.0 (all tests are current) and WY5I
Code.

If you would like to swap any of these please email to

hamswap@aol.com

4342. Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 01:01:09 UTC
From: jeff luther <vonzeplin@worldnet.att.net>
Message-ID: <pVNDb.205076$Ec1.7452313@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30209

I am looking for diagrams on building a Regen Receiver useing 2 - 4 tubes. About 7 - 10 years ago a radio magazine had an article on building one but I'll be darned if I can remember which one. It had a tickler coil used in the front and slid side to side. If anyone knows of a diagram or building plans please let me know. Thanks

vonzeplin@att.net

4343. Re: xtal testing

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 02:10:47 UTC
From: la8ak.xnd@online.no
Message-ID: <3fdfa0d5.6257030@news.online.no>
Source record: 30210

On Tue, 16 Dec 2003 17:06:27 +0000, ddwyer <dd@ddwyer.demon.co.uk>
wrote:

>The butler type is a tuned amplifier were there is ideally zero phase
>across the crystal and hence the crystal can be simulated by a resistor
>of equal (in practise lower) resistance than the crystal loss.
>Hence a butler tuned to 100MHz will oscillate a 50R resistor at that
>frequency.
>The 100MHZ crystal if 5th overtone will have a fundamental response at
>approx. 20MHz and a 3rd overtone response at 60MHz .
>The fundamental response (resistance) will be much lower than the 5th
>resistance and in a zero phase amplifier with flat response the crystal
>will preferentially oscillate at 20MHz.
>Higher order overtones have the same C0 or stray capacitance as the
>fundamental but this has a lower reactance at higher frequencies.
>This is the reason and increase in resistance at higher overtones that
>overtone oscillators get increasingly tricky.
>

main arguments are right, but I don't believe the frequency scheme is
right. If 20MHz is the fundamental, it doesn't make sense to tune the
2nd circuit to 100MHz, you could tune the 1st. You could also operate
the first tuned circuit at 60MHz and have o/p at 120 or 180MHz, with
sub-harmonics of n.order 60MHz.

It was a tendency 20 years ago to apply overtone xo's running at
150-200MHz, but they very soon dissappeared because of too much
instability problems

73
jm

http://home.online.no/~la8ak/c13.htm
--
remove ,xnd to reply (Spam precaution!)

4344. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 04:07:36 UTC
From: donutbandit <none@none.com>
Message-ID: <brokq8$au9$1@news.snowcrest.net>
Source record: 30211

"jeff luther" <vonzeplin@worldnet.att.net> wrote in
news:pVNDb.205076$Ec1.7452313@bgtnsc05-news.ops.worldnet.att.net:

> I am looking for diagrams on building a Regen Receiver useing 2 - 4
> tubes. About 7 - 10 years ago a radio magazine had an article on
> building one but I'll be darned if I can remember which one. It had a
> tickler coil used in the front and slid side to side. If anyone knows
> of a diagram or building plans please let me know. Thanks
>
> vonzeplin@att.net
>
>
>

http://www.angelfire.com/electronic/funwithtubes/

4345. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 06:38:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vtvufsmvong667@corp.supernews.com>
Source record: 30212
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Sorry for the slow response.

The voltage at the terminals of a short, lossless dipole of length l which is perfectly terminated with the complex conjugate of its feedpoint impedance is E * l / 2 where E is the impinging field in volts per meter. Any mismatch lowers this value -- it's one of those valid and useful applications of the concept of "mismatch loss", which can be used to quantify the reduction when mismatched. It's one of the contributions to the extensive variation with frequency of the "antenna factor"(*) of test dipoles used in EMI work. (And careful measurement of this factor is a large fraction of what you're paying for when you purchase one.) Doesn't matter how wonderful your field strength meter is unless you have a very good handle on the "antenna factor" of the test antenna.

In simple terms, the factor of 1/2 is the ratio of the average current to the feedpoint current. The average current along a short dipole is about 1/2 the current at the feedpoint. You could get a factor of 1 if you used a short dipole with large end hats to make the current distribution uniform. Kraus addresses this case in detail in _Antennas_.

And no, I don't mean "antenna to free space" match. I mean the match between the antenna feedpoint as a source and the detector as a load.

(*) Ratio of output voltage when terminated in 50 ohms to the impinging field in volts/meter.

Roy Lewallen, W7EL

Active8 wrote:
> On Sat, 13 Dec 2003 17:39:27 -0800, w7el@eznec.com said...
>
>>It's too bad it isn't that simple.
>>
>>A 1V/m field doesn't result in one volt at the feedpoint of a perfectly
>>matched one meter dipole or monopole, and the value it does induce
>>depends on the quality of the impedance match
>
>
> you mean antenna to free space, right?
>
>
>>as well as the fraction of
>>a wavelength the one meter antenna length represents.
>
>

> amplify, very please. por favor. Refresh my ram.
>
>
> | E(uV/m) |
> V (dBmV) = 20log | --------- / 1000 |
> | 0.021f(MHz) |
>
> plus correction for distance (regulations for limits are for
> specific measuring distances), etc. I'll mull the above eq over.
> Gotta figure out where the .021 came from, but not now. My eyes are
> getting fatigued from this 'puter.
>
>
>>And, if one volt
>>does appear at the feedpoint, it's very unlikely that a simple circuit
>>will measure it as one volt.
>
>
> It would have to be calibrated to compensate for the circuit. Maybe
> that's why it's called a "relative" field strength meter. Relative
> to another signal or no signal ;)
>
>
>>Probably best to stick with your $1.5 kilobuck meter if you really want
>>to measure field strength.
>
>
> I don't. He does :) At least not tonight. But my SLM *will* measure
> field strenth using a cheap ass dipole cut to the frequency of
> interest with or without an external preamp and do it to the
> satisfaction of the FCC, assuming it's calibrated. I even have a
> near-field probe, not so cheap. It beats guess work.
>
> I wouldn't expect his sniffer to be real accurate but he did ask
> for guesstimates. Started off as "around 4 feet" for a half watter
> now we're at 100mW - prob his reference Tx.
>
> BRs,
> Mike
>
>
>
>>Roy Lewallen, W7EL
>>
>>Active8 wrote:
>>
>>>On 13 Dec 2003 03:50:41 -0800, peg@slingshot.co.nz said...
>>>
>>>
>>>>What you are descrbing is a "signal sniffer", not a signal strength meter.

>>>>
>>>
>>>Who are you replying to? Paul did not say Signal Stength Meter, but
>>>the guy you replied to kinda hints at it when he mentions power
>>>level.
>>>
>>>I would have to say that my 1GHz Signal Level Meter, which cost
>>>$1500 would be the better than a relative field strength meter, but
>>>if he measures say, 1V with his Tx off and 2V with it on, then
>>>that's 1V and if his Rx antenna is a 1m dipole, that's 1V/m.
>>>
>>>Mike
>>>
>>
>>

4346. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 08:28:19 UTC
From: "Master of the universe and supreme ruler of all living beings (and I have permission from my wife to be so)." <john.smith@micro$oft.com>
Message-ID: <brp7i4$9gc$1@newstree.wise.edt.ericsson.se>
Source record: 30213

> I am looking for diagrams on building a Regen Receiver useing 2 - 4
tubes.
> About 7 - 10 years ago a radio magazine had an article on building one but
> I'll be darned if I can remember which one.

Take a look at http://www.tubesandmore.com - Select "books" and enter
"regen" in the search field. You will find at leat ten hits, all with books
full of diagrams and drawings. Cheap, too!

BR MOTU

4347. Re: Field Strength

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 10:34:45 UTC
From: Active8 <mTHISREMOVEcolasono@earthlink.net>, invalid
Message-ID: <MPG.1a49fb52b52d6592989701@news.west.earthlink.net>
Source record: 30214
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Tue, 16 Dec 2003 22:38:50 -0800, w7el@eznec.com said...
> Sorry for the slow response.

s'ok. but i don't think my stinkin' reader alerted me to the
response. or I missed it.
>
> The voltage at the terminals of a short, lossless dipole of length l
> which is perfectly terminated with the complex conjugate of its
> feedpoint impedance is E * l / 2 where E is the impinging field in volts
> per meter. Any mismatch lowers this value -- it's one of those valid and
> useful applications of the concept of "mismatch loss", which can be used
> to quantify the reduction when mismatched. It's one of the contributions
> to the extensive variation with frequency of the "antenna factor"(*) of
> test dipoles used in EMI work. (And careful measurement of this factor
> is a large fraction of what you're paying for when you purchase one.)
> Doesn't matter how wonderful your field strength meter is unless you
> have a very good handle on the "antenna factor" of the test antenna.

I'll dig into the Antenna Engrs Handbook.

I guess we've been lucky. So far no FCC gigs on leakage. Haven't
heard about anyone failing a flyover either. Maybe the systems
consider the FCC spec and set their spec to account for cheap-assed
dipoles. If so, that's smart and I'd be surprised. Some day I'll
check that out.
>
> In simple terms, the factor of 1/2 is the ratio of the average current
> to the feedpoint current. The average current along a short dipole is
> about 1/2 the current at the feedpoint. You could get a factor of 1 if
> you used a short dipole with large end hats to make the current
> distribution uniform. Kraus addresses this case in detail in _Antennas_.
>
> And no, I don't mean "antenna to free space" match. I mean the match
> between the antenna feedpoint as a source and the detector as a load.

That's a given. I figure Paul already knows that.

BRs,
Mike
>
> (*) Ratio of output voltage when terminated in 50 ohms to the impinging
> field in volts/meter.
>
> Roy Lewallen, W7EL
>

> Active8 wrote:
> > On Sat, 13 Dec 2003 17:39:27 -0800, w7el@eznec.com said...
> >
> >>It's too bad it isn't that simple.
> >>
> >>A 1V/m field doesn't result in one volt at the feedpoint of a perfectly
> >>matched one meter dipole or monopole, and the value it does induce
> >>depends on the quality of the impedance match
> >
> >
> > you mean antenna to free space, right?
> >
> >
> >>as well as the fraction of
> >>a wavelength the one meter antenna length represents.
> >
> >
> > amplify, very please. por favor. Refresh my ram.
> >
> >
> > | E(uV/m) |
> > V (dBmV) = 20log | --------- / 1000 |
> > | 0.021f(MHz) |
> >
> > plus correction for distance (regulations for limits are for
> > specific measuring distances), etc. I'll mull the above eq over.
> > Gotta figure out where the .021 came from, but not now. My eyes are
> > getting fatigued from this 'puter.
> >
> >
> >>And, if one volt
> >>does appear at the feedpoint, it's very unlikely that a simple circuit
> >>will measure it as one volt.
> >
> >
> > It would have to be calibrated to compensate for the circuit. Maybe
> > that's why it's called a "relative" field strength meter. Relative
> > to another signal or no signal ;)
> >
> >
> >>Probably best to stick with your $1.5 kilobuck meter if you really want
> >>to measure field strength.
> >
> >
> > I don't. He does :) At least not tonight. But my SLM *will* measure
> > field strenth using a cheap ass dipole cut to the frequency of
> > interest with or without an external preamp and do it to the
> > satisfaction of the FCC, assuming it's calibrated. I even have a
> > near-field probe, not so cheap. It beats guess work.
> >

> > I wouldn't expect his sniffer to be real accurate but he did ask
> > for guesstimates. Started off as "around 4 feet" for a half watter
> > now we're at 100mW - prob his reference Tx.
> >
> > BRs,
> > Mike
> >
> >
> >
> >>Roy Lewallen, W7EL
> >>
> >>Active8 wrote:
> >>
> >>>On 13 Dec 2003 03:50:41 -0800, peg@slingshot.co.nz said...
> >>>
> >>>
> >>>>What you are descrbing is a "signal sniffer", not a signal strength meter.
> >>>>
> >>>
> >>>Who are you replying to? Paul did not say Signal Stength Meter, but
> >>>the guy you replied to kinda hints at it when he mentions power
> >>>level.
> >>>
> >>>I would have to say that my 1GHz Signal Level Meter, which cost
> >>>$1500 would be the better than a relative field strength meter, but
> >>>if he measures say, 1V with his Tx off and 2V with it on, then
> >>>that's 1V and if his Rx antenna is a 1m dipole, that's 1V/m.
> >>>
> >>>Mike
> >>>
> >>
> >>
>
>

4348. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 13:41:41 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vu0n8ucqnn2ec1@corp.supernews.com>
Source record: 30215

rob34 wrote:
> I have a small quantity of RCA 40673 mosfets for anyone interested. I
> will sell them for $2.50 each. These are NOS and I am selling them at
> half the market value. If you get them through NTE they are over $11.00
> or you get them through Dan`s small parts (if he has any) at$5.00 each.
> Thanks, Rob
Thank`s for all the replies!! I have sold them and I am going to try to
scronge some more. MERRY CHRISTMAS TO ALL!!!!

4349. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 13:43:14 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <S3ZDb.21914$xO.12146@nwrddc02.gnilink.net>
Source record: 30216

"jeff luther" <vonzeplin@worldnet.att.net> wrote in message
news:pVNDb.205076$Ec1.7452313@bgtnsc05-news.ops.worldnet.att.net...
> I am looking for diagrams on building a Regen Receiver useing 2 - 4
tubes.
> About 7 - 10 years ago a radio magazine had an article on building one but
> I'll be darned if I can remember which one. It had a tickler coil used in
> the front and slid side to side. If anyone knows of a diagram or building
> plans please let me know. Thanks
>
> vonzeplin@att.net
>
> Here's a pix of a 1 tube (actually 3 in 1) compactron) RX that I built
form a Pop Electronics aarticle. There are links on the WEB if you type in
"6AF11 regen" to your search engine.
http://parelectronics.com/pics/regen2.jpg

Lots of fun.

Dale W4OP

4350. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 14:00:31 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <3fe060b6$0$4738$61fed72c@news.rcn.com>
Source record: 30217

The regens I built as a youth were always just one triode [0-1-0 in the old description code]. They were for the AM broadcast band. Fine with high impedance earphones. You'd want at least an audio cathode follower to drive today's low impedance phones. [0-1-1 description]

Too bad I burnt out so many UV99, UCX99, WD11, 01A, etc, tubes. One wasn't too sharp at electronics at age 12 or 13, & probably a bit clumsy w/ the fingers.

4351. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 14:52:11 UTC
From: fmmck@aol.com
Message-ID: <20031217095211.01726.00000965@mb-m18.aol.com>
Source record: 30218

<< I think I remember the number from the dlate 1960s but can't recall what their main use was, refreesher? >>

Hank-

The RCA 40673 Dual Gate MOSFET was used as a low noise VHF RF Preamp in the early 1970s. There were at least two preamp kits popular at the time, such as the one from Topeka FM & Engineering. I used such a preamp on my Regency HR-2A, supposedly improving the sensitivity from 0.35 uV to 0.2 uV. Of course there was an increase in intermodulation interference that came with it!

While there are many such pieces of equipment still in use, there are newer devices that can be used as a replacement for the 40673. An example (only slightly newer) is the 3N201.

Today's FM rigs typically have better sensitivity even without an additional preamplifier.

73, Fred, K4DII

4352. Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 14:58:15 UTC
From: Ted <Notthisway@lostinthewoods.org>
Message-ID: <ba_Db.22430$xO.14168@nwrddc02.gnilink.net>
Source record: 30219
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

I'm building a kit that Ramsey doesn't sell any longer. I recently read the QST equipment review on this radio and found that Ramsey used to provide a mod kit to eliminate spurious emissions. Ramsey no longer has that kit and doesn't seem to have any information about the components or circuit modifications. I've already checked the typical mod sites. Anyone have any ideas?

4353. Re: Kenwood TM-741A

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 15:06:38 UTC
From: fmmck@aol.com
Message-ID: <20031217100638.01726.00000966@mb-m18.aol.com>
Source record: 30220

<< I sent the radio back to kenwood...and they indicated that the Driver Transistor Q23 2SD1902R on the two meter module was defective. This transistor is an inexpensive part...$ 3.05 ea. Anyway...It seems like the same problem occured the other day...all the symptoms seem the same...Can anyone shed some light on why this seems to happen often?? >>

Carl-

As far as I know, the Band Units are the same in the TM-742A. I recently had my Two Meter Unit to fail, but it wasn't a single transistor - it was the SAV17 Power Amplifier Module. It cost $54.95 from RFParts Company, the Kenwood parts supplier.

It may be possible to remove the cover of the PA Module, and replace individual components, but that was more than I wanted to tackle. I suspect that Kenwood wouldn't do that either, since labor costs could exceed the price of a replacement.

The 2003 RFParts catalog lists a 2SD1902 for $1.50. I don't know how that differs from the 2SD1902R.

73, Fred, K4DII

4354. Re: Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 15:28:48 UTC
From: "David L. Foreman" <davelf11@cox.net>
Message-ID: <cgt0uv8gjirfdu10pgnkqq8l9ijgaji19a@4ax.com>
Source record: 30221
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

On Wed, 17 Dec 2003 14:58:15 GMT, Ted <Notthisway@lostinthewoods.org>
wrote:

>I'm building a kit that Ramsey doesn't sell any longer. I recently read
>the QST equipment review on this radio and found that Ramsey used to
>provide a mod kit to eliminate spurious emissions. Ramsey no longer has
>that kit and doesn't seem to have any information about the components
>or circuit modifications. I've already checked the typical mod sites.
>Anyone have any ideas?

http://members.fortunecity.com/xe1bef/ramsey-mod.htm

Check out this URL for mods to the 146

4355. Re: Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 15:59:41 UTC
From: Ted <Notthisway@lostinthewoods.org>
Message-ID: <N3%Db.16272$I6.13449@nwrddc03.gnilink.net>
Source record: 30222
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

David L. Foreman wrote:

> On Wed, 17 Dec 2003 14:58:15 GMT, Ted <Notthisway@lostinthewoods.org>
> wrote:
>
>
>>I'm building a kit that Ramsey doesn't sell any longer. I recently read
>>the QST equipment review on this radio and found that Ramsey used to
>>provide a mod kit to eliminate spurious emissions. Ramsey no longer has
>>that kit and doesn't seem to have any information about the components
>>or circuit modifications. I've already checked the typical mod sites.
>>Anyone have any ideas?
>
>
> http://members.fortunecity.com/xe1bef/ramsey-mod.htm
>
> Check out this URL for mods to the 146
I had looked at that one already most of the links are broken. The TX
mod isn't there unless I missed it

4356. CAT Programming with FT-857

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 19:48:24 UTC
From: Nicholas Randal <nick@digitronics.com>
Message-ID: <cq2Eb.8066$Pg1.5427@newsread1.news.pas.earthlink.net>
Source record: 30223

I have succesfully set up a program to read and write values based on the operating manuel. I would like to be able to read and write memory channels though which are much easier to setup on a computer screen then through the radio, especially considering naming of the channels. Does anyone know the communication sequence when the radio is in cloning mode. I have seen programs like FTBasic read from the radio using this method. I would like to provide a program free to hams in my area. I am not willing to pay $30 just to read and write memory channels, when I know I can write a nice interface to do it. I just need the communication protocals for sending and receiving in cloning mode. any help would be much appreciated.

4357. Avo Valve tester FS

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 19:58:14 UTC
From: G4BXD@qsl.net
Message-ID: <3fe0b555.1394953@news.compuserve.com>
Source record: 30224

Avo Valve tester FS

this is the twin unit, the main metering unit and the plug in tray
with
the various valve holders. no book.

£30.

contact me direct at G4BXD@qsl.net

4358. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 20:17:00 UTC
From: donutbandit <none@none.com>
Message-ID: <brqdjs$8pq$3@news.snowcrest.net>
Source record: 30225

"Dale Parfitt" <par@parelectronics.com> wrote in
news:S3ZDb.21914$xO.12146@nwrddc02.gnilink.net:

>> Here's a pix of a 1 tube (actually 3 in 1) compactron) RX that I
>> built
> form a Pop Electronics aarticle. There are links on the WEB if you
> type in "6AF11 regen" to your search engine.
> http://parelectronics.com/pics/regen2.jpg

There is only one site that search finds, which reproduces the article, but
no schematic!

http://home.gwi.net/~jdebell/pe/1963/PE63JanP39.htm

4359. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 22:07:55 UTC
From: "J. Yazel" <jyazel@nls.net>
Message-ID: <qpk1uvgigse4j8vfpof633t9bcga1nckkh@4ax.com>
Source record: 30226

On 16 Dec 2003 23:42:13 GMT, jgboyles@aol.com (JGBOYLES) wrote:

>>I think I remember the number from the dlate 1960s but can't recall what
>>their main use was
> The 40673 as I recall was a dual gate FET. Used in mixers and other stuff
>dual gates were used. They were in a small metal package (TO-??) with 4 leads.
> I think I remember their orginal application was CB xcvrs.
>73 Gary N4AST
==========

Some years ago, all of the radio magazines had many articles with
40673's. About every third article had at least one (slight
exaggeration).

Jack W8RAG

4360. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 22:34:56 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <brqlmg$q8j$1@freenet9.carleton.ca>
Source record: 30227

J. Yazel (jyazel@nls.net) writes:
> On 16 Dec 2003 23:42:13 GMT, jgboyles@aol.com (JGBOYLES) wrote:
>
>>>I think I remember the number from the dlate 1960s but can't recall what
>>>their main use was
>> The 40673 as I recall was a dual gate FET. Used in mixers and other stuff
>>dual gates were used. They were in a small metal package (TO-??) with 4 leads.
>> I think I remember their orginal application was CB xcvrs.
>>73 Gary N4AST
> ==========
>
> Some years ago, all of the radio magazines had many articles with
> 40673's. About every third article had at least one (slight
> exaggeration).
>
> Jack W8RAG
>
>
That's not really a surprise. It's always been a constant that
a handful of parts are used in the magazines. By sticking to
a few parts, it guarantees that you will be able to get those
parts, since small companies that deal with the hobbyist will
carry those parts. And then in turn it guarantees that the
parts will be used.

Besides, many articles were traditionaly a variant on something
that had already been published. So someone looks in the magazines,
and picks parts (or even whole circuits) based on what they see,
and then write about it.

I've always tended to look at those common parts as a designator
for a generic category of something. So a 40673 is a dual gate
MOSFET, and likely some other similar part will fit the situation.
After all, if someone was going for extreme performance, it would
not be a common part.

Michael VE2BVW

4361. Re: Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 23:11:12 UTC
From: john graesser <graesser@tca.net>
Message-ID: <vu1odi74o8fo09@corp.supernews.com>
Source record: 30228
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

"Ted" <Notthisway@lostinthewoods.org> wrote in message
news:ba_Db.22430$xO.14168@nwrddc02.gnilink.net...
> I'm building a kit that Ramsey doesn't sell any longer. I recently read
> the QST equipment review on this radio and found that Ramsey used to
> provide a mod kit to eliminate spurious emissions. Ramsey no longer has
> that kit and doesn't seem to have any information about the components
> or circuit modifications. I've already checked the typical mod sites.
> Anyone have any ideas?

I'd say get rid of that piece of junk and get the Tentec 2 meter radio kit,
I built the 6 meter version and it went together like a charm.

Someone here locally had the Ramsey 440 kit, and after building it and
finding that it wouldn't work found out that the design was flawed from the
start and it could never work.
thanks, John.
KC5DWD

4362. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-17 23:42:31 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <HR5Eb.27085$xO.5042@nwrddc02.gnilink.net>
Source record: 30229

> >> Here's a pix of a 1 tube (actually 3 in 1) compactron) RX that I
> >> built
> > form a Pop Electronics aarticle. There are links on the WEB if you
> > type in "6AF11 regen" to your search engine.
> > http://parelectronics.com/pics/regen2.jpg
>
> There is only one site that search finds, which reproduces the article,
but
> no schematic!
>
> http://home.gwi.net/~jdebell/pe/1963/PE63JanP39.htm

Try:
http://www.jvgavila.com/compac.htm

4363. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 00:28:19 UTC
From: averyfineman@aol.com
Message-ID: <20031217192819.07961.00000602@mb-m03.aol.com>
Source record: 30230

In article <ee6182da.0312161017.3a2e53c5@posting.google.com>,
kizerian@xmission.com (Bruce Kizerian) writes:

>Thanks everyone for the interesting and useful information.
>
>For the record, I am not particularly in love with tubes, but if there
>is something they will do better than solid state devices I'm willing
>to give it a try. When I can buy PN2222 bipolars for $.02ea and PN4416
>JFETS two for a quarter, and dual gate MOSFETS for a nickel, the
>expenditure for one of those fragile glass things better be well worth
>it. It can' be different or just a little better. It has to be "knock
>your socks off" superior...I make radio kits for kids and schools and
>I want them to be able to afford the purchase.

Here's something that might be fun to try on a regen or most any
other tuning circuit, a rebirth of the old reactance modulator circuit
to change the parallel capacity across a coil. For 190 KHz band-
width at about 6.1 MHz, this 3N200 dual-gate MOSFET add-on
claims linear-frequency tuning from a potentiometer. That's a bit
like the old "bandspread" tuning of prehistoric times. :-)

From EDN, 5 November 1998, Design Ideas Section, pp 130, 131,
Last idea entitled "Tube" Circuit Provides Linear Tuning. [came
across that one while searching for something else...]

On the Internet at http://www.reed-electronics.com/ednmag/archive/

Select year, then issue date in that year. A table of contents comes
up and scroll down to Design Ideas. Clicking on any Design Idea will
bring up the whole section in HTML. At the top of the HTML first
page is a box for a PDF of the same thing.

EDN has archives back to 1994 if anyone wants to peruse them or get
a copy of an older article.

Len Anderson
retired (from regular hours) electronic engineer person

4364. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 00:29:51 UTC
From: Skipp wrote in <soaponaroap@yahoo.com>
Message-ID: <brqsdvdih1@woodrow.ucdavis.edu>
Source record: 30231

The guy with the flash camera idea is on track. Audio Express Magazine had a writeup on them a few months ago, as did Nuts and Volts some years back. I reverse engr'd a Fuji camera and it's just like the AE Mag circuit.

Circa 1976, I made a simple two transistor oscillator, which ran off a 1.5 volt battery that connected across a reversed filament transformer, lite a neon bulb for weeks. I'm sure it would really honk with 9 volts DC chop input.

cheers
skipp

http://sonic.ucdavis.edu

: KD7TOG <kd7tog@earthlink.net> wrote:
: OK, here's a challenge to you guys ... I have been trying to ID a IC /
: inductor combination to generate 150 to 200 VDC ... in the nano-microamp
: range. I need to supply a bias voltage to an electrostatic microphone
: element.

: Any ideas ??

: Wish list:

: Very low current ... < 2ma ;-)
: Runs from 5 to 9 volt DC source
: Minimal components

: Most of the specs I find for HV units (backlight supplies) are too much
: current. Most of the inductor type DC-DC converters seem geared towards low
: voltage high current apps.

: Will watch the discussion for tips and ideas ... all welcome.

: Thanks

: Tony, KD7TOG

: (KD7TOG at earthlink dot net)

4365. What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 04:21:38 UTC
From: Kirk Mohror <kmohror@comcast.net>
Message-ID: <1d2dnb3vYfbTtnyi4p2dnA@comcast.com>
Source record: 30232

I have the following tubes;

6SC7
6SL7
6SN7
5Y3
8552

Is there any transmitters or receivers that can be built with these?
If not TXor RX, what can be done with them?

Kirk Mohror
K7EKM

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.542 / Virus Database: 336 - Release Date: 11/18/2003

4366. Re: Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 05:29:12 UTC
From: Dana Myers <k6jq@arrl.net>
Message-ID: <3fe138d2@wobble>
Source record: 30233
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

john graesser wrote:

> I'd say get rid of that piece of junk and get the Tentec 2 meter radio kit,
> I built the 6 meter version and it went together like a charm.

The ten-tec kits look way better but I've never built one myself...

> Someone here locally had the Ramsey 440 kit, and after building it and
> finding that it wouldn't work found out that the design was flawed from the
> start and it could never work.

But I did build and test an FX-440. It can work but not very
well. If you ever hear one on the air, listen to how higher the
background noise on the modulation is, the result of using a fairly
noisy op-amp audio chain to directly modulate a VCO with a
sensitivity of like 10MHz/1V... It's no better than a toy.

Good luck.

Dana

4367. Re: What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 06:30:06 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <18SdnYmRnqO23nyiRVn-jA@comcast.com>
Source record: 30234

Hm.... this should be on the Extra exam :)

6SC7: VFO
6SN7: transmitter final
5Y3: Power supply rectifier
6SL7: 1-tube regen

8552: damfino!

I'd say you could build a very primitive transciever.

The Eternal Squire

Kirk Mohror <kmohror@comcast.net> wrote in message
news:1d2dnb3vYfbTtnyi4p2dnA@comcast.com...
> I have the following tubes;
>
> 6SC7
> 6SL7
> 6SN7
> 5Y3
> 8552
>
> Is there any transmitters or receivers that can be built with these?
> If not TXor RX, what can be done with them?
>
> Kirk Mohror
> K7EKM
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.542 / Virus Database: 336 - Release Date: 11/18/2003
>
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03

4368. Need Info - Millen 50 pF. variable #23050MK

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 07:08:57 UTC
From: Byron Tatum <bjtatum@ev1.net>
Message-ID: <vu2kjvhepu4paf@corp.supernews.com>
Source record: 30235

Hello,
I am looking for this capacitor, or an identical one, for a VFO project,
can anyone help?
James Millen # 23050MK 50 pF. single gang

4369. Re: What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 09:39:17 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <9BeEb.16218$Lu1.15310@edtnps84>
Source record: 30236

Behold, The Eternal Squire signalled from keyed 4-1000A filament:

> 8552: damfino!

8552 = 12V filament 6146B

http://hereford.ampr.org/cgi-bin/tube?tube=8552

So, use the 6SL7 for a driver ;-)

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4370. Re: What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 09:42:53 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <xEeEb.16226$Lu1.10056@edtnps84>
Source record: 30237

> So, use the 6SL7 for a driver ;-)

I meant SN7

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4371. Re: Need Info - Millen 50 pF. variable #23050MK

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 12:14:18 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3fe199f0.488151890@news.freeserve.net>
Source record: 30238

On Thu, 18 Dec 2003 01:08:57 -0600, "Byron Tatum" <bjtatum@ev1.net>
wrote:

>Hello,
> I am looking for this capacitor, or an identical one, for a VFO project,
>can anyone help?
> James Millen # 23050MK 50 pF. single gang
>
>
try here

http://www.mainlinegroup.co.uk/jacksonbrothers/index.htm

quite expensive though.

Seasons Wotzits, Mike W, G8NXD

4372. Re: Wacky Idea ?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 13:50:37 UTC
From: Deos <lineoffiretoday@yahoo.com>
Message-ID: <brsbnk$9a9$1@nic.grnet.gr>
Source record: 30239

yes it can be done!
make a inteface with pc and sent RTTY.

--
http://www.qsl.net/sv1hao
"David Forsyth" <foda01@ncx.com> wrote in message
news:vtfae5sfalp9e5@corp.supernews.com...
> I know this is a wacky idea but...
>
> Would it be at least theoretically possible to transmit digital (hi-fi?)
> audio signals using a spark-gap transmitter?
>
>
> Dave
>
>
>
>

4373. Re: What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 14:04:22 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <3fe1b318$0$4741$61fed72c@news.rcn.com>
Source record: 30240

Others have mentioned uses for these tubes. What they haven't mentioned is that you will need a power supply delivering DC somewhere in the 150 to 250 volt range. It is absolutely vital that this supply have a transformer to isolate you from the 115 V AC mains. Otherwise you'll likely kill someone or yourself, since on side of the AC line is connected to ground and the other is HOT with respect to every grounded object.

Junk boxes all across the world may be full of these transformers, but you may have trouble finding one. In that case you could use a couple of 115 to 12-or-so volt transformers. One to go from 115 to 12 V AC, the other connected "backwards" to go from 12 V AC back to 115 V AC. Now you have 115 V AC with neither side grounded - much safer.

4374. Re: What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 14:13:50 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <yCiEb.18260$Lu1.11566@edtnps84>
Source record: 30241

Behold, R J Carpenter signalled from keyed 4-1000A filament:

> Others have mentioned uses for these tubes. What they haven't mentioned
> is that you will need a power supply delivering DC somewhere in the 150
> to 250 volt range. It is absolutely vital that this supply have a
> transformer to isolate you from the 115 V AC mains. Otherwise you'll
> likely kill someone or yourself, since on side of the AC line is
> connected to ground and the other is HOT with respect to every grounded
> object.
>
> Junk boxes all across the world may be full of these transformers, but
> you may have trouble finding one. In that case you could use a couple
> of 115 to 12-or-so volt transformers. One to go from 115 to 12 V AC,
> the other connected "backwards" to go from 12 V AC back to 115 V AC. Now
> you have 115 V AC with neither side grounded - much safer.

Just to add, if you only need ~15 watts for your project, bathroom shaver isolation transformers hooked up in a FW doubler are great for this too.

You can get them from building surplus or second hand stores for 2-$5.

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4375. Re: Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 14:57:30 UTC
From: Ted <Notthisway@lostinthewoods.org>
Message-ID: <ufjEb.18267$G9.11824@nwrddc01.gnilink.net>
Source record: 30242
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

john graesser wrote:
> "Ted" <Notthisway@lostinthewoods.org> wrote in message
> news:ba_Db.22430$xO.14168@nwrddc02.gnilink.net...
>
>>I'm building a kit that Ramsey doesn't sell any longer. I recently read
>>the QST equipment review on this radio and found that Ramsey used to
>>provide a mod kit to eliminate spurious emissions. Ramsey no longer has
>>that kit and doesn't seem to have any information about the components
>>or circuit modifications. I've already checked the typical mod sites.
>>Anyone have any ideas?
>
>
> I'd say get rid of that piece of junk and get the Tentec 2 meter radio kit,
> I built the 6 meter version and it went together like a charm.
>
> Someone here locally had the Ramsey 440 kit, and after building it and
> finding that it wouldn't work found out that the design was flawed from the
> start and it could never work.
> thanks, John.
> KC5DWD
>
>
Thanks for the encouraging words. I'm going to build the Ten-Tec next,
this was a step towards gaining some experience with kits, but thanks
anyway.

4376. Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 16:32:49 UTC
From: Joshua G Senecal <senecal@ucdavis.edu>
Message-ID: <Pine.LNX.4.44.0312180826070.2425-100000@pc12.cs.ucdavis.edu>
Source record: 30243
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Hi all,

I have a Weller WTCPS soldering station with a 201U power supply and 201P iron, using a 700 degree F tip. Last night I powered it up in preparation for soldering some connectors, and a few minutes later I saw that the tip and metal shaft of the iron were glowing red-hot.

Any ideas as to what is causing this, and will it be cheap to fix? Are there any checks I can do to diagnose the problem? Or should I just dump the thing and buy a new one? I bought the station over 11 years ago, in practically new condition, at a yard sale for $5, so I got my money out of it, but if a reliable fix is cheaper than purchasing a new soldering setup I'd rather go that route.

Thanks!

-Josh, AE6IQ

--
senecal@mapson.cs.ucdavis.edu

Remove the reversed "nospam" in the address.

4377. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 16:42:58 UTC
From: Kalman Rubinson <kr4@nyu.edu>
Message-ID: <02m3uvsfh78h6stl538lovim3ohhce8k3i@4ax.com>
Source record: 30244
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Weller sells, through distributors, replacement parts. I suggest that
you replace the temp-sensing tip element, as a start.

Kal

On Thu, 18 Dec 2003 08:32:49 -0800, Joshua G Senecal
<senecal@ucdavis.edu> wrote:

>Hi all,
>
>I have a Weller WTCPS soldering station with a 201U power supply and 201P
>iron, using a 700 degree F tip. Last night I powered it up in preparation
>for soldering some connectors, and a few minutes later I saw that the tip
>and metal shaft of the iron were glowing red-hot.
>
>Any ideas as to what is causing this, and will it be cheap to fix? Are
>there any checks I can do to diagnose the problem? Or should I just dump
>the thing and buy a new one? I bought the station over 11 years ago, in
>practically new condition, at a yard sale for $5, so I got my money out
>of it, but if a reliable fix is cheaper than purchasing a new soldering
>setup I'd rather go that route.
>
>Thanks!
>
>-Josh, AE6IQ

4378. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 18:08:22 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FE1ECFC.7D6FB93B@earthlink.net>
Source record: 30245
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Joshua G Senecal wrote:
>
> Hi all,
>
> I have a Weller WTCPS soldering station with a 201U power supply and 201P
> iron, using a 700 degree F tip. Last night I powered it up in preparation
> for soldering some connectors, and a few minutes later I saw that the tip
> and metal shaft of the iron were glowing red-hot.
>
> Any ideas as to what is causing this, and will it be cheap to fix? Are
> there any checks I can do to diagnose the problem? Or should I just dump
> the thing and buy a new one? I bought the station over 11 years ago, in
> practically new condition, at a yard sale for $5, so I got my money out
> of it, but if a reliable fix is cheaper than purchasing a new soldering
> setup I'd rather go that route.
>
> Thanks!
>
> -Josh, AE6IQ
>
> --
> senecal@mapson.cs.ucdavis.edu
>
> Remove the reversed "nospam" in the address.

A bad thermostat is a likely cause.
--
7 days!

Michael A. Terrell
Central Florida

4379. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 18:19:31 UTC
From: dplatt@radagast.org
Message-ID: <vu3rtjtl07bma5@corp.supernews.com>
Source record: 30246
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

>Hi all,
>
>I have a Weller WTCPS soldering station with a 201U power supply and 201P
>iron, using a 700 degree F tip. Last night I powered it up in preparation
>for soldering some connectors, and a few minutes later I saw that the tip
>and metal shaft of the iron were glowing red-hot.
>
>Any ideas as to what is causing this, and will it be cheap to fix?

I would guess that the fault lies in the iron, not in the station base.

If I recall correctly, the station base is simply a stepdown
transformer. It plays no part at all in the temperature regulation.

The temperature is regulated via a rather elegant (I think)
implementation in the iron. At the base of each tip, there's a slug
of a ferromagnetic material. The properties of this slug are
controlled during manufacture, so that it will change from a magnetic
to a nonmagnetic state at a specific temperature (e.g. 700 F).

Inside the shaft of the iron there is a switch with a magnet on the
end. When the tip is below its transition temperature, the magnet is
attracted to the ferromagnetic slug on the back of the tip, the switch
is pulled forwards, the contacts close, and current flows through the
iron's heating coils. When the tip reaches its desired temperature
the ferromagnetic slug becomes non-magnetic, the magnet in the shaft
"loses its grip", the switch is pulled backwards by a spring, the
contacts open, and the current to the heating coil is interrupted.
You can hear (and feel) a gentle "thick" when the magnet switch pops
back and forth.

It's a nice negative-feedback system. It allows the use of a rather
high-amperage heating coil and transformer (which can heat up the tip
quickly when powered on, and restore heat taken out of the tip by the
soldering process), and yet allows any of several temperature ranges
to be selected by changing the tip. It seems to be quite robust...
I've heard very few reports of failure.

It seems that you have a failure. I would guess that the switch has
failed... either it's become jammed, or the spring has broken due to
metal fatigue. [It's possible that the ferromagnetic slug has somehow
magically changed its properties and now has a transition temperature
several hundred degrees higher, but that seems _very_ unlikely to me!]
In any case, the heating coils are running full-time - you've got no
temperature regulation - because the switch isn't opening.

> Are
>there any checks I can do to diagnose the problem? Or should I just dump
>the thing and buy a new one?

You can probably replace the switch (or, worst case, the whole
iron-and-handle assembly) for rather less than the cost of a new
station. The transformer and line cord, and whatever tips you may
have purchased, are almost certainly OK.

It might be worth disassembling the iron, and seeing if a sharp "rap"
on the side of the iron shaft will dislodge the switch.

If not, you could check with Weller to find out about getting a
replacement switch. The current incarnation of this product is the
WTCPT, using a TC201T iron. Mouser sells the complete TC201T iron for
around $72 (roughly half their cost for the whole station). The SW60
switch for this iron sells for around $26 - you'd probably need to
check with Weller to confirm that this switch is the same one used
in (or is compatible with) your older 201P iron.

$26 to restore this station to full life would be a very worthwhile
investment. I spent about $100 for a WTCPT iron close to 15 years ago
and have never regretted it. I used to go through cheap $15-$25 irons
every couple of years, through cheap tips a lot faster than that, and
I'd burn up components (or have difficulty getting a clean joint) and
cuss a lot. The WTCPT hasn't hiccoughed even once, and I have yet to
have to replace the original tip which came with it.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

4380. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 18:36:41 UTC
From: donutbandit <none@none.com>
Message-ID: <brss3p$io6$9@news.snowcrest.net>
Source record: 30099

"Dale Parfitt" <par@parelectronics.com> wrote in
news:HR5Eb.27085$xO.5042@nwrddc02.gnilink.net:

> http://www.jvgavila.com/compac.htm

Thanks. That will do nicely.

4381. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 18:37:59 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3fe1f15b.510534695@news.freeserve.net>
Source record: 30097
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

On Thu, 18 Dec 2003 18:08:22 GMT, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

>Joshua G Senecal wrote:
>>
>> Hi all,
>>
>> I have a Weller WTCPS soldering station with a 201U power supply and 201P
>> iron, using a 700 degree F tip. Last night I powered it up in preparation
>> for soldering some connectors, and a few minutes later I saw that the tip
>> and metal shaft of the iron were glowing red-hot.
>>

> A bad thermostat is a likely cause.

Agreed, had it happen myself. Not sure about the specific model but
ISTR the thermostat is in, and indivisible from, the element.

The "bit" has a lump of Iron with certain temperature chararistics (
peltier effect ?). When the temperature exceeds the Iron magnetic
ability the element switch, (with a magnet on the actuating arm),
drops out until the Iron, (this is the Iron on the bit), regains its
magnetic ability.
KISS in its best form. I have managed to "unstick" the magnet before
now, but its a bugger to do.
Sorry I can't describe the operation in a more scientific language,
but I'm sure someone will ba able to... ;-)

hth Mike W, G8NXD

4382. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 18:44:05 UTC
From: Bob Stephens <stephensdigital@earthlink.net>
Message-ID: <drkol4jerp3y.z887pyshgm8u.dlg@40tude.net>
Source record: 30098
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

> The temperature is regulated via a rather elegant (I think)
> implementation in the iron. At the base of each tip, there's a slug
> of a ferromagnetic material. The properties of this slug are
> controlled during manufacture, so that it will change from a magnetic
> to a nonmagnetic state at a specific temperature (e.g. 700 F).
>
> Inside the shaft of the iron there is a switch with a magnet on the
> end. When the tip is below its transition temperature, the magnet is
> attracted to the ferromagnetic slug on the back of the tip, the switch
> is pulled forwards, the contacts close, and current flows through the
> iron's heating coils. When the tip reaches its desired temperature
> the ferromagnetic slug becomes non-magnetic, the magnet in the shaft
> "loses its grip", the switch is pulled backwards by a spring, the
> contacts open, and the current to the heating coil is interrupted.
> You can hear (and feel) a gentle "thick" when the magnet switch pops
> back and forth.
>
I've heard this sort of Iron referred to as a "Curie Point" Iron. Is this
the same thing?

Bob Stephens

4383. amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 19:02:42 UTC
From: Allan Butler <ka0ies@hotmail.com>
Message-ID: <mRmEb.595184$Fm2.545419@attbi_s04>
Source record: 30100

Hi there.

Another Amateur that is involved with volunteering with schools and such is looking at launching a baloon with an HF transmitter on board. The band of operation is 80 meters. He is looking at some type of a beacon that will send data via BPSK modulation and needs 10 to 20 watts of transmit power at the output port. For an input to the unit he has 0dBm or 1 milliwatt of RF at the operating frequency.

This looks like it would require 40 to 43 dB of gain to get to the level that he needs for output.

Does anyone have suggestions of places to look on the web for application notes and/or schematics for amplifiers along these lines?

I have done some searching on Google and found a few things but most of them take inputs of 30dBm or so and only take that level up to 40dBm. He still needs to bridge the gap from 0 dBm to 30 dBm in that instance.

Any information that you can help with is greatly appreciated.

Al Butler
ka0ies

4384. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 19:03:12 UTC
From: dplatt@radagast.org
Message-ID: <vu3ufglr1otb2f@corp.supernews.com>
Source record: 30101
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

In article <drkol4jerp3y.z887pyshgm8u.dlg@40tude.net>,
Bob Stephens <stephensdigital@earthlink.net> wrote:

>I've heard this sort of Iron referred to as a "Curie Point" Iron. Is this
>the same thing?

Probably so. A material's Curie point (or temperature) is the
temperature at which, when heated, the material ceases to be able to
support/retain a magnetic field, and any existing magnetic field is
randomized.

Heating a permanent magnet above its Curie temperature demagnetizes it.

The slugs used in the Weller tips have Curie temperatures of 600, 700,
or 800 degrees F (plus or minus a bit, I imagine).

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

4385. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 19:21:22 UTC
From: dplatt@radagast.org
Message-ID: <vu3vhi5glmtgfa@corp.supernews.com>
Source record: 30102

>This looks like it would require 40 to 43 dB of gain to get to the level
>that he needs for output.
>
>Does anyone have suggestions of places to look on the web for application
>notes and/or schematics for amplifiers along these lines?
>
>I have done some searching on Google and found a few things but most of them
>take inputs of 30dBm or so and only take that level up to 40dBm. He still
>needs to bridge the gap from 0 dBm to 30 dBm in that instance.

Hmmm. Seems to me that many of the VFO-and-mixer QRP CW/SSB
transmitter projects might have suitable designs... a few milliwatts
out of the mixer and bandpass filter, into a one- or two-gain-stage
driver which would then push power out to the final transistor(s).

Let's see. The Small Wonder Labs PSK-20 transmitters seem like a good
place to start looking. The schematic shows that the transmit
circuitry uses a Minicircuits TUF-1 mixer. According to the
Minicircuits web page, this takes as input a +7 dBm local oscillator
and up to 1 dBm of RF. It has a conversion loss in the 7-8 dBm range,
so you'd end up with somewhere around -6 dBm at most coming out of it.
The PSK-20 transmitter buffers this through a transistor, then through
a MAR-35M monolithic amplifier, and then through a 2SC1970 and
2SC1971, and ends up with 2.5 watts of power.

Seems to me that you could probably fiddle with this final stage a bit
(double up on the 2SC1971, heatsink 'em, run at a higher current
level, and adjust the driver circuitry to suit) and end up with 10
watts out.

--
Dave Platt <dplatt@radagast.org> AE6EO
Hosting the Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
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4386. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 20:02:53 UTC
From: KD7TOG <kd7tog@earthlink.net>
Message-ID: <NJnEb.9508$Pg1.760@newsread1.news.pas.earthlink.net>
Source record: 30103

Thanks all for the ideas ... I have a couple of potential solutions.

Tony, KD7TOG

4387. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 20:25:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vu439e2kc36m83@corp.supernews.com>
Source record: 30104

One more idea -- the old mass-produced geiger counters now available cheaply on eBay have very simple HV supply circuits that use minimal components, and run from 1.5 to 6 or so volts, depending on the model. They come with a schematic and parts list. Although the parts are just about all obsolete, you could find modern substitutes that would work.

Roy Lewallen, W7EL

KD7TOG wrote:
> Thanks all for the ideas ... I have a couple of potential solutions.
>
> Tony, KD7TOG
>
>

4388. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 21:15:24 UTC
From: "J. Yazel" <jyazel@nls.net>
Message-ID: <3464uvohdekmeshbdn86es181f0nkqalt8@4ax.com>
Source record: 30105

>>
>> Some years ago, all of the radio magazines had many articles with
>> 40673's. About every third article had at least one (slight
>> exaggeration).
>>
>> Jack W8RAG
>>
>>
>That's not really a surprise. It's always been a constant that
>a handful of parts are used in the magazines. By sticking to
>a few parts, it guarantees that you will be able to get those
>parts, since small companies that deal with the hobbyist will
>carry those parts. And then in turn it guarantees that the
>parts will be used.
>
>Besides, many articles were traditionaly a variant on something
>that had already been published. So someone looks in the magazines,
>and picks parts (or even whole circuits) based on what they see,
>and then write about it.
>
>I've always tended to look at those common parts as a designator
>for a generic category of something. So a 40673 is a dual gate
>MOSFET, and likely some other similar part will fit the situation.
>After all, if someone was going for extreme performance, it would
>not be a common part.
>
> Michael VE2BVW
> ====================================

That's a good idea except that few hams have the expertise to modify
a circuit for a different IC even if it is similar.

Jack W8RAG

4389. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 23:21:11 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312181521.3df88bc0@posting.google.com>
Source record: 30106

Photoflash units typically keep oscillating and drawing power even when the cap is charged, but if you arrange to turn one really OFF most of the time, the average current could be very low. You just need a cap that will hold the charge well. Polypropylenes are known to do a very good job in that respect, but in any event the reverse leakage of the rectifier diode is likely to dominate. It's possible to come up with ridiculously low reverse leakage rectifiers if it's an issue.

Because of the low current required, it's worth thinking about using a voltage multiplier. A simple blocking oscillator (transformer and transistor) with even just 5:1 stepup to the secondary, then some voltage multiplication, should do it.

You didn't mention regulation: the mic sensitivity will generally be proportional to the bias voltage, so some regulation is probably appropriate.

Another possibility: a stack of 60 or so lithium coin cells. Quiet, good voltage stability, ten year life. At about 40 cents each from DigiKey, the $25 cost is probably less than you do an 'lectronic solution if your time is worth anything. Can be packaged into a cylinder about an inch in diameter and four inches long. (PVC pipe + fittings + small spring?) Completely isolated: no possible ground loops. No oscillator to generate noise.

Cheers,
Tom

"KD7TOG" <kd7tog@earthlink.net> wrote in message
news:<6NtBb.5765$_r6.5752@newsread1.news.pas.earthlink.net>...
> OK, here's a challenge to you guys ... I have been trying to ID a IC /
> inductor combination to generate 150 to 200 VDC ... in the nano-microamp
> range. I need to supply a bias voltage to an electrostatic microphone
> element.
>
> Any ideas ??
>
> Wish list:
>
> Very low current ... < 2ma ;-)
> Runs from 5 to 9 volt DC source
> Minimal components
>
> Most of the specs I find for HV units (backlight supplies) are too much
> current. Most of the inductor type DC-DC converters seem geared towards low

> voltage high current apps.
>
> Will watch the discussion for tips and ideas ... all welcome.
>
> Thanks
>
> Tony, KD7TOG
>
> (KD7TOG at earthlink dot net)

4390. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 23:32:44 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312181532.28c37f98@posting.google.com>
Source record: 30107

Shouldn't be too difficult to come up with the brute-force answer, but
I have to ask: Why?

That is, why so much power? And why 80 meters? I'd think you'd want
to use a higher frequency so that the antenna would be easier, and if
the balloon is aloft and line-of-sight, even a watt should be more
than enough to hear it loud-and-clear. Sending up an amplifier and a
power plant that will run it at 10 watts output will take quite a bit
of balloon displacement. I think it may be worth asking some
system-design questions to see if he can reach a more optimal
solution.

Cheers,
Tom

Allan Butler <ka0ies@hotmail.com> wrote in message
news:<mRmEb.595184$Fm2.545419@attbi_s04>...
> Hi there.
>
> Another Amateur that is involved with volunteering with schools and such is
> looking at launching a baloon with an HF transmitter on board. The band of
> operation is 80 meters. He is looking at some type of a beacon that will
> send data via BPSK modulation and needs 10 to 20 watts of transmit power at
> the output port. For an input to the unit he has 0dBm or 1 milliwatt of RF
> at the operating frequency.
>
> This looks like it would require 40 to 43 dB of gain to get to the level
> that he needs for output.
>
> Does anyone have suggestions of places to look on the web for application
> notes and/or schematics for amplifiers along these lines?
>
> I have done some searching on Google and found a few things but most of them
> take inputs of 30dBm or so and only take that level up to 40dBm. He still
> needs to bridge the gap from 0 dBm to 30 dBm in that instance.
>
> Any information that you can help with is greatly appreciated.
>
> Al Butler
> ka0ies

4391. FA: BIRD VHF & UHF Sensors...Last Day on Ebay

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 23:43:10 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <e3rEb.15154$mV5.1047@read1.cgocable.net>
Source record: 30108

Have two Bird Sensors and other items on ebay.

BIRD 4C100 Thruline Power Sensor VHF
http://cgi.ebay.ca/ws/eBayISAPI.dll?ViewItem&item=3065725361&category=4672&rd=1

BIRD 4D100 Thruline Power Sensor UHF
http://cgi.ebay.ca/ws/eBayISAPI.dll?ViewItem&item=3065726927&category=4672&rd=1

MOTOROLA T1600 Series TONE Remote Manual
http://cgi.ebay.ca/ws/eBayISAPI.dll?ViewItem&item=3065722518&category=15050&rd=1

MOTOROLA MITREK UHF Consolette Manual
http://cgi.ebay.ca/ws/eBayISAPI.dll?ViewItem&item=3065723879&category=15050&rd=1

Ferritronics FT-128 Tunable CTCSS Unit
http://cgi.ebay.ca/ws/eBayISAPI.dll?ViewItem&item=2581700804&category=43010&rd=1
** Have some ST-140 small single tone encoders available for older portables available...Email me directly **

Thank You for looking......Norm VE3CZI

4392. Quick inductor question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-18 23:58:24 UTC
From: jim&julz <shrumj@spamsucks.madisontelco.com>
Message-ID: <brteid$egoe$1@news3.infoave.net>
Source record: 30109

Greetings.

I have a pixie 2 xcvr currently set for 80m. I have been wanting to put it on the 20m band, so I found that I require a .551uH.

I assume that this would be a terribly easy coil to wind, but I've never wound a coil w/ intention of achieving a specific inductance. If anyone is familiar w/ the number of turns/gauge etc... for a .551uH inductor, I would really appreciate that info.

Thanks much.

James Shrum - KC9FFX

4393. Re: Quick inductor question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 00:27:11 UTC
From: "Leland C. Scott" <no-spam@junk-mail.net>
Message-ID: <0oWdnZJcLfN92H-iRVn-jA@comcast.com>
Source record: 30110

"jim&julz" <shrumj@spamsucks.madisontelco.com>
wrote in message
news:brteid$egoe$1@news3.infoave.net...
> Greetings.
>
> I have a pixie 2 xcvr currently set for 80m. I
have been wanting to put it
> on the 20m band, so I found that I require a
.551uH.
>
> I assume that this would be a terribly easy coil
to wind, but I've never
> wound a coil w/ intention of achieving a
specific inductance. If anyone is
> familiar w/ the number of turns/gauge etc... for
a .551uH inductor, I would
> really appreciate that info.

Use the following formula:

$$L(uh) = \frac{(N^2)*(R^2)}{(9*R)+(10*L)}$$

L(uh) - Inductance in microhenries
N - Number of turns
R - Radius of single layer coil in inches
L - Length of single layer coil in inches

If the coil is just for RX then you can get away
with using 22 to 24 gage magnet wire. Be sure to
use a coil form to wind the wire on. Then cover
the coil with coil dope, or other material, to
hold the turns in place. That will keep the coil
inductance stable.

Pick a convenient coil form size and just plug in
some numbers, using a spread sheet, until you find
a set of coil dimentions that you like.

--
Leland C. Scott
KC8LDO

ARRL Member
NCI Member

Charter member of the
Lawrence Technological University
Wireless Society W8LTU

4394. Re: Quick inductor question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 00:29:05 UTC
From: jgboyles@aol.com
Message-ID: <20031218192905.07958.00001045@mb-m16.aol.com>
Source record: 30111

>I require a .551uH.

>If anyone is
>familiar w/ the number of turns/gauge etc... for a .551uH inductor, I would
>really appreciate that info.

Look in the ARRL Handbook, under calculating practical inductors. For a .5uH inductor I would try as a start, a 1/4" drill bit wound with #20 or #22 solid, with the length and turns / inch per the Handbook formula.
If you don't have the Handbook, I can post the formula, until you can get a Handbook :-).

73 Gary N4AST

4395. Re: What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 00:47:16 UTC
From: Henry Kolesnik <wd5jfr@oklahoma.net>
Message-ID: <vu4ikp140r15f2@corp.supernews.com>
Source record: 30112

1. Better make sure they're good first..
2. Next get a known good replacement for each that you decide to use..
3. Think about it for a good while..
4. Then it's better find something you really want and need. Then get the parts because building something just becasue you have the parts is pennywise but pound foolish
5. Don't ask me how I know.
73
hank wd5jfr

"Kirk Mohror" <kmohror@comcast.net> wrote in message news:1d2dnb3vYfbTtnyi4p2dnA@comcast.com...
> I have the following tubes;
>
> 6SC7
> 6SL7
> 6SN7
> 5Y3
> 8552
>
> Is there any transmitters or receivers that can be built with these?
> If not TXor RX, what can be done with them?
>
> Kirk Mohror
> K7EKM
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.542 / Virus Database: 336 - Release Date: 11/18/2003
>
>

4396. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 01:44:15 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vu4luucqq11a3a@corp.supernews.com>
Source record: 30113

Looking at the Dave Benson schematics is a good suggestion ... I would also look at Elecraft who also has manuals online with schematics. I would also look at the hfpacker amp (www.hfprojects.com). This was a project ran a couple years ago to build an amp to basically take the QRP rigs in the 2.5 watt range to 30 watts or so. The design actually could do it with a watt of drive but they put an attenuator in the front to allow flexibility with different rigs that didn't have completely adjustable output power.

But I also have to ask the same question Tom asks. 80 is a noisy band, and one that demands large antennas. To get past the noise you need power, and that adds a lot of weight. Don't forget, you not only have the amp to carry around, but you gotta carry the DC to run all this, too.

If you are line of sight, then you can go very high in frequency, but certainly in the higher parts of the HF spectrum, the antennas are more manageable and the bands are quieter, which means power is less of an issue. You could even go to VHF but then the whole construction thing becomes more challenging.

But then, if you are looking for a 100-200 mile path, then 80 probably is the ticket, but you're going to have to constrain your playing to days when the A index is low. Indeed, I would suspect you would want to be balooning in the daylight - precisely when 80 is very noisy. So you better be paying close attention to the propagation reports if you want to hear your baloon.

..

"Tom Bruhns" <k7itm@aol.com> wrote in message
news:3200347.0312181532.28c37f98@posting.google.com...
> Shouldn't be too difficult to come up with the brute-force answer, but
> I have to ask: Why?

4397. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 02:18:30 UTC
From: Eddie Haskel <wiseguy@clever.com>
Message-ID: <WdtEb.41865$SU1.1792@newssvr29.news.prodigy.com>
Source record: 30114

Heathkit used a shitload of them in EVERYTHING they made. They were in the 2 meter radios as a mixer and front end, even in the TVM's (Transistorized Volt Meters). The early solidstate "VTVM" (I know..they had tubes in them) but Heathkit had a solidstate one and they used it as a meter amplifier...Eddie
"rob34" <rob34@infinet.com> wrote in message news:vu0n8ucqnn2ec1@corp.supernews.com...
> rob34 wrote:
> > I have a small quantity of RCA 40673 mosfets for anyone interested. I
> > will sell them for $2.50 each. These are NOS and I am selling them at
> > half the market value. If you get them through NTE they are over $11.00
> > or you get them through Dan`s small parts (if he has any) at$5.00 each.
> > Thanks, Rob
> Thank`s for all the replies!! I have sold them and I am going to try to
> scronge some more. MERRY CHRISTMAS TO ALL!!!!

4398. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 02:26:05 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <0ltEb.426101$ao4.1359989@attbi_s51>
Source record: 30115
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

It is VERY EASY to fix / repair the Weller WTCP units.

First, Are you positive you have the CORRECT TIP in this iron.

It MUST BE A Weller "PT" style tip - other Weller model tips such as the ET series will cause this problem and damage the iron.

Greg
w9gb

"Joshua G Senecal" <senecal@ucdavis.edu> wrote in message news:Pine.LNX.4.44.0312180826070.2425-100000@pc12.cs.ucdavis.edu...
> Hi all,
>
> I have a Weller WTCPS soldering station with a 201U power supply and 201P
> iron, using a 700 degree F tip. Last night I powered it up in preparation
> for soldering some connectors, and a few minutes later I saw that the tip
> and metal shaft of the iron were glowing red-hot.
>
> Any ideas as to what is causing this, and will it be cheap to fix? Are
> there any checks I can do to diagnose the problem? Or should I just dump
> the thing and buy a new one? I bought the station over 11 years ago, in
> practically new condition, at a yard sale for $5, so I got my money out
> of it, but if a reliable fix is cheaper than purchasing a new soldering
> setup I'd rather go that route.
>
> Thanks!
>
> -Josh, AE6IQ
>
> --
> senecal@mapson.cs.ucdavis.edu
>
> Remove the reversed "nospam" in the address.
>

4399. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 02:37:56 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <8wtEb.425167$275.1302030@attbi_s53>
Source record: 30116
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

"Joshua G Senecal" <senecal@ucdavis.edu> wrote in message
news:Pine.LNX.4.44.0312180826070.2425-100000@pc12.cs.ucdavis.edu...
> Hi all,
>
> I have a Weller WTCPS soldering station with a 201U power supply and 201P
> iron, using a 700 degree F tip. Last night I powered it up in preparation
> for soldering some connectors, and a few minutes later I saw that the tip
> and metal shaft of the iron were glowing red-hot.
>
> Any ideas as to what is causing this, and will it be cheap to fix? Are
> there any checks I can do to diagnose the problem? Or should I just dump
> the thing and buy a new one? I bought the station over 11 years ago, in
> practically new condition, at a yard sale for $5, so I got my money out
> of it, but if a reliable fix is cheaper than purchasing a new soldering
> setup I'd rather go that route.
>
> Thanks!
>
> -Josh, AE6IQ

Josh -

Let's deal with your problem and Facts.

The WTCP series base only provides 24 volts - that's it - its a transformer
in a base.
The "brains" of the temperature control is the tip working in concert with
the SW60 switch assembly
The WTCP series has a unique click as the SW60 switch engages and
disengages - turning the heater on and off to maintain
the specific temperature engraved on the base of the removal tip.

The Red-Glow tells you 2 things:

1. The heater (Weller EC234) is still working (but you are shortening its
life operating in this manner - cherry red)
2. The WTCP series temperature control (which works with the "PT" tip and
the SW60 switch) is not working properly.

Recommend: Change tips. Improper tips will cause this problem.
Get a Weller PTA7 (which is the standard tip shipped with this iron).
The barrel net (BA-60 may also require replacement.

If iron exhibits identical problem - then the SW60 requires replacement
(shorted closed).

All parts for this specific model (WTCPS) are available from Wessco (So. California).
Wessco also just ended a 1/2 price sale on Weller "PT" series tip in November ($ 2.25 each)

I also have the Weller Tech Sheet for this model -- if you need a copy. This has part numbers, diagrams and troubleshooting advice (shipped with every unit new)

Yes, I will consider repairing for you - but it would have to be after the holidays.
Greg
Repairing the Weller WTCP series since 1975

4400. Re: Quick inductor question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 02:56:05 UTC
From: Phillip Jockell <philjXXX@spearnet.net>
Message-ID: <Xns9455DF211E348pj12345pjpj@216.196.97.132>
Source record: 30117

James,

Try this easy way to make .55 microhenry coil:

Take a 1/2 watt resistor of about 1 meg ohm or more in resistance
(value irrevelant, just make sure it is above about a megohm),
put a tiny notch near one end parallel to the leads of the
resistor just large enough for 28 gauge wire to sit in (I use
a small pocket knife or a :Swiss file" whichever is closest at
hand when I wind a coil), solder a length of 28 gauge wire to
one of the resistor leads very close to the body of the resistor.

Now wind 15 1/2 turns of the #28 wire around the body of the resistor
and make a similar notch on the other end of the resistor and solder
the free end of the wire to that lead like you did the first. Keep the
turns touching each other ("closewound".)

Cut off the extra #28 wire and use this homemade .55 microhenry coil
in good health. It may or may not be EXACTLY .551 microhenries,
but it will be pretty close. The calculations come from a BASIC
program published in 73 Magazine years (decades?) ago and seems to
work pretty well.

Good look and post a report of how well this project goes.

Sorry if I made the explanation too simple if you already wind a lot of
coils, but I sometimes get carried away (gets worse the older I get...)

73,

Phil - N4GWV

> I have a pixie 2 xcvr currently set for 80m. I have been wanting to
> put it on the 20m band, so I found that I require a .551uH.
>
> I assume that this would be a terribly easy coil to wind, but I've
> never wound a coil w/ intention of achieving a specific inductance. If
> anyone is familiar w/ the number of turns/gauge etc... for a .551uH
> inductor, I would really appreciate that info.

4401. Re: Quick inductor question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 03:01:30 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312181901.3f4e4da1@posting.google.com>
Source record: 30118

Dunno how accurate you need it to be "as wound", and dunno what sort
of form factor you want, but if an air-core coil will work for you,
here's one way: get about 18 inches of 18AWG wire, nice and straight,
and a 1/2"x13TPI bolt. Wind 11 turns of that wire into the threads of
the bolt, leaving 1" of wire on either end (or start with a longer
piece if you want longer leads), and unscrew the bolt. The result
should be a coil about 0.85 inches long and 0.424" ID, and 0.600uH.
When you get it mounted near other things, the inductance will go down
a bit, and you can adjust it down further by stretching it a bit. The
Q at 14MHz should be just over 200. Or you can use 10 turns of 16AWG,
done the same way, which will have a slightly larger ID, 0.434 inches,
and about 0.561uH nominal and very slightly higher Q.

In general, the L = (n*r)^2/(9*r+10*l) formula works well, where r and
l are radius and length in inches, n is number of turns, and the
inductance, L, is in uH. My numbers above come from a program that's
easy to use and that I've learned to trust from verified results.
It's convenient to use a bolt to get consistent spacing and diameter,
though for high stability, you'd want some sort of support. For
highest Q in a given volume, go for a coil with roughly equal length
and diameter, though that's not terribly critical.

Cheers,
Tom

"jim&julz" <shrumj@spamsucks.madisontelco.com> wrote in message
news:<brteid$egoe$1@news3.infoave.net>...
> Greetings.
>
> I have a pixie 2 xcvr currently set for 80m. I have been wanting to put it
> on the 20m band, so I found that I require a .551uH.
>
> I assume that this would be a terribly easy coil to wind, but I've never
> wound a coil w/ intention of achieving a specific inductance. If anyone is
> familiar w/ the number of turns/gauge etc... for a .551uH inductor, I would
> really appreciate that info.
>
> Thanks much.
>
> James Shrum - KC9FFX

4402. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 03:51:52 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FE275B5.E84DA1@earthlink.net>
Source record: 30119
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

"G.Beat" wrote:
>
> I also have the Weller Tech Sheet for this model -- if you need
> a copy. This has part numbers, diagrams and troubleshooting advice (shipped
> with every unit new)
>
> Yes, I will consider repairing for you - but it would have to be after the
> holidays.
> Greg
> Repairing the Weller WTCP series since 1975

I would like a copy of that, if you don't mind.

--
7 days!

Michael A. Terrell
Central Florida

4403. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 04:21:25 UTC
From: Allan Butler <ka0ies@hotmail.com>
Message-ID: <91vEb.426793$ao4.1361630@attbi_s51>
Source record: 30120

xpyttl wrote:

> Looking at the Dave Benson schematics is a good suggestion ... I would
> also look at Elecraft who also has manuals online with schematics. I would
> also
> look at the hfpacker amp (www.hfprojects.com). This was a project ran a
> couple years ago to build an amp to basically take the QRP rigs in the 2.5
> watt range to 30 watts or so. The design actually could do it with a watt
> of drive but they put an attenuator in the front to allow flexibility with
> different rigs that didn't have completely adjustable output power.
>
> But I also have to ask the same question Tom asks. 80 is a noisy band,
> and
> one that demands large antennas. To get past the noise you need power,
> and
> that adds a lot of weight. Don't forget, you not only have the amp to
> carry around, but you gotta carry the DC to run all this, too.
>
> If you are line of sight, then you can go very high in frequency, but
> certainly in the higher parts of the HF spectrum, the antennas are more
> manageable and the bands are quieter, which means power is less of an
> issue. You could even go to VHF but then the whole construction thing
> becomes more challenging.
>
> But then, if you are looking for a 100-200 mile path, then 80 probably is
> the ticket, but you're going to have to constrain your playing to days
> when
> the A index is low. Indeed, I would suspect you would want to be
> balooning
> in the daylight - precisely when 80 is very noisy. So you better be
> paying close attention to the propagation reports if you want to hear your
> baloon.
>
> ..
>
> "Tom Bruhns" <k7itm@aol.com> wrote in message
> news:3200347.0312181532.28c37f98@posting.google.com...
>> Shouldn't be too difficult to come up with the brute-force answer, but
>> I have to ask: Why?

I was a little distracted by the main path of the conversation that we were having so I didn't ask at that time why they wanted 80 meters for a beacon from that high. I also realize that it is going to take a fair amount of battery to keep this thing going for any period of time.

These people do a lot with GPS. Maybe they are hoping to pass GPS location data to the ground crew after the payload lands so that they can go right to it and pick it up. I have no idea what they are doing with antenna ideas or anything like that.

Now, what was his phone number? :-)

In the mean time thanks for the information. I will get to looking at it and pass it on.

Al Butler
ka0ies

4404. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 04:22:13 UTC
From: Allan Butler <ka0ies@hotmail.com>
Message-ID: <V1vEb.83236$8y1.290279@attbi_s52>
Source record: 30121

Dave Platt wrote:

>>This looks like it would require 40 to 43 dB of gain to get to the level
>>that he needs for output.
>>
>>Does anyone have suggestions of places to look on the web for application
>>notes and/or schematics for amplifiers along these lines?
>>
>>I have done some searching on Google and found a few things but most of
>>them
>>take inputs of 30dBm or so and only take that level up to 40dBm. He still
>>needs to bridge the gap from 0 dBm to 30 dBm in that instance.
>
> Hmmm. Seems to me that many of the VFO-and-mixer QRP CW/SSB
> transmitter projects might have suitable designs... a few milliwatts
> out of the mixer and bandpass filter, into a one- or two-gain-stage
> driver which would then push power out to the final transistor(s).
>
> Let's see. The Small Wonder Labs PSK-20 transmitters seem like a good
> place to start looking. The schematic shows that the transmit
> circuitry uses a Minicircuits TUF-1 mixer. According to the
> Minicircuits web page, this takes as input a +7 dBm local oscillator
> and up to 1 dBm of RF. It has a conversion loss in the 7-8 dBm range,
> so you'd end up with somewhere around -6 dBm at most coming out of it.
> The PSK-20 transmitter buffers this through a transistor, then through
> a MAR-35M monolithic amplifier, and then through a 2SC1970 and
> 2SC1971, and ends up with 2.5 watts of power.
>
> Seems to me that you could probably fiddle with this final stage a bit
> (double up on the 2SC1971, heatsink 'em, run at a higher current
> level, and adjust the driver circuitry to suit) and end up with 10
> watts out.
>

Thanks for the information. I will check it out and pass it on to the
persons that were looking for it.

Al Butler
ka0ies

4405. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 05:16:42 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <jb15uvo40d3pgcrc6gticu14otkf281c72@4ax.com>
Source record: 30123
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

On Thu, 18 Dec 2003 11:42:58 -0500 Kalman Rubinson <kr4@nyu.edu>
wrote:

>Weller sells, through distributors, replacement parts. I suggest that
>you replace the temp-sensing tip element, as a start.

The only heat sensing element in the WTCP? series is the lump of metal at the tail end of the tip. The correct tips for this iron will have a separate bit there with a single digit stamped in it. That's normally a 7, for 700 degrees F.

The alloy of this lump is chosen to have a Curie temp of 700F and it will never change.

There is a magnet that runs down toward the tip and is attracted to the tip when the tip is below its Curie point. Once the temp reaches the Curie temp the lump no longer attracts the magnet and the magnet is pulled back upwards by a small spring. This opens a switch in the handle and turns off the heating element.

The usual problems with these are that something gets inside the sleeve behind the tip and jams the magnet so it can no longer move, or the switch contacts weld closed.

With the iron off and cold you can remove the tip retaining sleeve. When you pull the tip out you should feel the pull of the magnet and then feel the switch and magnet snap back into the barrel once the tip is too far away to attract the magnet. You should repeat this to verify that the magnet is free to move.

If you unplug the iron from the base and put an Ohmmeter on the pins of the iron, you should see the continuity come and go as you take the pin in and out.

Weller is owned by Cooper Tools and PDF files of replacement parts are available on their web site.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

4406. what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 05:21:00 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <lo6dnXAoqYzrGX-i4p2dnA@comcast.com>
Source record: 30122

Hello everyone,

My wife and I had been 'discussing' some of the effects of my hobby, such as the possible exposure of my 2-month old baby girl to lead vapor from soldering.
I typically have been using coventional 2% silver electronics solder wire with
my 12 watt pencil. I do a few connections every day, but my wife wants to take absolutely no chances, and on reflection, I don't really want to either.

I'd like to know if here is anyone in the homebrew community who uses lead-free solder for fine electronics work, what brands or compositions they recommend, and where such can be obtained retail for a reasonable cost.

Oh, yes, and can someone lend me a yard of it until I can afford my own large spool?

Thanks in advance,

The Eternal Squire

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03

4407. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 05:46:05 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <xgwEb.426387$275.1303027@attbi_s53>
Source record: 30124
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Mike -

Sounds like I will have to get the scanner (for Acrobat Reader creation)
warned up this weekend - :-)

The Weller Tech Sheets (WTCP/ WTCPL; WTCPN; WTCPS and WTCPL) were available
directly from Weller (free) --
but have not asked for them --- since the factory was moved from the
Carolinas to Mexico last year.

Greg

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:3FE275B5.E84DA1@earthlink.net...
> "G.Beat" wrote:
> >
> > I also have the Weller Tech Sheet for this model -- if you need
> > a copy. This has part numbers, diagrams and troubleshooting advice
(shipped
> > with every unit new)
> >
> > Yes, I will consider repairing for you - but it would have to be after
the
> > holidays.
> > Greg
> > Repairing the Weller WTCP series since 1975
>
> I would like a copy of that, if you don't mind.
>
> --
> 7 days!
>
>
> Michael A. Terrell
> Central Florida

4408. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 05:58:04 UTC
From: Jeff Spidle <"j_spidle comcast net">
Message-ID: <UIOdnc5_ROsDDn-iRVn-vw@comcast.com>
Source record: 30125

hmmm, I have recently had the same discussion with my XYL, we have a 1 yr old.

My self and another NASA trained ham, N9AEP, just completed teaching a soldering class for our ham club, Schaumburg Amateur Radio Club.

The EU is going to require all soldering to be Pb free in 2004, I believe that all US manufacturers will be required to do so in '06. I'm sure I'll be corrected on the dates.

Your note brings 3 comments to mind:

1. Please use a 35-50 watt iron for your soldering work. You want to heat the junction as quickly as possible and minimize the length of time that the joint is heated. In soldering 40w for 1 second is going to heat a component FAR less than 10w for 4 seconds. example your hand can deal with 600 degrees for 1 second but not 150 for 4, you would be scalded.

2. Flux in solder is organic. In most manufacturing situations the rosin flux is kept temperature controlled until use to preserve it. You want to buy the smallest quantity you can quickly use. Don't buy a large spool of solder and then store it for years. It is recommended that for maximum effect that the rosin be <6mths old. If you have to use old solder then buy a flux pen, this will greatly help the flow and adhesion of your joints.

3. Kester solder has a good repository of info, taken w/salt, at their site, www.kester.com. This includes alloy, melting point, application notes.

BTW, Pb vaporizes at 1749C or 3180.2F

KC9EII
"The Eternal Squire" <eternalsquire@comcast.net> wrote in message news:lo6dnXAoqYzrGX-i4p2dnA@comcast.com...
> Hello everyone,
>
> My wife and I had been 'discussing' some of the effects of my hobby, such as
> the possible exposure of my 2-month old baby girl to lead vapor from
> soldering.
> I typically have been using coventional 2% silver electronics solder wire
> with
> my 12 watt pencil. I do a few connections every day, but my wife wants to
> take absolutely no chances, and on reflection, I don't really want to
> either.
>
> I'd like to know if here is anyone in the homebrew community who uses

> lead-free solder for fine electronics work, what brands or compositions
they
> recommend, and where such can be obtained retail for a reasonable cost.
>
> Oh, yes, and can someone lend me a yard of it until I can afford my own
> large spool?
>
> Thanks in advance,
>
> The Eternal Squire
>
>
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03
>
>

4409. Re: amplifier (High Altitude Projects)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 05:59:56 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <wtwEb.148172$_M.724221@attbi_s54>
Source record: 30126

"Allan Butler" <ka0ies@hotmail.com> wrote in message
news:91vEb.426793$ao4.1361630@attbi_s51...
> xpyttl wrote:
>
> I was a little distracted by the main path of the conversation that we
were
> having so I didn't ask at that time why they wanted 80 meters for a beacon
> from that high. I also realize that it is going to take a fair amount of
> battery to keep this thing going for any period of time.
>
> These people do a lot with GPS. Maybe they are hoping to pass GPS
location
> data to the ground crew after the payload lands so that they can go right
> to it and pick it up. I have no idea what they are doing with antenna
ideas
> or anything like that.
>
> Now, what was his phone number? :-)
>
> In the mean time thanks for the information. I will get to looking at it
> and pass it on.
>
> Al Butler
> ka0ies

Al -

You have 2 very large helpful balloon organizations (NSTAR) in the Omaha /
Kansas City corridor ....
using GPS, VHF (2 meters, 70 cm, etc.) with VERY favorable results.

80 meters is a poor choice for project -- and 20 to 30 watts will be a power
hog (weight)
that is counter intuitive with what is trying to be accomplished.

LOW WEIGHT and HIGH PERFORMANCE are your criteria.

Check out the NSTAR light weight camera -- sending video at UHF to ground !
(you can't do this with 80 meters)

NSTAR
http://www.nstar.org/

Edge of Space Sciences
http://www.eoss.org/ansrecap/ar_060/recap55.htm

RCKARA
http://www.rckara.org/project_traveler/2001a/

NSTAR 2004 Flight Schedule
Future Flights
Here's our flight schedule for 2004. Those without a listed location will be from our usual sites (near Treynor IA or west of Omaha NE).

a.. 04A - Mid to late February (SSTV scheduled)

b.. 04B - March 20 - Central Plains Severe Weather Symposium - Lincoln NE (SSTV scheduled)

c.. 04C - April 17 - Strategic Air and Space Museum Family Day - Ashland NE (SSTV scheduled)

d.. 04D - Mid to late May

e.. 04E - July 3 or 4 - Great Plains Super Launch - Hutchinson KS

f.. 04F - Mid to late August

g.. Perhaps 04G and 04H before the end of the year

W9GB

4410. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 06:03:27 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <PwwEb.83858$8y1.290802@attbi_s52>
Source record: 30127

"Allan Butler" <ka0ies@hotmail.com> wrote in message
news:mRmEb.595184$Fm2.545419@attbi_s04...
> Hi there.
>
> Another Amateur that is involved with volunteering with schools and such
is
> looking at launching a baloon with an HF transmitter on board. The band
of
> operation is 80 meters. He is looking at some type of a beacon that will
> send data via BPSK modulation and needs 10 to 20 watts of transmit power
at
> the output port. For an input to the unit he has 0dBm or 1 milliwatt of
RF
> at the operating frequency.
>
> This looks like it would require 40 to 43 dB of gain to get to the level
> that he needs for output.
>
> Does anyone have suggestions of places to look on the web for application
> notes and/or schematics for amplifiers along these lines?
>
> I have done some searching on Google and found a few things but most of
them
> take inputs of 30dBm or so and only take that level up to 40dBm. He still
> needs to bridge the gap from 0 dBm to 30 dBm in that instance.
>
> Any information that you can help with is greatly appreciated.
>
> Al Butler
> ka0ies

Here are the web page links for High Altitude Ballooning

http://users.crosspaths.net/~wallio/HABLinks.html

Ralph Wallio, W0RPK is a good resource
http://users.crosspaths.net/~wallio/

W9GB

4411. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 06:14:22 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <2HwEb.427424$ao4.1362018@attbi_s51>
Source record: 30129

"The Eternal Squire" <eternalsquire@comcast.net> wrote in message
news:lo6dnXAoqYzrGX-i4p2dnA@comcast.com...
> Hello everyone,
>
> My wife and I had been 'discussing' some of the effects of my hobby, such
as
> the possible exposure of my 2-month old baby girl to lead vapor from
> soldering.
> I typically have been using coventional 2% silver electronics solder wire
> with
> my 12 watt pencil. I do a few connections every day, but my wife wants
to
> take absolutely no chances, and on reflection, I don't really want to
> either.
>
> I'd like to know if here is anyone in the homebrew community who uses
> lead-free solder for fine electronics work, what brands or compositions
they
> recommend, and where such can be obtained retail for a reasonable cost.
>
> Oh, yes, and can someone lend me a yard of it until I can afford my own
> large spool?
>
> Thanks in advance,
>
> The Eternal Squire
>

You can check the Kester web site on the lead-free update
http://www.kester.com/leadfree_update.htm

Even without lead content, breathing flux fumes from solder can cause
respiratory irritation/problems.

Kester Recommendations
http://www.kester.com/recommendations_leadfree.htm

Alloy temperature guide
http://www.kester.com/alloy_temp_chart.html

w9gb

4412. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 06:40:02 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <K_-dnYb7e8NhC3-iRVn-tw@comcast.com>
Source record: 30128

Maybe I should rephrase the question: are there any hams out there
actually *using* lead-free solder, and what is thier favorite kind.

Jeff Spidle <j_spidle(at)comcast(dot)net> wrote in message
news:UIOdnc5_ROsDDn-iRVn-vw@comcast.com...
> hmmm, I have recently had the same discussion with my XYL, we have a 1 yr
> old.
>
> My self and another NASA trained ham, N9AEP, just completed teaching a
> soldering class for our ham club, Schaumburg Amateur Radio Club.
>
> The EU is going to require all soldering to be Pb free in 2004, I believe
> that all US manufacturers will be required to do so in '06. I'm sure I'll
be
> corrected on the dates.
>
> Your note brings 3 comments to mind:
>
> 1. Please use a 35-50 watt iron for your soldering work. You want to heat
> the junction as quickly as possible and minimize the length of time that
the
> joint is heated. In soldering 40w for 1 second is going to heat a
component
> FAR less than 10w for 4 seconds. example your hand can deal with 600
degrees
> for 1 second but not 150 for 4, you would be scalded.
>
> 2. Flux in solder is organic. In most manufacturing situations the rosin
> flux is kept temperature controlled until use to preserve it. You want to
> buy the smallest quantity you can quickly use. Don't buy a large spool of
> solder and then store it for years. It is recommended that for maximum
> effect that the rosin be <6mths old. If you have to use old solder then
buy
> a flux pen, this will greatly help the flow and adhesion of your joints.
>
> 3. Kester solder has a good repository of info, taken w/salt, at their
site,
> www.kester.com. This includes alloy, melting point, application notes.
>
> BTW, Pb vaporizes at 1749C or 3180.2F
>
> KC9EII
> "The Eternal Squire" <eternalsquire@comcast.net> wrote in message
> news:lo6dnXAoqYzrGX-i4p2dnA@comcast.com...

> > Hello everyone,
> >
> > My wife and I had been 'discussing' some of the effects of my hobby,
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> > the possible exposure of my 2-month old baby girl to lead vapor from
> > soldering.
> > I typically have been using coventional 2% silver electronics solder
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> > take absolutely no chances, and on reflection, I don't really want to
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> > I'd like to know if here is anyone in the homebrew community who uses
> > lead-free solder for fine electronics work, what brands or compositions
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> > recommend, and where such can be obtained retail for a reasonable cost.
> >
> > Oh, yes, and can someone lend me a yard of it until I can afford my own
> > large spool?
> >
> > Thanks in advance,
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> > The Eternal Squire
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> > Outgoing mail is certified Virus Free.
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> > Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03
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Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03

4413. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 07:39:30 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <SWxEb.748181$6C4.294114@pd7tw1no>
Source record: 30130

The Eternal Squire wrote:

> Hello everyone,
>
> My wife and I had been 'discussing' some of the effects of my hobby, such
> as the possible exposure of my 2-month old baby girl to lead vapor from
> soldering.
> I typically have been using coventional 2% silver electronics solder wire
> with
> my 12 watt pencil. I do a few connections every day, but my wife wants
> to take absolutely no chances, and on reflection, I don't really want to
> either.
>
> I'd like to know if here is anyone in the homebrew community who uses
> lead-free solder for fine electronics work, what brands or compositions
> they recommend, and where such can be obtained retail for a reasonable
> cost.
>
> Oh, yes, and can someone lend me a yard of it until I can afford my own
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>
> Thanks in advance,
>
> The Eternal Squire
>
>
>
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03

May I suggest a fume-hood or some other sort of exhaust fan at your
workstation?

--
Donovan Hill
VA7LNX (Basic, Advanced)

4414. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 07:56:32 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0312182356.601ce14b@posting.google.com>
Source record: 30131
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message news:<3FE275B5.E84DA1@earthlink.net>...
> "G.Beat" wrote:
> >
> > I also have the Weller Tech Sheet for this model -- if you need
> > a copy. This has part numbers, diagrams and troubleshooting advice (shipped
> > with every unit new)
> >
> > Yes, I will consider repairing for you - but it would have to be after the
> > holidays.
> > Greg
> > Repairing the Weller WTCP series since 1975
>
> I would like a copy of that, if you don't mind.

Bugger me - I'm glad you lot are not troubleshooting a nuclear power station!
The Weller WTCP must be one of the simplest decent temperature controlled irons on the market, mine runs 15hrs/day and does so year in / year out. Sometimes more when I forget to turn it off - the new ones dont have the neon in the mains switch so it does happen - I have 2 of them now, one on each bench...

Test procedure.

1. Runs continually, therefore base station and element OK.

2. Check switch - unscrew bit retainer and remove (iron off). Pull tip in and out - should hear click if switch working. If not, then switch or tip faulty.

3. LOOK at tip, see if mangnet thingo at bottom has fallen of - if so, buy new tip (and after all the years youve had it, I wonder if it could solder anything except 2 wires together, my tips last about 3 months on average, I buy them by the half dozen). If tip defective, completely dismantle iron and remove magnet from switch assembly.

4. If tip OK (go on, be a devil, buy a new one anyway....) then switch faulty. Buy new one.

5. Exception to item 4 - if you have done bugger all maintenance to your iron, clean the garbage out of the barrel - it is rare for switches to fail "on" (never had one do it, as a matter of fact, but have only been using Wellers for 20 years so it COULD happen...) - use a bamboo satay skewer to clean out the crap, then follow procedure 2.

Hope this helps,

de VK3BFA Andrew (at 50, an "official old grump")

4415. Re: Quick inductor question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 11:35:19 UTC
From: jim&julz <shrumj@spamsucks.madisontelco.com>
Message-ID: <brundg$evd3$1@news3.infoave.net>
Source record: 30132

Thanks so much everyone. I was really surprised by the quick and
informational responses.
Everything was in great detail... even detailed enough for me to figure it
out. I'll give it a try and let you know how it worked.

I just got licensed Monday and I've been dying to get on the air. Thanks for
your help.

Regards,
KC9FFX

"jim&julz" <shrumj@spamsucks.madisontelco.com> wrote in message
news:brteid$egoe$1@news3.infoave.net...
> Greetings.
>
> I have a pixie 2 xcvr currently set for 80m. I have been wanting to put it
> on the 20m band, so I found that I require a .551uH.
>
> I assume that this would be a terribly easy coil to wind, but I've never
> wound a coil w/ intention of achieving a specific inductance. If anyone is
> familiar w/ the number of turns/gauge etc... for a .551uH inductor, I
would
> really appreciate that info.
>
> Thanks much.
>
> James Shrum - KC9FFX
>
>

4416. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 13:40:28 UTC
From: brokebob@aol.com
Message-ID: <20031219084028.26083.00001341@mb-m06.aol.com>
Source record: 30134

Makes you wonder how me and many of my friends kept a piece of 60/40 in our mouths to prevent it getting confused with a chunk of wire for 40-50 years. Cannot think of a thing to sue Kester for. Must be something!
brokebob@aol.com (broke=not working, retired=not working, retired=broke)

4417. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 13:40:30 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <idDEb.602781$Fm2.547319@attbi_s04>
Source record: 30133
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

"Andrew VK3BFA" <ablight@alphalink.com.au> wrote in message
news:1fc7b362.0312182356.601ce14b@posting.google.com...
> "Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:<3FE275B5.E84DA1@earthlink.net>...
>
> 3. LOOK at tip, see if mangnet thingo at bottom has fallen of - if so,
> buy new tip (and after all the years youve had it, I wonder if it
> could solder anything except 2 wires together, my tips last about 3
> months on average, I buy them by the half dozen). If tip defective,
> completely dismantle iron and remove magnet from switch assembly.

I have heard this from some other user - but I have tips that last years -
BUT I
only use the 700 degree tips.

> 4. If tip OK (go on, be a devil, buy a new one anyway....) then switch
> faulty. Buy new one.

A spare tip should always be available on the bench. I just repaired an
older WTCPN station
an the college student had placed an "ET" tip (aka tips are all the same
right! - wrong)
from the Weller EC1000/EC2000/WES50/WES51 models.
Glowed cherry red -- changing to the proper tip -- corrected problem.

> 5. Exception to item 4 - if you have done bugger all maintenance to
> your iron, clean the garbage out of the barrel - it is rare for
> switches to fail "on" (never had one do it, as a matter of fact, but
> have only been using Wellers for 20 years so it COULD happen...) - use
> a bamboo satay skewer to clean out the crap, then follow procedure 2.

I saw my first internally shorted SW60 last year (although I think the user
had wacked it against a hard surface to
cause this type of damage). I also have seen a "kinked" spring -- near as I
can tell -- originally assembled that way --
over a decade earlier. I never saw a heater fail as shorted (dead short -
but not heating) until last year -- all previous ones
failed as "open". See enough stations and you see many failures, bad
operating practices and unique equipment abuse.

> Hope this helps,
>
> de VK3BFA Andrew (at 50, an "official old grump")

4418. Re: poppet top band am tx

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 13:41:35 UTC
From: SB <nospam@btinternet.com>
Message-ID: <bruv6f$739$1@titan.btinternet.com>
Source record: 30135

David Roper <davidandpearl@m0dad.freeserve.co.uk> wrote in message
news:brd0a4$qi1$1@newsg4.svr.pol.co.uk...
> I have built the poppet top band am transmitter from the sprat cd. It is
> transmitting the am carrier ok, but there is no modulation.
> Can anyone suggest how I can test the microphone amplifier circuit.
> 73 David
>
>
David,

I am going to build this tcvr soon too, please let me know how you get along
with this project.

73's Simon G7CPN.

4419. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 13:47:11 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <I-ednXikgtpKnX6iRVn-tA@comcast.com>
Source record: 30136

10 seconds at 300 degrees C is the max which folks like Analog Devices and Linear Tech recommend.

"Jeff Spidle" <j_spidle(at)comcast(dot)net> wrote in message news:UIOdnc5_ROsDDn-iRVn-vw@comcast.com...
> hmmm, I have recently had the same discussion with my XYL, we have a 1 yr
> old.
>
> My self and another NASA trained ham, N9AEP, just completed teaching a
> soldering class for our ham club, Schaumburg Amateur Radio Club.
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> The EU is going to require all soldering to be Pb free in 2004, I believe
> that all US manufacturers will be required to do so in '06. I'm sure I'll
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> corrected on the dates.
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> Your note brings 3 comments to mind:
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> 1. Please use a 35-50 watt iron for your soldering work. You want to heat
> the junction as quickly as possible and minimize the length of time that
the
> joint is heated. In soldering 40w for 1 second is going to heat a
component
> FAR less than 10w for 4 seconds. example your hand can deal with 600
degrees
> for 1 second but not 150 for 4, you would be scalded.
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> 2. Flux in solder is organic. In most manufacturing situations the rosin
> flux is kept temperature controlled until use to preserve it. You want to
> buy the smallest quantity you can quickly use. Don't buy a large spool of
> solder and then store it for years. It is recommended that for maximum
> effect that the rosin be <6mths old. If you have to use old solder then
buy
> a flux pen, this will greatly help the flow and adhesion of your joints.
>
> 3. Kester solder has a good repository of info, taken w/salt, at their
site,
> www.kester.com. This includes alloy, melting point, application notes.
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> BTW, Pb vaporizes at 1749C or 3180.2F
>
> KC9EII
> "The Eternal Squire" <eternalsquire@comcast.net> wrote in message
> news:lo6dnXAoqYzrGX-i4p2dnA@comcast.com...

> > Hello everyone,
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> > My wife and I had been 'discussing' some of the effects of my hobby,
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> > the possible exposure of my 2-month old baby girl to lead vapor from
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> > I typically have been using coventional 2% silver electronics solder
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> > I'd like to know if here is anyone in the homebrew community who uses
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> > recommend, and where such can be obtained retail for a reasonable cost.
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> > Oh, yes, and can someone lend me a yard of it until I can afford my own
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> > Thanks in advance,
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> >
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> > Outgoing mail is certified Virus Free.
> > Checked by AVG anti-virus system (http://www.grisoft.com).
> > Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03
> >
> >
>
>

4420. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 13:56:52 UTC
From: ablight@alphalink.com.au
Message-ID: <1fc7b362.0312190556.461e82c4@posting.google.com>
Source record: 30137

VA7LNX <spamtrap@gwsn.com> wrote in message news:<SWxEb.748181$6C4.294114@pd7tw1no>...
> The Eternal Squire wrote:
>
> > Hello everyone,
> >
> > My wife and I had been 'discussing' some of the effects of my hobby, such
> > as the possible exposure of my 2-month old baby girl to lead vapor from
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> > I typically have been using coventional 2% silver electronics solder wire
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> > Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03
>
> May I suggest a fume-hood or some other sort of exhaust fan at your
> workstation?

Who comes up with these things - now we have to go to a new solder
formulation not as good as the old one - a bit like FREON - dont worry
about the millions of Asian countries using FREON in the
refridgerators, get the can out of the workshop and the world will be
a better place. (the fact that the patents have expired on FREON but
not the replacements is pure co-incidence, I'm sure...)

I have been using lead based solder for 30 years - no precautions. For 20 years I was a cable jointer with Telecom wiping lead sleeves onto cable, using bar solder and a propane torch at the bottom of a ill ventilated manhole -the only precaution I took was not to use the same pocket knife I scraped lead with to cut my lunch - somtimes I did, but I ALWAYS wiped the blade on the grass before I did. 20 years of blood testing revealed NO higher levels of lead than general environmental exposure.

Andrew VK3BFA

PS - does your XYL believe in the healing power of crystals as well?

4421. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 14:10:22 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-171544.09102319122003@news.verizon.net>
Source record: 30138

In article <K_-dnYb7e8NhC3-iRVn-tw@comcast.com>,
"The Eternal Squire" <eternalsquire@comcast.net> wrote:

> Maybe I should rephrase the question: are there any hams out there
> actually *using* lead-free solder, and what is thier favorite kind.
>

I haven't. But you must be very careful. Read the following quote from
a paper on non-lead solders. Although directed at one combination, it
illustrates the problems inherent with mixing differing solder types.

> When com-bined with a lead-containing solder metallization, on the PCB or the
> component terminations, a small amount of tin-lead-bismuth eutectic alloy
> will form. This resultant alloy has a melting temperature of only 960C
> (2040F)! Because many temperature-cycling regimens do cycle up to 1250C
> (25T-F), this presents an obvious problem. As a result, tin-bismuth-silver
> has been abandoned until the electronics industry is certain that all lead
> has been "purged" from electronics manufacturing. This is expected to take at
> least five or ten years.

Al

--
There's never enough time to do it right the first time.......

4422. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 14:12:24 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FE3072B.A08AFB04@earthlink.net>
Source record: 30139
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Andrew VK3BFA wrote:
>
> Bugger me - I'm glad you lot are not troubleshooting a nuclear power
> station!
> The Weller WTCP must be one of the simplest decent temperature
> controlled irons on the market, mine runs 15hrs/day and does so year
> in / year out. Sometimes more when I forget to turn it off - the new
> ones dont have the neon in the mains switch so it does happen - I have
> 2 of them now, one on each bench...
>
> Test procedure.
>
> 1. Runs continually, therefore base station and element OK.
>
> 2. Check switch - unscrew bit retainer and remove (iron off). Pull
> tip in and out - should hear click if switch working. If not, then
> switch or tip faulty.
>
> 3. LOOK at tip, see if mangnet thingo at bottom has fallen of - if so,
> buy new tip (and after all the years youve had it, I wonder if it
> could solder anything except 2 wires together, my tips last about 3
> months on average, I buy them by the half dozen). If tip defective,
> completely dismantle iron and remove magnet from switch assembly.
>
> 4. If tip OK (go on, be a devil, buy a new one anyway....) then switch
> faulty. Buy new one.
>
> 5. Exception to item 4 - if you have done bugger all maintenance to
> your iron, clean the garbage out of the barrel - it is rare for
> switches to fail "on" (never had one do it, as a matter of fact, but
> have only been using Wellers for 20 years so it COULD happen...) - use
> a bamboo satay skewer to clean out the crap, then follow procedure 2.
>
> Hope this helps,
>
> de VK3BFA Andrew (at 50, an "official old grump")

I want it for the same reason I want manuals for all of my equipment.
It saves a lot of time locating part numbers when you do a repair. I
have used, and repaired, these soldering stations off and on for years,
but I always had to wait for the distributor to look up the part
numbers.

BTW, I don't do nuclear power, but I did build and test telemetry equipment used by NASA, including a KU band receiving system aboard the International Space Station.

The Weller stations were banned from the production line because of a surge in leakage current when the thermostat tripped in the heating element, and we were required to use irons with grounded tips that could reliably measure under three ohms from the hot tip to the electrical ground on the bench. They were replaced with Ungar "Loner" irons with electronic temperature control.

I used a spare DMM connected between ground and a piece of scrap copper to quickly test the resistance any time any of the three irons had sat idle. I used the irons so many hours a day they tips only lasted a few weeks before the iron plating was pitted, and would no longer go below three ohms. I threw out a lot of tips that could have been used in non ESD situations, but we couldn't risk someone reusing a bad tip, so they went into the recycling bin with other solder related scrap.

I have five dead Weller soldering stations I picked up that will need new irons, after someone tried to "Fix" them, and left the irons in pieces.

--
6 days!

Michael A. Terrell
Central Florida

4423. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 14:48:50 UTC
From: BFoelsch <BFoelsch@snet.ditch.this.net>
Message-ID: <L9idnaZNt85Rkn6iRVn-sQ@giganews.com>
Source record: 30140
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

OK - As long as we have all this Weller knowledge here, who has the secret stash of tips for the W200 iron? Yes, they made a 200 watt iron with the magnetic temperature control, but I have been unable to find parts for many years. Can't find W200 on the Weller web site.

Thanks in advance.

"G.Beat" <now9spamgb@spam.comcast.net> wrote in message
news:idDEb.602781$Fm2.547319@attbi_s04...
> "Andrew VK3BFA" <ablight@alphalink.com.au> wrote in message
> news:1fc7b362.0312182356.601ce14b@posting.google.com...
> > "Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
> news:<3FE275B5.E84DA1@earthlink.net>...
> >
> > 3. LOOK at tip, see if mangnet thingo at bottom has fallen of - if so,
> > buy new tip (and after all the years youve had it, I wonder if it
> > could solder anything except 2 wires together, my tips last about 3
> > months on average, I buy them by the half dozen). If tip defective,
> > completely dismantle iron and remove magnet from switch assembly.
>
> I have heard this from some other user - but I have tips that last years -
> BUT I
> only use the 700 degree tips.
>
> > 4. If tip OK (go on, be a devil, buy a new one anyway....) then switch
> > faulty. Buy new one.
>
> A spare tip should always be available on the bench. I just repaired an
> older WTCPN station
> an the college student had placed an "ET" tip (aka tips are all the same
> right! - wrong)
> from the Weller EC1000/EC2000/WES50/WES51 models.
> Glowed cherry red -- changing to the proper tip -- corrected problem.
>
> > 5. Exception to item 4 - if you have done bugger all maintenance to
> > your iron, clean the garbage out of the barrel - it is rare for
> > switches to fail "on" (never had one do it, as a matter of fact, but
> > have only been using Wellers for 20 years so it COULD happen...) - use
> > a bamboo satay skewer to clean out the crap, then follow procedure 2.
>
> I saw my first internally shorted SW60 last year (although I think the
user
> had wacked it against a hard surface to
> cause this type of damage). I also have seen a "kinked" spring -- near as

I
> can tell -- originally assembled that way --
> over a decade earlier. I never saw a heater fail as shorted (dead short -
> but not heating) until last year -- all previous ones
> failed as "open". See enough stations and you see many failures, bad
> operating practices and unique equipment abuse.
>
> > Hope this helps,
> >
> > de VK3BFA Andrew (at 50, an "official old grump")
>
>

4424. Re: 40673 Mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 14:49:43 UTC
From: kizerian@xmission.com
Message-ID: <ee6182da.0312190649.c24a31@posting.google.com>
Source record: 30141

If you must replace a defective 40673 in an existing design this is a good deal. However, these parts are dated and not that great by modern standards. You can buy much better (though only in SMT) parts which are still in production--such as the BF998--for a few cents each.

So, for replacement, yes, but why anyone would use them in a new design or an adaptation of an old design is a mystery...but of course, tubes still seem to attract some folks, too...

Bruce kk7zz
www.elmerdude.com

4425. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 14:56:18 UTC
From: kizerian@xmission.com
Message-ID: <ee6182da.0312190656.47c7d94@posting.google.com>
Source record: 30142

Roy Lewallen <w7el@eznec.com> wrote in message news:<vtun3n51ndnr3f@corp.supernews.com>...
> People here have recently mentioned tubes intended for portable
> operation, with plate voltages of around 20 volts. Much more common are
> tubes intended for running from mains-powered supplies. These mostly
> require plate voltages that can be lethal. You should consider this when
> designing kits for kids.
>
> Roy Lewallen, W7EL

That's is one of the reasons why a 9 volt battery is probably the
highest potential you will seen in my kits. The manuals I write are
full of precautions about soldering, erecting antennas, etc....but NO
high voltages...

But I still remember the jolt I got as a kid which caused me to drop a
heavy chassis on my toe...How did WE survive?

Bruce kk7zz
www.elmerdude.com

4426. Re: Varactor tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 16:05:59 UTC
From: Reg Edwards <g4fgq.regp@ZZZbtinternet.com>
Message-ID: <brv7l7$1a7$1@titan.btinternet.com>
Source record: 30143
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> A previous poster suggested what I'd called a "synthetic reactance", which
> is a series-parallel LC combination. This technique can produce very large
> effective-capacitance changes with a modest varactor range, however it
also
> comes with the susceptibility of mode-jumping in the output frequency.
>
> Joe
> W3JDR
==========

But perhaps the most important effect of this method of creating a
multi-band or wideband tuned circuit is big deterioration in effective
operating Q.

Once upon a time it was a popular PA tuned-tank, minimum-dip, arrangement.
At the higher frequencies the coils got hot. Too high a circulating current
in the tank. Poor efficiency. They didn't catch on!

Varactor diodes used in receiver and local oscillator circuits have a
relatively poor Q to begin with. Perhaps lower than coil Q. Series tuned
circuits in parallel with shunt tuned circuits only magnify adverse varactor
effects.

Reg, G4FGQ

4427. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 16:11:28 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <umFEb.8345$JD6.246@lakeread04>
Source record: 30144

"The Eternal Squire" <eternalsquire@comcast.net> wrote in message
news:lo6dnXAoqYzrGX-i4p2dnA@comcast.com...
> Hello everyone,
>
> My wife and I had been 'discussing' some of the effects of my hobby, such
as
> the possible exposure of my 2-month old baby girl to lead vapor from
> soldering.

Seriously, you'd better consider the effects of the fumes from the solder
fluxes. Since our shop is in an office environment, I bought some devices
from TechniTool to solve the problem of solder fumes. At first glance
they resemble a small bench lamps, but house a small fan and charcoal
filter.
The moveable arm allows them to placed near the work area where the
soldering is done.

Pete

4428. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 16:57:48 UTC
From: Allan Butler <ka0ies@hotmail.com>
Message-ID: <g6GEb.592660$HS4.4350915@attbi_s01>
Source record: 30145

Allan Butler wrote:

OK here is what is going on as far as I know now.

The 3.5 MHz transmitter is to study sea wave propagation at that frequency over saltwater at a defined altitude. I am not 100% certain what that means but I will ask for more detail.

As to legality I will ask the person that I am getting the information for what they have done in the way of research on this part. This group is normally very good on researching these matters. It might be that they will actually have the transmitter commanded from a UHF control link. I just don't know for certain.

I will also pass on the information about the organizations that are doing the balloon launches. It is always helpful to learn from other people.

Thanks for all the information so far folks. If there is anymore avaialble please post it here to the news group so that we can all learn from each other.

Al Butler
ka0ies

4429. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 17:51:15 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <nUGEb.749891$pl3.43675@pd7tw3no>
Source record: 30146

Al wrote:

> In article <K_-dnYb7e8NhC3-iRVn-tw@comcast.com>,
> "The Eternal Squire" <eternalsquire@comcast.net> wrote:
>
>> Maybe I should rephrase the question: are there any hams out there
>> actually *using* lead-free solder, and what is thier favorite kind.
>>
>
> I haven't. But you must be very careful. Read the following quote from
> a paper on non-lead solders. Although directed at one combination, it
> illustrates the problems inherent with mixing differing solder types.
>
>> When com-bined with a lead-containing solder metallization, on the PCB or
>> the component terminations, a small amount of tin-lead-bismuth eutectic
>> alloy will form. This resultant alloy has a melting temperature of only
>> 960C (2040F)! Because many temperature-cycling regimens do cycle up to
>> 1250C (25T-F), this presents an obvious problem. As a result,
>> tin-bismuth-silver has been abandoned until the electronics industry is
>> certain that all lead has been "purged" from electronics manufacturing.
>> This is expected to take at least five or ten years.
>
>
> Al
>

I'm thinking Thermal Fuse ;-)

--
Donovan Hill
VA7LNX (Basic, Advanced)

4430. Re: poppet top band am tx

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 18:12:12 UTC
From: David Roper <davidandpearl@m0dad.freeserve.co.uk>
Message-ID: <brveu3fum1@news7.svr.pol.co.uk>
Source record: 30047

Hi Simon
I have the tx section working great, a local station can hear my carrier
very strong, but the modulation is very distorted. I am using an electret
microphone, I may try a different mic. I will keep you posted if you send
your email. Please let me know if you encounter the same problems.
Hope to hear from you soon.
I would be very greatful if anyone has any ideas on how to test the mic amp
circuit.
David. 73
"SB" <nospam@btinternet.com> wrote in message
news:bruv6f$739$1@titan.btinternet.com...
>
> David Roper <davidandpearl@m0dad.freeserve.co.uk> wrote in message
> news:brd0a4$qi1$1@newsg4.svr.pol.co.uk...
> > I have built the poppet top band am transmitter from the sprat cd. It is
> > transmitting the am carrier ok, but there is no modulation.
> > Can anyone suggest how I can test the microphone amplifier circuit.
> > 73 David
> >
> >
> David,
>
> I am going to build this tcvr soon too, please let me know how you get
along
> with this project.
>
> 73's Simon G7CPN.
>
>

4431. Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 22:11:23 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <brvt1q$87s7q$1@ID-150848.news.uni-berlin.de>
Source record: 30048

Hi. Anybody developed a nbfm RX project covering the FM band (appx 87.5Mhz-108Mhx).

With digital readout, though I suppose I could just hook up a simple a frequency counter to read frequency.

TIA. Rich.

4432. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-19 22:12:16 UTC
From: Joshua G Senecal <senecal@ucdavis.edu>
Message-ID: <Pine.LNX.4.44.0312191407020.2089-100000@pc12.cs.ucdavis.edu>
Source record: 30049
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

On Fri, 19 Dec 2003, G.Beat wrote:
Wow, I didn't think that my question would generate so many responses!
Thanks everyone for your input.

> The Red-Glow tells you 2 things:
>
> 1. The heater (Weller EC234) is still working (but you are shortening its
> life operating in this manner - cherry red)

Well, I don't operate with it cherry red. This is the first time it's done
that--hence my knowing that something is amiss.

> 2. The WTCP series temperature control (which works with the "PT" tip and
> the SW60 switch) is not working properly.

> Recommend: Change tips. Improper tips will cause this problem.
> Get a Weller PTA7 (which is the standard tip shipped with this iron).
> The barrel net (BA-60 may also require replacement.

I'll take a look and see. The station came with two tips, both #7, but in
the 11-odd years I've owned the iron I've never used the second one.

> I also have the Weller Tech Sheet for this model -- if you need
> a copy. This has part numbers, diagrams and troubleshooting advice (shipped
> with every unit new)

Actually, I would like a copy, thank you. Since I got mine at a yard sale
I don't have any documentation. Please e-mail to
jgsenecal@mapson.ucdavis.edu, removing the reversed "nospam" first.

-Josh, AE6IQ

4433. Re: Quick inductor question...

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 04:15:35 UTC
From: averyfineman@aol.com
Message-ID: <20031219231535.08626.00002255@mb-m27.aol.com>
Source record: 30050

In article <3200347.0312181901.3f4e4da1@posting.google.com>, k7itm@aol.com (Tom Bruhns) writes:

>Dunno how accurate you need it to be "as wound", and dunno what sort
>of form factor you want, but if an air-core coil will work for you,
>here's one way: get about 18 inches of 18AWG wire, nice and straight,
>and a 1/2"x13TPI bolt. Wind 11 turns of that wire into the threads of
>the bolt, leaving 1" of wire on either end (or start with a longer
>piece if you want longer leads), and unscrew the bolt. The result
>should be a coil about 0.85 inches long and 0.424" ID, and 0.600uH.
>When you get it mounted near other things, the inductance will go down
>a bit, and you can adjust it down further by stretching it a bit. The
>Q at 14MHz should be just over 200. Or you can use 10 turns of 16AWG,
>done the same way, which will have a slightly larger ID, 0.434 inches,
>and about 0.561uH nominal and very slightly higher Q.
>
>In general, the L = (n*r)^2/(9*r+10*l) formula works well, where r and
>l are radius and length in inches, n is number of turns, and the
>inductance, L, is in uH. My numbers above come from a program that's
>easy to use and that I've learned to trust from verified results.
>It's convenient to use a bolt to get consistent spacing and diameter,
>though for high stability, you'd want some sort of support. For
>highest Q in a given volume, go for a coil with roughly equal length
>and diameter, though that's not terribly critical.

No need for a computer program for using data in the July 1977 issue of Ham Radio magazine article "Self-Supporting Coils."

While inductance over 0.50 uHy is not on the chart of Figure 1, the 0.55 uHy value will be very close for 9 turns of #12 bare copper (standard electrical wire with insulation stripped off) wound on a paint roller ferrule's threaded end of a paint roller pole. That's the same threading for all sorts of portable appliance items for the home; about 5/8" inside diameter, 1 turn per 3/16" length. Q at 30 MHz will exceed 300.

Well before that article got into print I sat down with a calibrated Boonton 190A Q Meter and got wound up on forms from 4-40 screw to a standard 117 VAC light bulb base. By using the largest solid wire that fits the threading, the coil will be quite self-supporting without any core material. The screw thread can be unscrewed easily and the finished coil diameter will increase slightly in so doing. Form leads as desired with long-nose pliers; long leads will also add some inductance. Measurement of inductance and Q was done on a simple solder-it-in-place fixture on the 190A.

I can e-mail repro scans of the article to anyone interested (1.2 MB).
As the author I have the right to do that under "First Rights only"
compensation. :-)

Len Anderson
retired (from regular hours) electronic engineer person

4434. Re: What can be made with these tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 04:15:36 UTC
From: averyfineman@aol.com
Message-ID: <20031219231536.08626.00002256@mb-m27.aol.com>
Source record: 30051

In article <3fe1b318$0$4741$61fed72c@news.rcn.com>, "R J Carpenter"
<rcarpen@erols.com> writes:

>Others have mentioned uses for these tubes. What they haven't mentioned is
>that you will need a power supply delivering DC somewhere in the 150 to 250
>volt range. It is absolutely vital that this supply have a transformer to
>isolate you from the 115 V AC mains. Otherwise you'll likely kill someone or
>yourself, since on side of the AC line is connected to ground and the other
>is HOT with respect to every grounded object.
>
>Junk boxes all across the world may be full of these transformers, but you
>may have trouble finding one. In that case you could use a couple of 115 to
>12-or-so volt transformers. One to go from 115 to 12 V AC, the other
>connected "backwards" to go from 12 V AC back to 115 V AC. Now you have 115
>V AC with neither side grounded - much safer.

Check out Hammond's website. They have a new transformer
section, recreating many of the "old" "B+" supply transformers,
formerly known as "plate transformers."

http://www.hammondmfg.com/5cindex.htm

Choose your kind of transformer from there...

Len Anderson
retired (from regular hours) electronic engineer person

4435. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 05:23:23 UTC
From: "Dr. A.T. Squeegee" <SpammersArePondScum@Dev.Null>
Message-ID: <MPG.1a4d7ca8b5ae6d90989ba2@192.168.42.131>
Source record: 30052

In article <brvt1q$87s7q$1@ID-150848.news.uni-berlin.de>,
nearlynews_email@ntlworld.com says...

> Hi. Anybody developed a nbfm RX project covering the FM band (appx
> 87.5Mhz-108Mhx).

NBFM? As in narrow band?

What would be the point? Here in the U.S. at least, that entire
band is assigned to FM broadcasting, and it is anything but narrow-band.
Typical deviation from a broadcast station is 75+ kHz.

--
Dr. Anton Squeegee, Director, Dutch Surrealist Plumbing Institute
(Known to some as Bruce Lane, KC7GR)
kyrrin a/t bluefeathertech d-o=t c&o&m
Motorola Radio Programming & Service Available -
http://www.bluefeathertech.com/rf.html
"Quando Omni Flunkus Moritati" (Red Green)

4436. Need some schematics for "what to do with tubes"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 07:04:29 UTC
From: Kirk Mohror <kmohror@comcast.net>
Message-ID: <27OdnW8hDMXsaX6iRVn-hQ@comcast.com>
Source record: 30053

I am now looking for schematics, articles, web sites ect., for those tubes that I have. I have the transformers, trimmer caps and other things for a project.

Thanks,
Kirk Mohror
K7EKM

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.553 / Virus Database: 345 - Release Date: 12/18/2003

4437. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 09:27:40 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bs14lg$8dt7p$1@ID-150848.news.uni-berlin.de>
Source record: 30054

Dr. A.T. Squeegee wrote:
> In article <brvt1q$87s7q$1@ID-150848.news.uni-berlin.de>,
> nearlynews_email@ntlworld.com says...
>
>> Hi. Anybody developed a nbfm RX project covering the FM band (appx
>> 87.5Mhz-108Mhx).
>
> NBFM? As in narrow band?
>
> What would be the point? Here in the U.S. at least, that entire
> band is assigned to FM broadcasting, and it is anything but narrow-band.
> Typical deviation from a broadcast station is 75+ kHz.

Maybe I used the wrong term. I think lots of HiFi tuners have very wide filters much greater than 75 Khz. For DXing it seems then you need no more than say 75Khz. A tuner with that bandwidth would, in a sense, (Ithink) compared to a regular HiFi tuneer be a narrow bandwidth tuner.

BTW, what would be the result if you used say a 20Khz filter on a FM signal with 75 Khz deviation? Would you get distortion or a perfectly copyable signal. I mean is it the analagous to using a 2Khz filter for an AM signal transmitted at 6Khz wide?

4438. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 10:08:27 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <vcVEb.218892$Ec1.7830081@bgtnsc05-news.ops.worldnet.att.net>
Source record: 30055

It wouldn't be quite the same. You would be clipping the sidebands, and experience quite a bit of distortion. A 110kHz filter is about as narrow as you can go.
I've been meaning to come up with a tuner that would be in the class of a McIntosh MR78 for the past couple of years, but something has always come up. Maybe after my current project, I will do this, if there is enough interest.

Pete

Richard <nearlynews_email@ntlworld.com> wrote in message news:bs14lg$8dt7p$1@ID-150848.news.uni-berlin.de...
> Dr. A.T. Squeegee wrote:
> > In article <brvt1q$87s7q$1@ID-150848.news.uni-berlin.de>,
> > nearlynews_email@ntlworld.com says...
> >
> >> Hi. Anybody developed a nbfm RX project covering the FM band (appx
> >> 87.5Mhz-108Mhx).
> >
> > NBFM? As in narrow band?
> >
> > What would be the point? Here in the U.S. at least, that entire
> > band is assigned to FM broadcasting, and it is anything but narrow-band.
> > Typical deviation from a broadcast station is 75+ kHz.
>
>
> Maybe I used the wrong term. I think lots of HiFi tuners have very wide
> filters much greater than 75 Khz. For DXing it seems then you need no more
> than say 75Khz. A tuner with that bandwidth would, in a sense, (Ithink)
> compared to a regular HiFi tuneer be a narrow bandwidth tuner.
>
> BTW, what would be the result if you used say a 20Khz filter on a FM signal
> with 75 Khz deviation? Would you get distortion or a perfectly copyable
> signal. I mean is it the analagous to using a 2Khz filter for an AM signal
> transmitted at 6Khz wide?
>
>
>
>

4439. Re: Need some schematics for "what to do with tubes"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 12:18:54 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <O6XEb.3880$ss5.1733@clgrps13>
Source record: 30056

Behold, Kirk Mohror signalled from keyed 4-1000A filament:

> I am now looking for schematics, articles, web sites ect., for those
> tubes that I have.

Check the links on my site. I have a few articles there too.

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4440. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 12:23:51 UTC
From: Paul Burridge <pb@osiris1.notthisbit.co.uk>
Message-ID: <gac8uvgj3h7j2h7haptjfncroh64n9nij5@4ax.com>
Source record: 30057

On Fri, 19 Dec 2003 16:57:48 GMT, Allan Butler <ka0ies@hotmail.com>
wrote:

>Allan Butler wrote:
>
>OK here is what is going on as far as I know now.
>
>The 3.5 MHz transmitter is to study sea wave propagation at that frequency
>over saltwater at a defined altitude.

Well then you're stuck with 80 meters. But I'd guess 5W output would
be plenty for your purposes. However, I'd be very interested in the
type of antenna you eventually settle on for this unusual purpose.
Nothing really springs to mind as being particularly suitable...
--

"I expect history will be kind to me, since I intend to write it."
- Winston Churchill

4441. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 14:04:23 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <HFYEb.440068$275.1310616@attbi_s53>
Source record: 30058
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

I have picked up a number of NOS Weller items (no longer in production) this
past year (from a number of sources) --
due to the relocation of the Weller production facilities in the Carolinas
to Mexico.

You can call Weller (North Carolina) and ask for Mr. Larry Smith (who is
Weller's product line manager and engineering support)
IF Weller is no longer making the part, Mr. Smith or "Dino" who leads the
repair center -- was know of a source !

Greg

"BFoelsch" <BFoelsch@snet.ditch.this.net> wrote in message
news:L9idnaZNt85Rkn6iRVn-sQ@giganews.com...
> OK - As long as we have all this Weller knowledge here, who has the secret
> stash of tips for the W200 iron? Yes, they made a 200 watt iron with the
> magnetic temperature control, but I have been unable to find parts for
many
> years. Can't find W200 on the Weller web site.
>
> Thanks in advance.
>
> "G.Beat" <now9spamgb@spam.comcast.net> wrote in message
> news:idDEb.602781$Fm2.547319@attbi_s04...
> > "Andrew VK3BFA" <ablight@alphalink.com.au> wrote in message
> > news:1fc7b362.0312182356.601ce14b@posting.google.com...
> > > "Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
> > news:<3FE275B5.E84DA1@earthlink.net>...
> > >
> > > 3. LOOK at tip, see if mangnet thingo at bottom has fallen of - if so,
> > > buy new tip (and after all the years youve had it, I wonder if it
> > > could solder anything except 2 wires together, my tips last about 3
> > > months on average, I buy them by the half dozen). If tip defective,
> > > completely dismantle iron and remove magnet from switch assembly.
> >
> > I have heard this from some other user - but I have tips that last
years -
> > BUT I
> > only use the 700 degree tips.
> >
> > > 4. If tip OK (go on, be a devil, buy a new one anyway....) then switch
> > > faulty. Buy new one.
> >
> > A spare tip should always be available on the bench. I just repaired an

> > older WTCPN station
> > an the college student had placed an "ET" tip (aka tips are all the same
> > right! - wrong)
> > from the Weller EC1000/EC2000/WES50/WES51 models.
> > Glowed cherry red -- changing to the proper tip -- corrected problem.
> >
> > > 5. Exception to item 4 - if you have done bugger all maintenance to
> > > your iron, clean the garbage out of the barrel - it is rare for
> > > switches to fail "on" (never had one do it, as a matter of fact, but
> > > have only been using Wellers for 20 years so it COULD happen...) - use
> > > a bamboo satay skewer to clean out the crap, then follow procedure 2.
> >
> > I saw my first internally shorted SW60 last year (although I think the
> user
> > had wacked it against a hard surface to
> > cause this type of damage). I also have seen a "kinked" spring -- near
as
> I
> > can tell -- originally assembled that way --
> > over a decade earlier. I never saw a heater fail as shorted (dead
short -
> > but not heating) until last year -- all previous ones
> > failed as "open". See enough stations and you see many failures, bad
> > operating practices and unique equipment abuse.
> >
> > > Hope this helps,
> > >
> > > de VK3BFA Andrew (at 50, an "official old grump")
> >
> >
>
>

4442. Minicircuits Labs products

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 17:09:35 UTC
From: jorge Castano <jorge.castano@wanadooadsl.net>
Message-ID: <842008970.1071940175781.JavaMail.usenet@eresmas.com>
Source record: 30059

Hi!

Anybody knows if Minicircuits Labs sell overseas? I am in Spain, and the local representative only
sell to companies (or ask for a large number of minimum items to process the order) I know that
MiniCircuits has a 1-800 number in US, but i do not know if they will send me the order.

Any help will be welcome.

4443. Re: poppet top band am tx

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 17:15:28 UTC
From: SB <nospam@btinternet.com>
Message-ID: <bs203f$5rg$1@sparta.btinternet.com>
Source record: 30060

David Roper <davidandpearl@m0dad.freeserve.co.uk> wrote in message
news:brveu3fum1@news7.svr.pol.co.uk...
> Hi Simon
> I have the tx section working great, a local station can hear my carrier
> very strong, but the modulation is very distorted. I am using an electret
> microphone, I may try a different mic. I will keep you posted if you send
> your email. Please let me know if you encounter the same problems.
> Hope to hear from you soon.
> I would be very greatful if anyone has any ideas on how to test the mic
amp
> circuit.
> David. 73
David,

Glad to hear you have the RF section working well, as far as the modulator goes I would treat it as a stand-alone mic amplifier circuit. I would suggest you connect the output pin 5 of the LM386 to a speaker via a 220uF electrolytic cap (+ towards the pin 5) and monitor the modulation quality from the speaker.

73's Simon G7CPN.

4444. Avantec MMIC

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 17:20:33 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <Bx%Eb.605592$Tr4.1578746@attbi_s03>
Source record: 30061

Anyone with data on the Avantec hybrid UTO-444 please?

W4ZCB

4445. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 17:30:29 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bs20un$8ddfp$1@ID-150848.news.uni-berlin.de>
Source record: 30062

"Pete KE9OA" <n.gianakopoulos@worldnet.att.net> wrote in message
news:vcVEb.218892$Ec1.7830081@bgtnsc05-news.ops.worldnet.att.net...
> It wouldn't be quite the same. You would be clipping the sidebands, and
> experience quite a bit of distortion. A 110kHz filter is about as narrow
as
> you can go.
> I've been meaning to come up with a tuner that would be in the class of a
> McIntosh MR78 for the past couple of years, but something has always come
> up. Maybe after my current project, I will do this, if there is enough
> interest.
>
> Pete

I hear that FM RX's are pretty complicated affairs. Most FM DXers it seems
just modify commercial sets. Reduce bandwidth from say 230Khz to 110 Khz. I
suppose that going this way has quite a lot of merit. Cheaper probably.

4446. Re: Minicircuits Labs products

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 17:48:20 UTC
From: Leon Heller <aqzf13@dsl.pipex.com>
Message-ID: <3fe48b64$0$7010$cc9e4d1f@news.dial.pipex.com>
Source record: 30063

jorge Castano wrote:

> Hi!
>
> Anybody knows if Minicircuits Labs sell overseas? I am in Spain, and the local representative only
> sell to companies (or ask for a large number of minimum items to process the order) I know that
> MiniCircuits has a 1-800 number in US, but i do not know if they will send me the order.
>
> Any help will be welcome.
>
>

I haven't had any problems buying small quantities from MCL in the UK, FWIW.

Leon
--
Leon Heller, G1HSM
Email: aqzf13@dsl.pipex.com
My low-cost Philips LPC210x ARM development system:
http://www.geocities.com/leon_heller/lpc2104.html

4447. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 19:42:20 UTC
From: averyfineman@aol.com
Message-ID: <20031220144220.06226.00002104@mb-m19.aol.com>
Source record: 30064

In article <bs14lg$8dt7p$1@ID-150848.news.uni-berlin.de>, "Richard"
<nearlynews_email@ntlworld.com> writes:

>Dr. A.T. Squeegee wrote:
>> In article <brvt1q$87s7q$1@ID-150848.news.uni-berlin.de>,
>> nearlynews_email@ntlworld.com says...
>>
>>> Hi. Anybody developed a nbfm RX project covering the FM band (appx
>>> 87.5Mhz-108Mhx).
>>
>> NBFM? As in narrow band?
>>
>> What would be the point? Here in the U.S. at least, that entire
>> band is assigned to FM broadcasting, and it is anything but narrow-band.
>> Typical deviation from a broadcast station is 75+ kHz.
>
>
>Maybe I used the wrong term. I think lots of HiFi tuners have very wide
>filters much greater than 75 Khz. For DXing it seems then you need no more
>than say 75Khz. A tuner with that bandwidth would, in a sense, (Ithink)
>compared to a regular HiFi tuneer be a narrow bandwidth tuner.
>
>BTW, what would be the result if you used say a 20Khz filter on a FM signal
>with 75 Khz deviation? Would you get distortion or a perfectly copyable
>signal. I mean is it the analagous to using a 2Khz filter for an AM signal
>transmitted at 6Khz wide?

You need to refresh your personal databanks on basic modulation.

In FM the modulation amplitude "swings the frequency up and down
in frequency." [close and simplistic, there's a bit more to it...]
Limiting the bandwidth of the receiver is the same as clipping the
peaks of an amplitude modulation. You WILL get a LOT of
distortion on high-amplitude modulation input at a station.

In a limited-bandwidth AM receiver there is no limit on the amplitude
of an AM signal, just the frequency range of the modulation signal.

In a limited-bandwidth FM receiver there is both a limit on the
amplitude and frequency range of the modulation signal.

Len Anderson
retired (from regular hours) electronic engineer person

4448. Re: Need some schematics for "what to do with tubes"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 20:43:20 UTC
From: "J. Yazel" <jyazel@nls.net>
Message-ID: <r1d9uvgm07q5qlufgdpi85ksg8n53oh3d1@4ax.com>
Source record: 30065

On Fri, 19 Dec 2003 23:04:29 -0800, "Kirk Mohror"
<kmohror@comcast.net> wrote:

>I am now looking for schematics, articles, web sites ect., for those tubes
>that I have. I have the transformers, trimmer caps and other things for a
>project.
>
>Thanks,
>Kirk Mohror
>K7EKM
> ==========

Try your local library. They usually have many books on the subject.

Jack W8RAG

4449. Need info from old Mini-Circuits (MCL) Catalog

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 20:49:57 UTC
From: Lenny Wintfeld <lennyw@comcast.net>
Message-ID: <MPG.1a4e7fe985c5b0c8989686@news.nj.comcast.giganews.com>
Source record: 30066

Hi

I've got some nice MCL UNCL-R1H-2 mixers from Mini-Circuits that I
finally have a use for.
MCL's current catalog lists the UNCL-R1 specs and a google shows the
general specs of the UNCL-R1H variant (17 dbm LO instead of 7dbm) but I
can't find anything on the -2 variant (UNCL-R1H-2.

If you have an old MCL catalog could you look it up for me and let me
know what the difference is (or send a list of the relevant specs).

TIA & 73,
Lenny W2BVH

4450. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 20:52:18 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bs2cq2$747$1@freenet9.carleton.ca>
Source record: 30068

"Pete KE9OA" (n.gianakopoulos@worldnet.att.net) writes:
> It wouldn't be quite the same. You would be clipping the sidebands, and
> experience quite a bit of distortion. A 110kHz filter is about as narrow as
> you can go.
> I've been meaning to come up with a tuner that would be in the class of a
> McIntosh MR78 for the past couple of years, but something has always come
> up. Maybe after my current project, I will do this, if there is enough
> interest.
>
> Pete

For most people, it makes more sense to simply change the filters
in an existing FM BCB receiver than start from scratch. Indeed,
it seems to be a relatively common practice among people who DX
that band.

Not that building something from scratch wouldn't be interesing,
only that if "narrow bandwidth" is all that's wanted, then there's
no sense in building it all. And there isn't much sense in putting
narrow filters in a mediocre homebuilt FM receiver, which is the
sort of thing you see in construction articles.

I use Delco digitally tuned car radios as my "table radios", running
them off power supplies. For the price, a few dollars at garage sales,
they are pretty good receivers on the FM band. I know it would benefit
from a narrow filter for a few stations I like to listen to. But of course,
a lot of FM receivers aren't that great for distant reception, being too
sensitive, without good overload protection.

In some cases, it might be intriguing to build a single channel FM
BCB receiver. Build it like a ham band converter, with plenty of
tuned circuits at the fronte end, little or no RF amplification,
and a good mixer. Being fixed tuned, one could optimize it for
that frequency, and not worry about tracking, or the problems of
ganging a number of tuned circuits. For the local oscillator, one
could go with a crystal oscillator chain.

Michael VE2BVW

>
> Richard <nearlynews_email@ntlworld.com> wrote in message
> news:bs14lg$8dt7p$1@ID-150848.news.uni-berlin.de...
>> Dr. A.T. Squeegee wrote:
>> > In article <brvt1q$87s7q$1@ID-150848.news.uni-berlin.de>,
>> > nearlynews_email@ntlworld.com says...
>> >

>> >> Hi. Anybody developed a nbfm RX project covering the FM band (appx
>> >> 87.5Mhz-108Mhx).
>> >
>> > NBFM? As in narrow band?
>> >
>> > What would be the point? Here in the U.S. at least, that entire
>> > band is assigned to FM broadcasting, and it is anything but narrow-band.
>> > Typical deviation from a broadcast station is 75+ kHz.
>>
>>
>> Maybe I used the wrong term. I think lots of HiFi tuners have very wide
>> filters much greater than 75 Khz. For DXing it seems then you need no more
>> than say 75Khz. A tuner with that bandwidth would, in a sense, (Ithink)
>> compared to a regular HiFi tuneer be a narrow bandwidth tuner.
>>
>> BTW, what would be the result if you used say a 20Khz filter on a FM
> signal
>> with 75 Khz deviation? Would you get distortion or a perfectly copyable
>> signal. I mean is it the analagous to using a 2Khz filter for an AM signal
>> transmitted at 6Khz wide?
>>
>>
>>
>>
>
>

4451. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 20:59:01 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3FE4B80F.3030102@invalid.invalid>
Source record: 30067

Richard wrote:
> I hear that FM RX's are pretty complicated affairs. Most FM DXers it seems
> just modify commercial sets. Reduce bandwidth from say 230Khz to 110 Khz. I
> suppose that going this way has quite a lot of merit. Cheaper probably.

It's certainly the most bang for the buck. Really, a good FM receiver isn't much more complicated than a good AM receiver -- but a bare-bones-just-barely-receives-the-strongest-stations FM receiver is quite a bit more complicated than a bare-bones-..... AM set.

Usually you can reduce the bandwidth of a FM receiver by simply removing the monolithic ceramic filters and replacing them. I've done that on my Technics ST-G50; at my location 30 miles outside Nashville, I have received at least one DX station on every frequency that doesn't have a local. (yes, that includes the frequencies adjacent to 100,000-watt locals)

Forget what I paid for the filters - it was definitely less than $5 apiece. My tuner needed two.

==========

Regarding going to 20KHz bandwidth...

In DX situations with heavy interference, a very narrow bandwidth might be helpful for identifying DX stations. The programming will be mostly unintelligible in a 20KHz bandwidth, but maybe it'll be more intelligible than it would be against the interference from adjacent channels in a more reasonable bandwidth.

I occasionally use the narrow filters in my TH-F6 HT to DX television audio. Nobody would dream of listening to that audio for entertainment but one can identify things they'd never ID on a TV set.

Don't know anyone who's tried putting a 10.7MHz IF 20KHz or similar bandwidth filter in a FM broadcast tuner. You'd want it to be one of multiple bandwidths, so you could select something more reasonable for stronger signals.
--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

4452. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 21:10:03 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3FE4BAAB.3090908@invalid.invalid>
Source record: 30069

Richard wrote:
> Maybe I used the wrong term. I think lots of HiFi tuners have very wide
> filters much greater than 75 Khz. For DXing it seems then you need no more
> than say 75Khz. A tuner with that bandwidth would, in a sense, (Ithink)
> compared to a regular HiFi tuneer be a narrow bandwidth tuner.

Yes, you used the wrong term<grin>.

"NBFM" has a specific technical meaning, IIRC a system where the
modulation index (ratio of peak deviation to maximum modulating
frequency) is less than 1.

For FM broadcast, the peak deviation is 75KHz and the maximum modulating
frequency 15KHz. (OK, I'm ignoring stereo...) So the modulation index
is 5.

For police radio, the peak deviation is roughly 3KHz and so is the
maximum modulating frequency. So the modulation index is 1.

> BTW, what would be the result if you used say a 20Khz filter on a FM signal
> with 75 Khz deviation? Would you get distortion or a perfectly copyable
> signal. I mean is it the analagous to using a 2Khz filter for an AM signal
> transmitted at 6Khz wide?

Lots of distortion.

In AM, distance from the center of the channel correlates to modulating
frequency. Restricting the filter bandwidth in the receiver restricts
the frequency response - the high audio frequencies ("treble") are
rolled off. But it has no effect on the range of *amplitudes* that can
be received; a loud sound within the bandpass of the filter will still
be reproduced accurately.

In FM, distance from the center of the channel correlates to modulating
amplitude. A loud sound will push the transmitted signal to the outer
edges of the channel. If the receiver's filter is too narrow to pass
that, the signal peaks will be chopped off, resulting in severe
interference.

Remember that the 75KHz peak deviation for FM broadcast is 75KHz *either
side* of center. To get the actual bandwidth required you have to add
the peak modulating frequency to that. 165KHz, not counting stereo.

You can chop some of that off at the expense of some distortion. I've
found in practice, 110KHz filters work fine for DXing though I wouldn't
want to listen to a symphony through them. 75KHz would probably be
reasonably intelligible.

--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

4453. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 21:11:11 UTC
From: "Jim, N2VX" <ZZZjim_cronin@juno.comZZZ>
Message-ID: <oid9uv8pu8pgui5nh3bq5162kr5fe5asfh@4ax.com>
Source record: 30070

On Fri, 19 Dec 2003 22:11:23 -0000, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>Hi. Anybody developed a nbfm RX project covering the FM band (appx
>87.5Mhz-108Mhx).
>
>With digital readout, though I suppose I could just hook up a simple a
>frequency counter to read frequency.
>
>TIA. Rich.
>

If you want to do DX'ing get an existing receiver and put in a
narrower filter. Many of the older tuners are ideal for this. I saw
writeups on this in magazines over 20 years ago and don't remember
what bandwidth filter was recommended.

An interesting project would be mods to the GE SuperRadio II or III.
They are cheap, available and have a tuned RF stage.

73,
Jim

4454. Re: Remote Cutoff Pentodes in Regens

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 21:22:49 UTC
From: la8ak.xnd@online.no
Message-ID: <3fe4ace2.11772039@news.online.no>
Source record: 30071

On 19 Dec 2003 06:56:18 -0800, Bruce Kizerian wrote:

>Roy Lewallen <w7el@eznec.com> wrote in message ..
>> People here have recently mentioned tubes intended for portable
>> operation, with plate voltages of around 20 volts. Much more common are
>> tubes intended for running from mains-powered supplies. These mostly
>> require plate voltages that can be lethal. You should consider this when
>> designing kits for kids.
>>
>> Roy Lewallen, W7EL
>
apart from the 6.3v heated types for car radio most such typers were
manufactured before 1930 and somewhat hard to find today, still the
WWII type RE074d is very rare

>That's is one of the reasons why a 9 volt battery is probably the
>highest potential you will seen in my kits. The manuals I write are
>full of precautions about soldering, erecting antennas, etc....but NO
>high voltages...
>
>But I still remember the jolt I got as a kid which caused me to drop a
>heavy chassis on my toe...How did WE survive?
>
I connected two 90V batteries in series and wasn't aware that the
headphone wasn't particularly insulated., still remember it very well
over 40 years later...

G3RZP mention the use of 6J7 as detector in his HRO, see Radcom nr
1/2004 page 45. It is described as combined AM/SSB detector, but I
wonder what sort of detector it is for AM. Is it grid or anode
detector? It is shown on http://home.online.no/~la8ak/17r.htm
Suppose it is still low level IF for AM - as for SSB.

On http://home.online.no/~la8ak/17s.htm I've shown the application of
a triode-hexode ACH1 which may be somewhat similar to 6K8, but here
the control grid is biassed with -4V and obviously operates as a
completely different AM-detector.

73
Jan-Martin
LA8AK
--
remove ,xnd to reply (Spam precaution!)

4455. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 21:35:38 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bs2fba$d2b$1@freenet9.carleton.ca>
Source record: 30072

"Jim, N2VX" (ZZZjim_cronin@juno.comZZZ) writes:
> On Fri, 19 Dec 2003 22:11:23 -0000, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
>>Hi. Anybody developed a nbfm RX project covering the FM band (appx
>>87.5Mhz-108Mhx).
>>
>>With digital readout, though I suppose I could just hook up a simple a
>>frequency counter to read frequency.
>>
>>TIA. Rich.
>>
>
> If you want to do DX'ing get an existing receiver and put in a
> narrower filter. Many of the older tuners are ideal for this. I saw
> writeups on this in magazines over 20 years ago and don't remember
> what bandwidth filter was recommended.
>
> An interesting project would be mods to the GE SuperRadio II or III.
> They are cheap, available and have a tuned RF stage.
>
> 73,
> Jim

That's a bit misleading. Most FM BCB receivers, now and in the past,
have an RF stage ahead of the mixer, and it is tuned. I once had
a nice Sony stereo receiver that worked well on FM, and it's lack of
an amplifer ahead of the mixer was pretty uncommon (and likely accounted
for it's good overload resistance).

The "TRF" stage in a Superradio is in reference to the AM band,
where in non-car radios, an RF stage is an exception.

Also, while it does seem a bit of work has been done in the design
for better AM reception, that RF stage and the better than average
loopstick, it does not seem like the FM section is anything to write
home about. I gather it's a fairly generic design.

This is part of the mythology of the Superradio. It's not all that
great, just maybe a little bit better than the average portable or
table radio, but people point to it when the concept of "a better
radio" comes up. Once you start spending the money, better to spend it
on a better design. Or better, buy a car radio that will have good
reception, or some used stereo that did have a bit of extra care in it's
design, so it actually won't overload in an urban environment.

Michael VE2BVW

4456. Re: Need info from old Mini-Circuits (MCL) Catalog

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 21:38:08 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FE4C140.8080600@bellsouth.net>
Source record: 30076

Lenny Wintfeld wrote:
> Hi
>
> I've got some nice MCL UNCL-R1H-2 mixers from Mini-Circuits that I
> finally have a use for.
> MCL's current catalog lists the UNCL-R1 specs and a google shows the
> general specs of the UNCL-R1H variant (17 dbm LO instead of 7dbm) but I
> can't find anything on the -2 variant (UNCL-R1H-2.
>
> If you have an old MCL catalog could you look it up for me and let me
> know what the difference is (or send a list of the relevant specs).
>
> TIA & 73,
> Lenny W2BVH

usually when mini circuits puts a dash number on their parts it is to
indicate a different frequency range for that part. The H variant indicates
a different signal level as you noticed. In the case of other mixer
parts the
-2 variant was a higher frequency part.

4457. test

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 21:40:17 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FE4C1C1.20905@bellsouth.net>
Source record: 30078

never mind

4458. test

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-20 21:41:29 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FE4C209.1040606@bellsouth.net>
Source record: 30077

never mind

4459. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 00:42:31 UTC
From: Doug Smith W9WI <w9wi@invalid.invalid>
Message-ID: <3FE4EC7A.9080107@invalid.invalid>
Source record: 30073

Doug Smith W9WI wrote:
> edges of the channel. If the receiver's filter is too narrow to pass
> that, the signal peaks will be chopped off, resulting in severe
> interference.

Oops. That should have read "...severe *distortion*."

--
Doug Smith W9WI
Pleasant View (Nashville), TN EM66
http://www.w9wi.com

4460. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 01:20:36 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <3fe4f561$0$4763$61fed72c@news.rcn.com>
Source record: 30074

"Jim, N2VX" <ZZZjim_cronin@juno.comZZZ> wrote in message
news:oid9uv8pu8pgui5nh3bq5162kr5fe5asfh@4ax.com...
>
> An interesting project would be mods to the GE SuperRadio II or III.
> They are cheap, available and have a tuned RF stage.

And an essentially uncalibrated frequency dial. Pretty bad for DXing IMO.

Almost any digitally-tuned car radio would be better for DXing. Remember
that cars drive through all the worst reception areas and their radios have
to at least try to work there.

4461. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 01:27:10 UTC
From: averyfineman@aol.com
Message-ID: <20031220202710.22081.00002648@mb-m17.aol.com>
Source record: 30075

In article <bs2cq2$747$1@freenet9.carleton.ca>, et472@FreeNet.Carleton.CA
(Michael Black) writes:

>In some cases, it might be intriguing to build a single channel FM
>BCB receiver. Build it like a ham band converter, with plenty of
>tuned circuits at the fronte end, little or no RF amplification,
>and a good mixer. Being fixed tuned, one could optimize it for
>that frequency, and not worry about tracking, or the problems of
>ganging a number of tuned circuits. For the local oscillator, one
>could go with a crystal oscillator chain.

Going to www.KitsAndParts.com by Dieter Gentzow, W8DIZ,
you can find the old Motorola MC3362P (2 for $4) which is a
complete FM receiver IC. There's a full Motorola datasheet there
with application data. A one-IC FM receiver for headphones.

For some audio power output, he has National LM380s at 4 for $5.
For an RF preamp, he has Fairchild J310 J-FETs at 12 for $4.
There's also a respectable number of Micrometals toroid cores for
IF and RF filtering. Datasheets for all except a full info range on
the Micrometals cores (which some think are made by Amidon).
www.micrometals.com for full core information.

If the MC3362 is too much or too little, Dieter has 612 Gilbert cell
ICs for mixer-oscillator applications and MC1349 gain blocks (its a
slightly higher gain version of MC1350) for the IF.

A fairly good supplier of oldies but goodies in semiconductors and
toroid cores.

LHA
retired (from regular hours) electronic engineer person

4462. info. Wanted ft-901dm

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 03:17:56 UTC
From: lee <quietkey2003NOSPAM@netscape.net>
Message-ID: <Eh8Fb.764124$pl3.214768@pd7tw3no>
Source record: 30079

Hi, everyone. I on the hunt for some information around the final
tubes for a ft-901dm. When I power up the unit, one of the tubes(closer to
the
front) starts to glow bright red(heater of course) compared to the other
tube.
I've tested both tubes before they were installed and both passed(no shorts,
etc.).

So I'm asking for some help from the tubers in the community on this
one.

thanks for looking,

Lee
quietkey2003nospam@netscape.net

4463. Re: info. Wanted ft-901dm

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 04:00:12 UTC
From: Uncle Peter <radioconnectionNO@cox.netSPAM>
Message-ID: <WQ8Fb.10789$WQ3.129@lakeread05>
Source record: 30080

Ham call-letters?

Pete

"lee" <quietkey2003NOSPAM@netscape.net> wrote in message
news:Eh8Fb.764124$pl3.214768@pd7tw3no...
> Hi, everyone. I on the hunt for some information around the final
> tubes for a ft-901dm. When I power up the unit, one of the tubes(closer
to
> the
> front) starts to glow bright red(heater of course) compared to the other
> tube.
> I've tested both tubes before they were installed and both passed(no
shorts,
> etc.).
>
> So I'm asking for some help from the tubers in the community on this
> one.
>
> thanks for looking,
>
> Lee
> quietkey2003nospam@netscape.net
>
>
>
>

4464. Re: test

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 04:23:50 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <qf9Fb.764386$pl3.18690@pd7tw3no>
Source record: 30081
Cross-posted to: rec.radio.amateur.homebrew,alt.test

kenneth scharf wrote:

> never mind

Your test FAILED. It should've been seen in alt.test, but instead showed up here.

Please contact your ISP and have them fix their news server so that it doesn't randomly spew posts across usenet.

--
Donovan Hill
VA7LNX (Basic, Advanced)

4465. Re: info. Wanted ft-901dm

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 05:13:47 UTC
From: ON5MJ <"on5mj_no_more _spam_in_stock_sorry_"@skynet.be>
Message-ID: <3fe539bd$0$289$ba620e4c@reader4.news.skynet.be>
Source record: 30082

Hi,

What happend if you swap the 2 tubes ?

73 de Jacques - ON5MJ
What your call sign BTW ?

4466. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 08:39:45 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <I%cFb.504297$0v4.21745927@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30083

Actually, they aren't much different than an AM design, except that
generally, you use quadrature detection for demodulation, and that you have
a deemphasis filter. The I.F. bandwidth is different, but pretty much
everything else is the same.

Pete

Richard <nearlynews_email@ntlworld.com> wrote in message
news:bs20un$8ddfp$1@ID-150848.news.uni-berlin.de...
>
> "Pete KE9OA" <n.gianakopoulos@worldnet.att.net> wrote in message
> news:vcVEb.218892$Ec1.7830081@bgtnsc05-news.ops.worldnet.att.net...
> > It wouldn't be quite the same. You would be clipping the sidebands, and
> > experience quite a bit of distortion. A 110kHz filter is about as narrow
> as
> > you can go.
> > I've been meaning to come up with a tuner that would be in the class of
> a
> > McIntosh MR78 for the past couple of years, but something has always
come
> > up. Maybe after my current project, I will do this, if there is enough
> > interest.
> >
> > Pete
>
> I hear that FM RX's are pretty complicated affairs. Most FM DXers it seems
> just modify commercial sets. Reduce bandwidth from say 230Khz to 110 Khz.
I
> suppose that going this way has quite a lot of merit. Cheaper probably.
>
>

4467. Re: Any FM band RX projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 08:45:54 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <65dFb.504332$0v4.21743980@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30084

I was thinking about going with a high level mixer, something with an IP3 in the +30dBm range. I would probably make it a double conversion unit. This way, I could use a bandpass filter at the front end.
You are right, though.....there are quite a few good performers already on the market, and those auto radios are no exception. The newer ones that use the Philips dual conversion chipset are very good on the AM broadcast band, too.

Pete

Michael Black <et472@FreeNet.Carleton.CA> wrote in message news:bs2cq2$747$1@freenet9.carleton.ca...
> "Pete KE9OA" (n.gianakopoulos@worldnet.att.net) writes:
> > It wouldn't be quite the same. You would be clipping the sidebands, and
> > experience quite a bit of distortion. A 110kHz filter is about as narrow as
> > you can go.
> > I've been meaning to come up with a tuner that would be in the class of a
> > McIntosh MR78 for the past couple of years, but something has always come
> > up. Maybe after my current project, I will do this, if there is enough
> > interest.
> >
> > Pete
>
> For most people, it makes more sense to simply change the filters
> in an existing FM BCB receiver than start from scratch. Indeed,
> it seems to be a relatively common practice among people who DX
> that band.
>
> Not that building something from scratch wouldn't be interesing,
> only that if "narrow bandwidth" is all that's wanted, then there's
> no sense in building it all. And there isn't much sense in putting
> narrow filters in a mediocre homebuilt FM receiver, which is the
> sort of thing you see in construction articles.
>
> I use Delco digitally tuned car radios as my "table radios", running
> them off power supplies. For the price, a few dollars at garage sales,
> they are pretty good receivers on the FM band. I know it would benefit
> from a narrow filter for a few stations I like to listen to. But of course,
> a lot of FM receivers aren't that great for distant reception, being too
> sensitive, without good overload protection.
>

> In some cases, it might be intriguing to build a single channel FM
> BCB receiver. Build it like a ham band converter, with plenty of
> tuned circuits at the fronte end, little or no RF amplification,
> and a good mixer. Being fixed tuned, one could optimize it for
> that frequency, and not worry about tracking, or the problems of
> ganging a number of tuned circuits. For the local oscillator, one
> could go with a crystal oscillator chain.
>
> Michael VE2BVW
>
> >
> > Richard <nearlynews_email@ntlworld.com> wrote in message
> > news:bs14lg$8dt7p$1@ID-150848.news.uni-berlin.de...
> >> Dr. A.T. Squeegee wrote:
> >> > In article <brvt1q$87s7q$1@ID-150848.news.uni-berlin.de>,
> >> > nearlynews_email@ntlworld.com says...
> >> >
> >> >> Hi. Anybody developed a nbfm RX project covering the FM band (appx
> >> >> 87.5Mhz-108Mhx).
> >> >
> >> > NBFM? As in narrow band?
> >> >
> >> > What would be the point? Here in the U.S. at least, that entire
> >> > band is assigned to FM broadcasting, and it is anything but
narrow-band.
> >> > Typical deviation from a broadcast station is 75+ kHz.
> >>
> >>
> >> Maybe I used the wrong term. I think lots of HiFi tuners have very wide
> >> filters much greater than 75 Khz. For DXing it seems then you need no
more
> >> than say 75Khz. A tuner with that bandwidth would, in a sense,
(Ithink)
> >> compared to a regular HiFi tuneer be a narrow bandwidth tuner.
> >>
> >> BTW, what would be the result if you used say a 20Khz filter on a FM
> > signal
> >> with 75 Khz deviation? Would you get distortion or a perfectly copyable
> >> signal. I mean is it the analagous to using a 2Khz filter for an AM
signal
> >> transmitted at 6Khz wide?
> >>
> >>
> >>
> >>
> >
> >
>
>

4468. Re: Avantec MMIC

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 09:07:58 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <OpdFb.504424$0v4.21746832@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30085

This is a 10 to 400MHz thin film cascadable amplifier. Typical operating
point is 5V@15mA. Output power is +8.7dBm@1dB compression, with a NF of 4dB.
Looking from the bottom view, if you set the tab at the 5:00 position, the
pinout is like this:
3:00 pin is RF out, 6:00 is V+, 9:00 is RF in, while 12:00 is Ground.
I hope this helps.

Pete

Harold E. Johnson <W4ZCB@mchsi.com> wrote in message
news:Bx%Eb.605592$Tr4.1578746@attbi_s03...
> Anyone with data on the Avantec hybrid UTO-444 please?
>
> W4ZCB
>
>

4469. Re: Need info from old Mini-Circuits (MCL) Catalog

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 09:12:25 UTC
From: Pete KE9OA <n.gianakopoulos@worldnet.att.net>
Message-ID: <ZtdFb.504443$0v4.21746516@bgtnsc04-news.ops.worldnet.att.net>
Source record: 30086

Many times, they also do that when they make a special part for a customer.
When I was at Rockwell, we had some MCL parts that were identical to the off
the shelf part, except that they were screened for closer tolerances.

Pete

Lenny Wintfeld <lennyw@comcast.net> wrote in message
news:MPG.1a4e7fe985c5b0c8989686@news.nj.comcast.giganews.com...
>
> Hi
>
> I've got some nice MCL UNCL-R1H-2 mixers from Mini-Circuits that I
> finally have a use for.
> MCL's current catalog lists the UNCL-R1 specs and a google shows the
> general specs of the UNCL-R1H variant (17 dbm LO instead of 7dbm) but I
> can't find anything on the -2 variant (UNCL-R1H-2.
>
> If you have an old MCL catalog could you look it up for me and let me
> know what the difference is (or send a list of the relevant specs).
>
> TIA & 73,
> Lenny W2BVH

4470. Re: amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 11:19:02 UTC
From: "Eike Lantzsch, ZP6CGE" <eikelan@gmx.net>
Message-ID: <slrnbub0d6.v4c.eikelan@ID-77364.user.uni-berlin.de>
Source record: 30087

Paul Burridge wrote:
> On Fri, 19 Dec 2003 16:57:48 GMT, Allan Butler <ka0ies@hotmail.com>
> wrote:
>
> >Allan Butler wrote:
> >
> >OK here is what is going on as far as I know now.
> >
> >The 3.5 MHz transmitter is to study sea wave propagation at that frequency
> >over saltwater at a defined altitude.
>
> Well then you're stuck with 80 meters. But I'd guess 5W output would
> be plenty for your purposes. However, I'd be very interested in the
> type of antenna you eventually settle on for this unusual purpose.
> Nothing really springs to mind as being particularly suitable...

Zeppelin Antenna comes to mind. It was invented for this purpose.
If you can do with a wire antenna hanging off the baloon about 60m
down is another story.

Kind regards, Eike

4471. Nice QST article on DX100 rebuild

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 13:04:52 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <bYednZm_Zd13BHiiRVn-vA@comcast.com>
Source record: 30088

who amongst us didn't start with a DX-35? the article in the January QST describing the rebirth of a basket-case DX-100 was a nice 5-minute read this past evening.

4472. Re: Avantec MMIC

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 13:17:41 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <V3hFb.612609$Tr4.1592083@attbi_s03>
Source record: 30089

Thanks, lots of help from several responses.

W4ZCB

4473. Re: Need info from old Mini-Circuits (MCL) Catalog

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 17:31:35 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FE5D8DA.E542FA65@earthlink.net>
Source record: 30090

Pete KE9OA wrote:
>
> Many times, they also do that when they make a special part for a customer.
> When I was at Rockwell, we had some MCL parts that were identical to the off
> the shelf part, except that they were screened for closer tolerances.
>
> Pete

Were you involved with either the SVR-4F or 55U3-1SC C-band
commercial Satellite receivers? A CATV company I worked for had piles of
the SVR-4F receivers that I repaired at our Cincinnati Ohio system. They
were shipped to me from all over the US because of the long turnaround
time for factory service. I still have a few parts from units that were
too expensive to fix. I have 10 Microwave Associates 3.4 to 4.2 GHz
isolators (7K75Z) sitting in front of me from the five units I scrapped.
I think I still have a number of modules for the 55U3-1SC in a box out
in my shop.

--
4 days!

Michael A. Terrell
Central Florida

4474. Re: Nice QST article on DX100 rebuild

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 19:10:08 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FE5F010.8060107@bellsouth.net>
Source record: 30091

John Walton wrote:
> who amongst us didn't start with a DX-35? the article in the January QST
> describing the rebirth of a basket-case DX-100 was a nice 5-minute read this
> past evening.
>
>

I'd like to have seen the photo of tube sockets hanging by the wiring!
Or did he completely 're-kit' the rig and rebuild?
Either way a nice job. I thought Drake was the only company that
used copper plated chassis (or was the C line built on solid copper
chassis?)

4475. Re: Nice QST article on DX100 rebuild

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 19:33:18 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bs4shu$p93$1@freenet9.carleton.ca>
Source record: 30092

kenneth scharf (wa2mze-spamnot-@bellsouth.net) writes:
> John Walton wrote:
>> who amongst us didn't start with a DX-35? the article in the January QST
>> describing the rebirth of a basket-case DX-100 was a nice 5-minute read this
>> past evening.
>>
>>
>
> I'd like to have seen the photo of tube sockets hanging by the wiring!
> Or did he completely 're-kit' the rig and rebuild?
> Either way a nice job. I thought Drake was the only company that
> used copper plated chassis (or was the C line built on solid copper
> chassis?)
>

There was an article in QST (or maybe CQ) within the past few years
by someone who had rebuilt a kit. He had stripped it down. Then he
cleaned off the chassis, and sent it out to be plated. And then he built
it up. I can't remember what he said about the parts he used, if he
used pretty much what was there, or replaced all but the unique parts.

Perhaps this latest article is by the same guy.

Michael VE2BVW

4476. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 19:39:36 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FE5F6F8.8070603@bellsouth.net>
Source record: 30093

Jeff Spidle wrote:
> hmmm, I have recently had the same discussion with my XYL, we have a 1 yr
> old.
>
> My self and another NASA trained ham, N9AEP, just completed teaching a
> soldering class for our ham club, Schaumburg Amateur Radio Club.
>
> The EU is going to require all soldering to be Pb free in 2004, I believe
> that all US manufacturers will be required to do so in '06. I'm sure I'll be
> corrected on the dates.
>
>
The reason for banning lead solder isn't that it is dangerous to people
using it,
but rather that old electronic equipment ends up in landfill and so does
the lead.
Auto batteries require special disposal for this reason. The idea is to
ban the use
of lead in all products (where possible) to eliminate disposal problems.

But just how good IS lead free solder? I guess it DOES work well in
plumbing
where it has been in use for many years.

If lead is insoluble in water, then WHY isn't it used in plumbing? The
small
amount that it IS soluble is the danger. Guess the Romans went mad due
to their
use of lead pipes (that's where the word plumber comes from, the latin
for lead
is plumbum, and the atomic symbol for lead is Pb). Could be the lead
pipes were
the reason for the fall of the empire?

4477. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 19:42:17 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FE5F799.9000200@bellsouth.net>
Source record: 30094

Uncle Peter wrote:
> "The Eternal Squire" <eternalsquire@comcast.net> wrote in message
> news:lo6dnXAoqYzrGX-i4p2dnA@comcast.com...
>
>>Hello everyone,
>>
>>My wife and I had been 'discussing' some of the effects of my hobby, such
>
> as
>
>>the possible exposure of my 2-month old baby girl to lead vapor from
>>soldering.
>
>
> Seriously, you'd better consider the effects of the fumes from the solder
> fluxes.
>
I used to use superglue to attach IC's to pc breadboards dead bug style.
How
about the fumes from heated superglue! (Burns your eyes!)

4478. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 20:09:58 UTC
From: Bill Turner <noway@nohow.com>
Message-ID: <vubvhbgc396713@corp.supernews.com>
Source record: 30095

kenneth scharf wrote:

> If lead is insoluble in water, then WHY isn't it used in plumbing?

Lead is NEARLY insoluble in water, but the more acid the water is, the more soluble it becomes.

And to answer your question, it WAS used in plumbing for many years until someone made the connection. Just like carbon tetrachloride for dry cleaning or asbestos for insulation.

--
Bill W6WRT

4479. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 21:18:03 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <f6oFb.772327$6C4.750297@pd7tw1no>
Source record: 30096

Andrew VK3BFA wrote:

> Who comes up with these things - now we have to go to a new solder
> formulation not as good as the old one - a bit like FREON - dont worry
> about the millions of Asian countries using FREON in the
> refridgerators, get the can out of the workshop and the world will be
> a better place. (the fact that the patents have expired on FREON but
> not the replacements is pure co-incidence, I'm sure...)
>

I'm just going to put my tin foil hat on and avoid the consipiracy rant
today ;-) But I think that freon comment has merit.

> I have been using lead based solder for 30 years - no precautions. For
> 20 years I was a cable jointer with Telecom wiping lead sleeves onto
> cable, using bar solder and a propane torch at the bottom of a ill
> ventilated manhole -the only precaution I took was not to use the same
> pocket knife I scraped lead with to cut my lunch - somtimes I did, but
> I ALWAYS wiped the blade on the grass before I did. 20 years of blood
> testing revealed NO higher levels of lead than general environmental
> exposure.
>

My biggest problem with solder was the flux. I used to work in 2way repair
and I had a small fan on the desk to blow the flux away or else my eyes
would burn.

> Andrew VK3BFA

--
Donovan Hill
VA7LNX (Basic, Advanced)

4480. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 21:26:56 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FE61020.4020800@bellsouth.net>
Source record: 29997

Bill Turner wrote:
> kenneth scharf wrote:
>
>> If lead is insoluble in water, then WHY isn't it used in plumbing?
>
>
> --------------------
>
> Lead is NEARLY insoluble in water, but the more acid the water is, the
> more soluble it becomes.
>
> And to answer your question, it WAS used in plumbing for many years
> until someone made the connection.

Like I said the word 'plumber' comes from the latin plumbum meaning
lead. Ancient Rome was the first to use lead pipes. Could be why
Nero was mad as a hatter.

4481. Re: test

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 22:02:06 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns9458E13E759C3kierenmail@195.129.110.204>
Source record: 29998

VA7LNX <spamtrap@gwsn.com> wrote in
news:qf9Fb.764386$pl3.18690@pd7tw3no:

> kenneth scharf wrote:
>
>> never mind
>
> Your test FAILED. It should've been seen in alt.test, but instead
> showed up here.
>
> Please contact your ISP and have them fix their news server so that it
> doesn't randomly spew posts across usenet.
>

... unless he was testing to see if his ISP did spew post across usenet.
If he were, his test was a blinding success.

;-)

4482. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 22:16:09 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-52C11D.17161021122003@news.verizon.net>
Source record: 29999

In article <3FE61020.4020800@bellsouth.net>,
kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote:

> Bill Turner wrote:
> > kenneth scharf wrote:
> >
> >> If lead is insoluble in water, then WHY isn't it used in plumbing?
> >
> >
> > _____________________
> >
> > Lead is NEARLY insoluble in water, but the more acid the water is, the
> > more soluble it becomes.
> >
> > And to answer your question, it WAS used in plumbing for many years
> > until someone made the connection.
>
> Like I said the word 'plumber' comes from the latin plumbum meaning
> lead. Ancient Rome was the first to use lead pipes. Could be why
> Nero was mad as a hatter.
>
>

I heard this. Their wine was being drunk from lead-lined flasks.

Al

--
There's never enough time to do it right the first time.....

4483. Weller TC-201P & later irons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 22:24:27 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <v4pFb.108311$8y1.330970@attbi_s52>
Source record: 30000

Comments Apply to the Weller WTCP series of soldering stations:

Weller / Cooper Tools changed the style and construction of the North American version of the TCP irons during the 1980's (From the original TCP-1 and TC-201 irons to the new TC-201P). This change corresponded to design changes to other Weller stations and products (specifically the "EC" series).

The most significant design change was the replacement of the "wired-in" heater (TC-208) used in the TCP-1 and TC-201 irons with a new plug-in heater (EC-234) first introduced with the TC-201P iron.

The replacement of a failed heater - was made simpler and allowed for a standardization of this heater with the heater used with the company's EC1201A soldering iron.

Unfortunately, if a user or technician needs to replace the SW60 magnistat switch or the line cord - the socket contacts (AMP Audio/Microphone connector socket contact) needs to be removed from the new black plastic insulator.

The specific AMP Extraction tool for this procedure is part number 91136-1. A "bobby pin" is suggested as an alternative in Weller's SW60 Magnistat switch instructions.

Greg
w9gb

BTW, regarding an earlier comment on repairing Weller WTCP series iron -- these AMP connectors were first made at AMP's Harrisburg, PA facility. That is about as close to a nuclear plant as this procedure will get.

4484. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 22:39:55 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <%ipFb.108374$8y1.331010@attbi_s52>
Source record: 30001
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

"Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
news:3FE3072B.A08AFB04@earthlink.net...
> Andrew VK3BFA wrote:
> > The Weller WTCP must be one of the simplest decent temperature
> > controlled irons on the market, mine runs 15hrs/day and does so year
> > in / year out. Sometimes more when I forget to turn it off - the new
> > ones don't have the neon in the mains switch so it does happen - I have
> > 2 of them now, one on each bench...

Actually Collins radio used the original TCP stations (black bakelite) on
their productions lines and for repair in the 1950s and 1960s
(5 of these from Collins surplus were the first ones that I repaired in
1975 - as I started college)

The original ones did not have the switch OR neon bulb ... and they ran 24
hours/day at Collins.

> The Weller stations were banned from the production line because of a
> surge in leakage current when the thermostat tripped in the heating
> element, and we were required to use irons with grounded tips that could
> reliably measure under three ohms from the hot tip to the electrical
> ground on the bench. They were replaced with Ungar "Loner" irons with
> electronic temperature control.

Darn shame, but components have changed as well as their tolerance to ESD.

> I have five dead Weller soldering stations I picked up that will need
> new irons, after someone tried to "Fix" them, and left the irons in
> pieces.

I assume the later WTCPS and WTCPT models? In addition to the ESD
requirement, "T" model changed the 3 amp fuse
on the transformer's secondary (to protect transformer from a heater short)
to a 6/10 amp fuse on the transformer primary
(and an MOV across primary on some models).

Greg
w9gb

4485. QRP Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-21 22:43:41 UTC
From: rhockenberry@verizon.net
Message-ID: <3d9a0169.14028026@news.verizon.net>
Source record: 30002

ANyone know of any good web pages for QRP projects?

Ross Hockenberry
rhockenberry@verizon.net

KB8WLX

4486. Re: QRP Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 00:01:51 UTC
From: swells8044@aol.com
Message-ID: <20031221190151.01665.00001428@mb-m18.aol.com>
Source record: 30003

www.Amqrp.org

4487. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 00:27:52 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FE63A64.CF6A0894@earthlink.net>
Source record: 30004
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

"G.Beat" wrote:
>
> "Michael A. Terrell" <mike.terrell@earthlink.net> wrote in message
> news:3FE3072B.A08AFB04@earthlink.net...
> > Andrew VK3BFA wrote:
> > > The Weller WTCP must be one of the simplest decent temperature
> > > controlled irons on the market, mine runs 15hrs/day and does so year
> > > in / year out. Sometimes more when I forget to turn it off - the new
> > > ones don't have the neon in the mains switch so it does happen - I have
> > > 2 of them now, one on each bench...
>
> Actually Collins radio used the original TCP stations (black bakelite) on
> their productions lines and for repair in the 1950s and 1960s
> (5 of these from Collins surplus were the first ones that I repaired in
> 1975 - as I started college)
>
> The original ones did not have the switch OR neon bulb ... and they ran 24
> hours/day at Collins.
>
> > The Weller stations were banned from the production line because of a
> > surge in leakage current when the thermostat tripped in the heating
> > element, and we were required to use irons with grounded tips that could
> > reliably measure under three ohms from the hot tip to the electrical
> > ground on the bench. They were replaced with Ungar "Loner" irons with
> > electronic temperature control.
>
> Darn shame, but components have changed as well as their tolerance to ESD.
>
> > I have five dead Weller soldering stations I picked up that will need
> > new irons, after someone tried to "Fix" them, and left the irons in
> > pieces.
>
> I assume the later WTCPS and WTCPT models? In addition to the ESD
> requirement, "T" model changed the 3 amp fuse
> on the transformer's secondary (to protect transformer from a heater short)
> to a 6/10 amp fuse on the transformer primary
> (and an MOV across primary on some models).
>
> Greg
> w9gb

I don't know which model they were using. They were pulled from the
production floor a year before I was hired. They were in storage in a

separate building, and I was never able to get my hands on them They were probably destroyed last year when the plant was closed and moved to Pennsylvania. I kept hearing the old timers complain about the new irons because they had used the Wellers for years, and didn't like to do the extra maintenance on their "Loner" irons.
--
4 days!

Michael A. Terrell
Central Florida

4488. Re: QRP Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 00:32:30 UTC
From: Freddie <brianNOSPAM86@iquest.net>
Message-ID: <yYqFb.8404$wL6.861@newsread1.news.atl.earthlink.net>
Source record: 30005

ARRL website has a ton of QRP project stuff, search the ARRL TIS pages.

http://www.arrl.org/tis/info/qrphome.html

"Ross Hockenberry" <rhockenberry@verizon.net> wrote in message
news:3d9a0169.14028026@news.verizon.net...
> ANyone know of any good web pages for QRP projects?
>
>
> Ross Hockenberry
> rhockenberry@verizon.net
>
> KB8WLX
>

4489. Re: QRP Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 00:45:56 UTC
From: Freddie <brianNOSPAM86@iquest.net>
Message-ID: <89rFb.8430$wL6.5355@newsread1.news.atl.earthlink.net>
Source record: 30006

Here's some more QRP sites worth noting:

http://www.qrparci.org/arcitech.htm

http://cs.okanagan.bc.ca/ve7ouc/eng/kc6wdk-mirror/crystaltester.html

http://www.qrp4u.de/index_en.html

http://www.aade.com/

http://www.qsl.net/g4fon/

http://www.qrpp-i.com/

http://www.fpqrp.com

http://www.kitsandparts.com

http://www.gqrp.com/ - the GQRP club of the UK offers a fantastic CD of projects, they have every issue of SPRAT on a CD for less then $20 USA. Enough projects to keep you busy all winter and then some.

"Ross Hockenberry" <rhockenberry@verizon.net> wrote in message news:3d9a0169.14028026@news.verizon.net...
> ANyone know of any good web pages for QRP projects?
>
>
> Ross Hockenberry
> rhockenberry@verizon.net
>
> KB8WLX
>

4490. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 01:21:00 UTC
From: mikea@mikea.ath.cx
Message-ID: <bs5gts$61d$1@puck.litech.org>
Source record: 30007

Al <no.spam@here.com> wrote:
> In article <3FE61020.4020800@bellsouth.net>,
> kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote:

> > Like I said the word 'plumber' comes from the latin plumbum meaning
> > lead. Ancient Rome was the first to use lead pipes. Could be why
> > Nero was mad as a hatter.

> I heard this. Their wine was being drunk from lead-lined flasks.

Well, no, not so far as I've found. But they _did_ use lead water
piping, and they _did_ use lead acetate ("sugar of lead") as a
condiment.

The first is bad only where the water's mildly acidic.

The _second_ is Just Plain Bad.

--
Mike Andrews
mikea@mikea.ath.cx
Tired old sysadmin

4491. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 01:27:30 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bs5ha2$8k5$1@freenet9.carleton.ca>
Source record: 30008

Bill Turner (noway@nohow.com) writes:
> On Sun, 21 Dec 2003 16:26:56 -0500, kenneth scharf
> <wa2mze-spamnot-@bellsouth.net> wrote:
>
>> Ancient Rome was the first to use lead pipes. Could be why
>>Nero was mad as a hatter.
>
> ____________________
>
> What would explain the rest of the population being normal? Did they
> have bottled water? :-)
>
> --
> Bill W6WRT
>
A guess would be that plumbing was a luxury, for a few in the upper
class. The rest of us had to carry water from the well, avoiding
lead pipes.

Michael VE2BVW

4492. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 01:46:24 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <Q1sFb.4129$Vv2.1249144@news1.news.adelphia.net>
Source record: 30009

kenneth scharf wrote:

> Jeff Spidle wrote:
>
>> hmmm, I have recently had the same discussion with my XYL, we have a 1 yr
>> old.
>>
>> My self and another NASA trained ham, N9AEP, just completed teaching a
>> soldering class for our ham club, Schaumburg Amateur Radio Club.
>>
>> The EU is going to require all soldering to be Pb free in 2004, I believe
>> that all US manufacturers will be required to do so in '06. I'm sure
>> I'll be
>> corrected on the dates.
>>
>>
> The reason for banning lead solder isn't that it is dangerous to people
> using it,
> but rather that old electronic equipment ends up in landfill and so does
> the lead.
> Auto batteries require special disposal for this reason. The idea is to
> ban the use
> of lead in all products (where possible) to eliminate disposal problems.
>
> But just how good IS lead free solder? I guess it DOES work well in
> plumbing
> where it has been in use for many years.
>
> If lead is insoluble in water, then WHY isn't it used in plumbing? The
> small
> amount that it IS soluble is the danger. Guess the Romans went mad due
> to their
> use of lead pipes (that's where the word plumber comes from, the latin
> for lead
> is plumbum, and the atomic symbol for lead is Pb). Could be the lead
> pipes were
> the reason for the fall of the empire?
>

They were poisoning themselves with lead, but it wasn't from the
plumbing. The water that was carried to Rome from the aqueducts was
extremely hard, and a layer of calcium formed on the interior of the
pipes just about immediately after being put in use.

Where they got their lead was from storage containers for wine. They used lead containers for this! I believe they credited the lead with preservative powers. The acidic wine pulled a lot of lead out ot the container and into the gullets of the drinkers.

- Mike -

4493. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 01:58:17 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <ZcsFb.4134$Vv2.1251236@news1.news.adelphia.net>
Source record: 30010

Mike Andrews wrote:

> Al <no.spam@here.com> wrote:
>
>>In article <3FE61020.4020800@bellsouth.net>,
>> kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote:
>
>
>>>Like I said the word 'plumber' comes from the latin plumbum meaning
>>>lead. Ancient Rome was the first to use lead pipes. Could be why
>>>Nero was mad as a hatter.
>
>
>>I heard this. Their wine was being drunk from lead-lined flasks.
>
>
> Well, no, not so far as I've found. But they _did_ use lead water
> piping, and they _did_ use lead acetate ("sugar of lead") as a
> condiment.
>
> The first is bad only where the water's mildly acidic.
>
> The _second_ is Just Plain Bad.
>

Here is a good link on lead compounds:

http://www.luminet.net/~wenonah/hydro/pb.htm

- Mike -

4494. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 03:13:33 UTC
From: The Eternal Squire <eternalsquire@comcast.net>
Message-ID: <LcedndEA-NuTxnuiRVn-hQ@comcast.com>
Source record: 30011

This line of discussion is not useful.

Is it that "real hams" have to use leaded solder?

Come on! Isn't there anyone out there actually useing lead free solder in
thier circuits?

Thanks,

The Eternal Squire
Mike Coslo <mcoslo@adelphia.net> wrote in message
news:ZcsFb.4134$Vv2.1251236@news1.news.adelphia.net...
> Mike Andrews wrote:
>
> > Al <no.spam@here.com> wrote:
> >
> >>In article <3FE61020.4020800@bellsouth.net>,
> >> kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote:
> >
> >
> >>>Like I said the word 'plumber' comes from the latin plumbum meaning
> >>>lead. Ancient Rome was the first to use lead pipes. Could be why
> >>>Nero was mad as a hatter.
> >
> >
> >>I heard this. Their wine was being drunk from lead-lined flasks.
> >
> >
> > Well, no, not so far as I've found. But they _did_ use lead water
> > piping, and they _did_ use lead acetate ("sugar of lead") as a
> > condiment.
> >
> > The first is bad only where the water's mildly acidic.
> >
> > The _second_ is Just Plain Bad.
> >
>
> Here is a good link on lead compounds:
>
>
> http://www.luminet.net/~wenonah/hydro/pb.htm
>
> - Mike -
>

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03

4495. Re: Weller TC-201P & later irons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 03:13:39 UTC
From: Jim Adney <jadney@vwtype3.org>
Message-ID: <t1ocuv41rljjpqlnoh8r920akhip95roce@4ax.com>
Source record: 30012

On Sun, 21 Dec 2003 22:24:27 GMT "G.Beat"
<now9spamgb@spam.comcast.net> wrote:

>Unfortunately, if a user or technician needs to replace the SW60 magnistat
>switch or the line cord - the socket contacts (AMP Audio/Microphone
>connector socket contact) needs to be removed from the new black plastic
>insulator.

Is this for the female pins in the base? THose pins are the only
consistent source of trouble that I've ever had in over 25 years of
using the WTCP? series of Weller irons. Weller went thru several
generations of WTCP irons where some of those pins were crimped onto
tinned magnet wire. The crimps generally lose good contact within a
year and generate heat in the socket, which melts the connector body.

I LOVE these solder stations, but the very first thing I always do is
take those pins out and solder them.

>The specific AMP Extraction tool for this procedure is part number 91136-1.
>A "bobby pin" is suggested as an alternative in Weller's SW60 Magnistat
>switch instructions.

I think I'll order one of the AMP extractors. I've always had a hard
time getting these apart gracefully. Thanks for the info.

-

Jim Adney jadney@vwtype3.org
Madison, WI 53711 USA

4496. Re: test

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 04:54:49 UTC
From: VA7LNX <spamtrap@gwsn.com>
Message-ID: <tOuFb.775316$pl3.178100@pd7tw3no>
Source record: 30013

Kieren wrote:

> VA7LNX <spamtrap@gwsn.com> wrote in
> news:qf9Fb.764386$pl3.18690@pd7tw3no:
>
>> kenneth scharf wrote:
>>
>>> never mind
>>
>> Your test FAILED. It should've been seen in alt.test, but instead
>> showed up here.
>>
>> Please contact your ISP and have them fix their news server so that it
>> doesn't randomly spew posts across usenet.
>>
>
> ... unless he was testing to see if his ISP did spew post across usenet.
> If he were, his test was a blinding success.
>
> ;-)

Hey hey hey! My mind is made up. Don't confuse me with the facts! ;-) :-P

--
Donovan Hill
VA7LNX (Basic, Advanced)

4497. Pixie 2 freq change question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 05:32:25 UTC
From: jim&julz <shrumj@spamsucks.madisontelco.com>
Message-ID: <bs5v8a$2s27$1@news3.infoave.net>
Source record: 30014

Greetings,
I have been planning to mod my pixie 2 as to switch between multiple xtals/inductors for changing between 80/40/20 etc...

I was going to use a rotary switch to change to the different inductor and xtal, depending on the selected band. However, I realize that the inductors will be about 2 inches from the main board since it will be wired into the rotary switch. Will this additional wiring greatly change my inductance? I assumed that it would, but I wanted some more experienced opinions.

Thanks...

James Shrum
KC9FFX

4498. Re: Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 06:19:21 UTC
From: w0cbf@yahoo.com
Message-ID: <648b97c1.0312212219.2b6d43b9@posting.google.com>
Source record: 30015
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

Ted <Notthisway@lostinthewoods.org> wrote in message
news:<ufjEb.18267$G9.11824@nwrddc01.gnilink.net>...
> john graesser wrote:
> > "Ted" <Notthisway@lostinthewoods.org> wrote in message
> > news:ba_Db.22430$xO.14168@nwrddc02.gnilink.net...
> >
> >>I'm building a kit that Ramsey doesn't sell any longer. I recently read
> >>the QST equipment review on this radio and found that Ramsey used to
> >>provide a mod kit to eliminate spurious emissions. Ramsey no longer has
> >>that kit and doesn't seem to have any information about the components
> >>or circuit modifications. I've already checked the typical mod sites.
> >>Anyone have any ideas?
> >
> >
> > I'd say get rid of that piece of junk and get the Tentec 2 meter radio kit,
> > I built the 6 meter version and it went together like a charm.
> >
> > Someone here locally had the Ramsey 440 kit, and after building it and
> > finding that it wouldn't work found out that the design was flawed from the
> > start and it could never work.
> > thanks, John.
> > KC5DWD
> >
> >
> Thanks for the encouraging words. I'm going to build the Ten-Tec next,
> this was a step towards gaining some experience with kits, but thanks
> anyway.

I have built several of the Ramsey and sorry to say that the other
guys were right. I never was satisfied with any of their performance.
I also have built a couple of the Ten Tec kits and found them to far
superior to the ramsey units.

Just my 2 cents.
73's
Chuck
Wï¿½CBF

4499. Re: QRP Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 09:59:15 UTC
From: pake@extrafoi.se
Message-ID: <pake-0101040204080001@dhcp-032-102.foi.se>
Source record: 30016

In article <3d9a0169.14028026@news.verizon.net>, rhockenberry@verizon.net (Ross Hockenberry) wrote:

> ANyone know of any good web pages for QRP projects?
>
>
> Ross Hockenberry
> rhockenberry@verizon.net
>
> KB8WLX

http://ruqrp.narod.ru/index_e.html
http://www.qsl.net/qrp/
http://www.njqrp.org/
http://www.intio.or.jp/jf10zl/
http://www.gqrp.com/
http://noname.cmpe.ubc.ca/pierre/hbradios.htm
http://www.qsl.net/la3za/

Home Brew (+ qrp):

http://www.qsl.net/7n3wvm/
http://hem2.passagen.se/sm0vpo/
http://www.circuitsage.com/
http://www.antentop.bel.ru/
http://www.rason.org/Projects/projects.htm
http://homepage.eircom.net/~ei9gq/index.html
http://www.qrp.pops.net/
http://www.keirle.fsnet.co.uk/

Software:

http://www.btinternet.com/~g4fgq.regp/page3.html#S301%22

Forum:

http://www.e-discounter.net/qrparci/
http://listserv.lehigh.edu/lists/Archives/qrp-l/subject.html

Links to QRP:

http://www.amqrp.org/misc/links.html
http://www.qsl.net/ok1dpx/favorites/favorites.htm
http://www.k1dwu.net/ham-links/qrp.phtml
http://www.qsl.net/ve6bpr/
http://www.directory.net/Recreation/Radio/Amateur/Homebrew/
http://members.fortunecity.com/xe1bef/projects.htm

http://www.qrpworld.com/qrplinks.htm
http://www.ac6v.com/

Gl es HNY
/Per-Ake

--
Remove "extra" in my e-mail adress !!

4500. Re: Minicircuits Labs products

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 10:46:03 UTC
From: Roberto IZ5FCY <iz5fcy@_MAI_SPAM_jumpy.it>
Message-ID: <LXzFb.34036$0w.1742231@news2.tin.it>
Source record: 30017

I'm sorry, but in Italy also is IMPOSSIBLE to find & buy Minicircuits items,
in small quantities.

Minicircuit are a good advertisement only.....

Roberto IZ5FCY

Merry Xmas and happy New Year to all NG

4501. Re: Weller TC-201P & later irons

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 13:34:18 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <upCFb.111900$8y1.347222@attbi_s52>
Source record: 30018

"Jim Adney" <jadney@vwtype3.org> wrote in message
news:t1ocuv41rljjpqlnoh8r920akhip95roce@4ax.com...
> On Sun, 21 Dec 2003 22:24:27 GMT "G.Beat"
> <now9spamgb@spam.comcast.net> wrote:
>
> >Unfortunately, if a user or technician needs to replace the SW60
magnistat
> >switch or the line cord - the socket contacts (AMP Audio/Microphone
> >connector socket contact) needs to be removed from the new black plastic
> >insulator.
>
> Is this for the female pins in the base? THose pins are the only
> consistent source of trouble that I've ever had in over 25 years of
> using the WTCP? series of Weller irons. Weller went thru several
> generations of WTCP irons where some of those pins were crimped onto
> tinned magnet wire. The crimps generally lose good contact within a
> year and generate heat in the socket, which melts the connector body.
>
> I LOVE these solder stations, but the very first thing I always do is
> take those pins out and solder them.
>
> >The specific AMP Extraction tool for this procedure is part number
91136-1.
> >A "bobby pin" is suggested as an alternative in Weller's SW60 Magnistat
> >switch instructions.
>
> I think I'll order one of the AMP extractors. I've always had a hard
> time getting these apart gracefully. Thanks for the info.

Jim -

Yes, I was referring to the "Socket" connectors (AMP Part number: 207437-2
or 207437-3)
in the black plastic insulator [the pins (3) are on the Weller EC234 plug-in
heater assembly]

Here are the specific AMP document ID's / web page reference.

Audio/Microphone Connectors - Specification Or Standard (Application
Specification): 114-10011

AMP* EXTRACTION TOOL 91136-1 Specification Or Standard (Instruction Sheet
(U.S.): 408-7859

Catalog Page AUDIO/INSTRUMENT CONNECTORS: 82053_0794_2

http://ecommas.tycoelectronics.com/commerce/DocumentDelivery/DDEController

The tool is available from DigiKey and Mouser (I do not remember which one had the AMP tool in stock) -
BUT it is NOT cheap (as I remember - over $ 25)

BTW, TYCO Electronics may have changed this original AMP part number - since it took both Mouser and DigiKey a bit of time to cross reference the part number.

Greg
w9gb

4502. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 13:42:35 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-2D6923.08423622122003@news.verizon.net>
Source record: 30019

In article <LcedndEA-NuTxnuiRVn-hQ@comcast.com>,
"The Eternal Squire" <eternalsquire@comcast.net> wrote:

> This line of discussion is not useful.
>
> Is it that "real hams" have to use leaded solder?
>
> Come on! Isn't there anyone out there actually useing lead free solder in
> thier circuits?
>
> Thanks,
>

Even if you used lead free solder, you would not be lead free. After all, your component leads and your printed circuit boards use tin/lead solder to insure solderability. Until all of the components are lead free, you will be chasing smoke. this is especially true when repairing old electronics.

If you use a non-lead solder with leaded components, you will most likely creat brittle intermetallics which will greatly reduce the reliability of your equipment. The biggest problem to date is the intermixing of various solder compostions. Uncontrolled mixtures with unknown proberties are created.

Yes, I know, there are lead free leaded components. For example, gold plated leads on ICs. But, these do create brittle intermetallics if the solering process is not exact. And I doubt it is exact when using a soldering iron.

A few years ago, I worked in a lab where we evaluated various solders for our customers. Things may have changed since then, but believe me, you don't want to do it yet.

Al

--
There's never enough time to do it right the first time.......

4503. Re: Pixie 2 freq change question

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 16:13:32 UTC
From: fmmck@aol.com
Message-ID: <20031222111332.09564.00001412@mb-m17.aol.com>
Source record: 30020

<< I was going to use a rotary switch to change to the different inductor and xtal, depending on the selected band. However, I realize that the inductors will be about 2 inches from the main board since it will be wired into the rotary switch >>

James-

At these frequencies the difference in inductance will probably require a slightly different capacitor setting, but that shouldn't be a problem.

I would be more concerned about coupling of energy from the coils back into a circuit at an earlier stage, such as to the crystals. This might result in an unexpected oscillation at some frequency other than intended, in addition to the intended frequency. If that occurred, there would be mixing of the two frequencies, generating sums and differences of the fundamentals and their harmonics.

You might consider two separate switches for inductors and crystals, keeping them separated as much as possible. Otherwise, look for a multiple-wafer switch with a LONG shaft to separate the wafers.

73, Fred, K4DII
(My amplifiers oscillate, but my oscillators don't!)

4504. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 16:20:40 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <QlJFb.27246$R6.5650192@newsfep2-win.server.ntli.net>
Source record: 30027

> Even if you used lead free solder, you would not be lead free. After
> all, your component leads and your printed circuit boards use tin/lead
> solder to insure solderability. Until all of the components are lead
> free, you will be chasing smoke. this is especially true when repairing
> old electronics.
>
> If you use a non-lead solder with leaded components, you will most
> likely creat brittle intermetallics which will greatly reduce the
> reliability of your equipment. The biggest problem to date is the
> intermixing of various solder compostions. Uncontrolled mixtures with
> unknown properties are created.
>
> Yes, I know, there are lead free leaded components. For example, gold
> plated leads on ICs. But, these do create brittle intermetallics if the
> solering process is not exact. And I doubt it is exact when using a
> soldering iron.
>
> A few years ago, I worked in a lab where we evaluated various solders
> for our customers. Things may have changed since then, but believe me,
> you don't want to do it yet.
==========
Considering the above , I shall stock up with solder currently available eg
with lead.
Even when it is stated (in another message earlier in this thread) that only
'fresh' rosin core solder will give the best results.

Frank GM0CSZ /KN6WH located in EU

4505. Re: QRP Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 16:50:39 UTC
From: Keyboard In The Wilderness <KIYW@zilch.net>
Message-ID: <AhFFb.36593$m83.22878@fed1read01>
Source record: 30021

Try AC6V's QRP Pages -- URL:
http://ac6v.com/qrp.htm

--
73 From The Wilderness Keyboard

"> (Ross Hockenberry) wrote:
>
> > ANyone know of any good web pages for QRP projects?
> >
> >
> > Ross Hockenberry
> > rhockenberry@verizon.net
> >
> > KB8WLX
>

4506. FS: Sierra 121 Tunable VTVM/VLF Rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 16:59:32 UTC
From: Walter Treftz <pendragon@netsignia.net>
Message-ID: <3FE722DF.1816ED15@netsignia.net>
Source record: 30022

FS: Sierra 121-A, tunable VTVM

Freq range: 10khz - 510 khz

Controls:
Attn Steps: -60/.001, -50/.003, -40/.01, -30/.03, -20/.1, -10/.3,
and 0/1
Input Level: 0/1, +10/3, +20/10, +30/30, +40/100
Injector Sw: CAL & REC
Meter Sw: CAL & REC
IF & AF gains
Headphone jack on front panel
Meter Scales: -10 to +2 db, 0-1v & 0-3v

Comes with manual copy and my parts replacement notes.

I got this at a hamfest with intent of using for VLF rcvr. Bought
a manual and started replacing parts (leaky caps, out-of-
tolerance resistors, etc) even though it was working (having
never used one, had no idea if it was working well or not but
signal generator punches through). THEN, couple weeks ago picked
up a Sierra 128-A (same gadget) at another 'fest and it appears
this is the one to keep (rack-mount like rest of my station,
solid-state, much larger freq range - DC to about 15 mhz, etc.)

Can send digital pix if desired.

If interested, make a reasonable offer. Buyer pays shipping.
No extra charge to pack up and haul to USPO or UPS. If in central
Florida, can deliver (Gainesville to St.Pete)
for gas or beer.

Any questions, contact direct at --
--- pendragon@netsignia.net
--- hvalver/at/hotmail/dot/com
--- rosemarytreftz/at/yahoo/dot/com

or (352) 637-1755

73 Walt (N4GL)

BTW, if anyone reading this has a 128-A and the manual, would
like to hear from them re getting a copy.

4507. Help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 18:52:19 UTC
From: The Genie <the_genie@btopenworld.com>
Message-ID: <bs7eh2$45k$1@titan.btinternet.com>
Source record: 30023

Hi,
Can anyone please help?
I have acquired a gunn diode module with a paper label MA0169 on it
which someone has changed to read MA0168.
Question = where can I get data on it?

4508. Info wanted: Yaesu FR50B

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 19:22:04 UTC
From: Ronald Price <ron.price2@virgin.net>
Message-ID: <IwHFb.373$Eu.422496@newsfep1-win.server.ntli.net>
Source record: 30024

Hi all,

I am in the process of restoring a FR50B and need a diagram showing the
layout of the coils and trimmers.
Anyone able to help me?

Regards,

Ron.

4509. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 19:24:18 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vueh7362loo9e9@corp.supernews.com>
Source record: 30025

The Eternal Squire wrote:
> This line of discussion is not useful.
>
> Is it that "real hams" have to use leaded solder?
>
> Come on! Isn't there anyone out there actually useing lead free solder in
> thier circuits?
>

I strongly suspect that the answer is no.

So you have a chance to lead (with a long e) the charge. Please keep us posted on how it works out.

Roy Lewallen, W7EL

4510. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 19:50:51 UTC
From: Harvey Babb <WB5MCT@arrl.net>
Message-ID: <3FE74B1B.4030105@arrl.net>
Source record: 30026
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

While you're at it, check one more thing! If the problem turns out to be welded contacts on the thermostat switch, check that the MOV across the secondary of the transformer is still good. I had one that repeatedly welded the contacts till I replaced the MOV and has worked for 5 years now without a problem.

Joshua G Senecal wrote:

> On Fri, 19 Dec 2003, G.Beat wrote:
> Wow, I didn't think that my question would generate so many responses!
> Thanks everyone for your input.
>
>
>>The Red-Glow tells you 2 things:
>>
>>1. The heater (Weller EC234) is still working (but you are shortening its
>>life operating in this manner - cherry red)
>>
>
> Well, I don't operate with it cherry red. This is the first time it's done
> that--hence my knowing that something is amiss.
>
>
>>2. The WTCP series temperature control (which works with the "PT" tip and
>>the SW60 switch) is not working properly.
>>
>
>>Recommend: Change tips. Improper tips will cause this problem.
>>Get a Weller PTA7 (which is the standard tip shipped with this iron).
>>The barrel net (BA-60 may also require replacement.
>>
>
> I'll take a look and see. The station came with two tips, both #7, but in
> the 11-odd years I've owned the iron I've never used the second one.
>
>
>>I also have the Weller Tech Sheet for this model -- if you need
>>a copy. This has part numbers, diagrams and troubleshooting advice (shipped
>>with every unit new)
>>
>
> Actually, I would like a copy, thank you. Since I got mine at a yard sale
> I don't have any documentation. Please e-mail to
> jgsenecal@mapson.ucdavis.edu, removing the reversed "nospam" first.

>
> -Josh, AE6IQ
>
>

4511. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 21:40:49 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <FyJFb.27266$R6.5667420@newsfep2-win.server.ntli.net>
Source record: 30029
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

> While you're at it, check one more thing! If the problem turns out to be
> welded contacts on the thermostat switch, check that the MOV across the
> secondary of the transformer is still good. I had one that repeatedly
> welded the contacts till I replaced the MOV and has worked for 5 years
> now without a problem.
==========

Not having such a Weller soldering iron myself ,nevertheless I am interested in the MOV (firing) voltage against the normal operating voltage . Also , is it DC or AC ?

Frank GM0CSZ / KN6WH

4512. Re: Ramsey FX-146

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 21:41:41 UTC
From: Ted <Notthisway@lostinthewoods.org>
Message-ID: <pyJFb.728$NZ1.49@nwrddc02.gnilink.net>
Source record: 30028
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur,rec.radio.amateur.homebrew

Here is the mod for the board version I have in case someone else is ever interested.

"The only modification I show for reducing spurs on the FX146 Rev. 1.3 is to place a 0.001 uF capacitor from TP1 to ground."

I figure if it even works - that is good for me as this was a lesson in soldering. With what I've learned from the different kits I've been working on, I'm ready now to tackel my Elecraft K2

4513. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 21:46:15 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <gcpeuvsgef2kalhj669ipl71md7impcahr@4ax.com>
Source record: 30030

On Mon, 22 Dec 2003 16:20:40 -0000, "Frank Dinger"
<gm0cszx.xkn6wh@ntlworld.com> wrote:

>> Even if you used lead free solder, you would not be lead free. After
>> all, your component leads and your printed circuit boards use tin/lead
>> solder to insure solderability. Until all of the components are lead
>> free, you will be chasing smoke. this is especially true when repairing
>> old electronics.
>>
>> If you use a non-lead solder with leaded components, you will most
>> likely creat brittle intermetallics which will greatly reduce the

>> A few years ago, I worked in a lab where we evaluated various solders
>> for our customers. Things may have changed since then, but believe me,
>> you don't want to do it yet.
>==================================
>Considering the above , I shall stock up with solder currently available eg
>with lead.
>Even when it is stated (in another message earlier in this thread) that only
>'fresh' rosin core solder will give the best results.
>
>Frank GM0CSZ /KN6WH located in EU
>
I would agree.

Just like with house painting, using oil-based over oil-based paint,
and latex over latex paint, you really don't want to mix.

Although the metallurgy of mixing different solders could be
fascinating, the performance might not be, especially in harsh
environments (temp cycles or physical roughness).

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4514. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-22 22:25:17 UTC
From: "G.Beat" <now9spamgb@spam.comcast.net>
Message-ID: <gbKFb.619163$HS4.4525398@attbi_s01>
Source record: 30031
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

"Frank Dinger" <gm0cszx.xkn6wh@ntlworld.com> wrote in message
news:FyJFb.27266$R6.5667420@newsfep2-win.server.ntli.net...
> > While you're at it, check one more thing! If the problem turns out to be
> > welded contacts on the thermostat switch, check that the MOV across the
> > secondary of the transformer is still good. I had one that repeatedly
> > welded the contacts till I replaced the MOV and has worked for 5 years
> > now without a problem.
> ============================
> Not having such a Weller soldering iron myself ,nevertheless I am
interested
> in the MOV (firing) voltage against the normal operating voltage . Also ,
is
> it DC or AC ?
>
> Frank GM0CSZ / KN6WH
>

There are no rectifiers in the WTCP series base ... all AC. Weller does
make a heater for this series that
works at 12 volts (DC) for mobile work.

gb

4515. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 03:50:40 UTC
From: Harvey Babb <WB5MCT@arrl.net>
Message-ID: <3FE7BB90.3090103@arrl.net>
Source record: 30032
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

The MOV (Metal Oxide Varistor) is a surge supressor whose only function
is to absorb the "kick" when the mechanical thermostat opens (or
"bounces" when closing). The one in the Weller unit (if memory serves)
clamps the voltage at about 40 volts (Transformer secondary is 24 VAC).
If it isn't working properly the thermostat contacts arc and weld shut,
causing runaway overheating.

Frank Dinger wrote:

>>While you're at it, check one more thing! If the problem turns out to be
>>welded contacts on the thermostat switch, check that the MOV across the
>>secondary of the transformer is still good. I had one that repeatedly
>>welded the contacts till I replaced the MOV and has worked for 5 years
>>now without a problem.
>>
> ============================
> Not having such a Weller soldering iron myself ,nevertheless I am interested
> in the MOV (firing) voltage against the normal operating voltage . Also , is
> it DC or AC ?
>
> Frank GM0CSZ / KN6WH
>
>
>
>
>
>

4516. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 04:26:03 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <vtPFb.4745$Vv2.1576303@news1.news.adelphia.net>
Source record: 30033

The Eternal Squire wrote:
> This line of discussion is not useful.
> Is it that "real hams" have to use leaded solder?

Easy there Mr Squire!
>
> Come on! Isn't there anyone out there actually useing lead free solder in
> thier circuits?

There probably aren't a whole lot. If you looked at the Kester Pages,
you can see that the other solders are at best a compromise. Lead isn't
used in solder because of some coonspiracy among Troglodyte hams, ist is
used because it works bery well. Most other solders either need a large
amount of heat, don't flow well, have poor wetting, or are brittle.

http://www.efunda.com/materials/solders/types.cfm

has a nice comparison between types

http://www.aimsolder.com/techarticles/Antimony%20Study.pdf

is a nice pdf regarding Antimony containig solder

Here is a page of links that has some interestinf info:

http://www.aimsolder.com/lead_free.cfm?section=articles

Especially the:

Materials and Process Considerations for Lead-Free Electronics Assembly

BOttoom line is that using tin lead solders is not particularly
dangerous from a user perspective, that it is a problem in landfills,
and that there are interesting considerations if you want to use other
types of solder.

Might as well learn all ya can!

- Mike -

> Thanks,
>
> The Eternal Squire
> Mike Coslo <mcoslo@adelphia.net> wrote in message
> news:ZcsFb.4134$Vv2.1251236@news1.news.adelphia.net...
>
>>Mike Andrews wrote:
>>
>>

>>>Al <no.spam@here.com> wrote:
>>>
>>>
>>>>In article <3FE61020.4020800@bellsouth.net>,
>>>>kenneth scharf <wa2mze-spamnot-@bellsouth.net> wrote:
>>>
>>>
>>>>>>Like I said the word 'plumber' comes from the latin plumbum meaning
>>>>>>lead. Ancient Rome was the first to use lead pipes. Could be why
>>>>>>Nero was mad as a hatter.
>>>
>>>
>>>>>>I heard this. Their wine was being drunk from lead-lined flasks.
>>>
>>>
>>>Well, no, not so far as I've found. But they _did_ use lead water
>>>piping, and they _did_ use lead acetate ("sugar of lead") as a
>>>condiment.
>>>
>>>The first is bad only where the water's mildly acidic.
>>>
>>>The _second_ is Just Plain Bad.
>>>
>>
>>Here is a good link on lead compounds:
>>
>>
>>http://www.luminet.net/~wenonah/hydro/pb.htm
>>
>>- Mike -
>>
>
>
>
> ---
> Outgoing mail is certified Virus Free.
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.551 / Virus Database: 343 - Release Date: 12/11/03
>
>

4517. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 04:28:16 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <AvPFb.4749$Vv2.1575798@news1.news.adelphia.net>
Source record: 30034

Roy Lewallen wrote:

> The Eternal Squire wrote:
>
>> This line of discussion is not useful.
>>
>> Is it that "real hams" have to use leaded solder?
>>
>> Come on! Isn't there anyone out there actually useing lead free
>> solder in
>> thier circuits?
>>
>
> I strongly suspect that the answer is no.
>
> So you have a chance to lead (with a long e) the charge. Please keep us
> posted on how it works out.

I'm in no hurry to dump tin lead, but I'm curious why tin/antimony isn't used more, unless it is because of the likelyhood of comeing into contact with lead.

- Mike -

4518. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 04:29:34 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <OwPFb.4750$Vv2.1577029@news1.news.adelphia.net>
Source record: 30035

Frank Dinger wrote:

> Considering the above , I shall stock up with solder currently available eg
> with lead.
> Even when it is stated (in another message earlier in this thread) that only
> 'fresh' rosin core solder will give the best results.

Just get some external rosin and you will be fine.

- Mike -

4519. Re: HV Bias Supply Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 06:01:19 UTC
From: averyfineman@aol.com
Message-ID: <20031223010119.06226.00002137@mb-m19.aol.com>
Source record: 30036

In article <NJnEb.9508$Pg1.760@newsread1.news.pas.earthlink.net>, "KD7TOG"
<kd7tog@earthlink.net> writes:

>Thanks all for the ideas ... I have a couple of potential solutions.
>
>Tony, KD7TOG

This isn't a direct solution but it looked interesting if someone wants
to try it - Harry Lythall's accidental discovery of an LM317 series
voltage regulator as an RF oscillator at low HF.

http://w1.859.telia.com/~u85920178/tx/317-tx.htm

Use a toroidal core and/or a multiplying rectifier and the voltage could
be sizeable.

Len Anderson
retired (from regular hours) electronic engineer person

4520. Mechanically rotating your yagi to change polarization

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 10:24:12 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bs954a$aptrk$1@ID-150848.news.uni-berlin.de>
Source record: 30037
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hi. Has anyone designed a way to mechanically rotate their VHF/UHF yagi so that it can be either horizontally or vertically polarized? If so, can you please direct me to a website or whatever. Preference right now for a manual system, but would also take a look at motorised systems.

TIA.

Rich.

(Followup set to rec.radio.amateur.antenna, so all replies will go to this group).

4521. Re: "QRP Projects"

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 12:38:46 UTC
From: "Can you still buy \"Spangles\"?" <john.smith@micro$oft.com>
Message-ID: <bs9gfijhb1@newstree.wise.edt.ericsson.se>
Source record: 30038

"Ross Hockenberry" <rhockenberry@verizon.net> wrote in message
news:3d9a0169.14028026@news.verizon.net...
> ANyone know of any good web pages for QRP projects?
> Ross Hockenberry
> rhockenberry@verizon.net
> KB8WLX

http://w1.859.telia.com/~u85920178/

4522. 2m receiver.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 14:23:05 UTC
From: Edgar <edesign@sala.lt>
Message-ID: <bs9j3u$b6s13$1@ID-208708.news.uni-berlin.de>
Source record: 30039

Hello,
I'm looking to rig up a cheap way
to monitor the local repeater without having to invest in a complete
transceiver.

I've just gotten into VHF ham radio (HF is more familiar to me). I'm not too
strong in making radio receivers, but I made VCO's, so I have some homebrew
skills:-)
I need a 2m receiver circuit, with good selectivity and stable frequency.
I've seen some easy to build circuits with good performance on Motorola
IC's, but I can't find that circuit in my country. Well in my country there
is a bit difficult to buy any kit or specific parts, so I will do everything
from parts I could find at local radio shack store.

Any suggestions/help would be greatly appreciated.

Thanks,
Edgar
73!

4523. Re: Weller station gone bad--how to fix?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 14:32:56 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <iKZFb.202$UI2.277090@newsfep1-win.server.ntli.net>
Source record: 30040
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

> "Harvey Babb" wrote :
> The MOV (Metal Oxide Varistor) is a surge supressor whose only function
> is to absorb the "kick" when the mechanical thermostat opens (or
> "bounces" when closing). The one in the Weller unit (if memory serves)
> clamps the voltage at about 40 volts (Transformer secondary is 24 VAC).
> If it isn't working properly the thermostat contacts arc and weld shut,
> causing runaway overheating.
==========
Harvey , Tnx for the useful info . I was interested in the spike voltage
suppression level of the MOV, which is required since the heater element is
for AC . In the event of DC a reversely connected diode would have done the
trick .

Frank GM0CSZ / KN6WH

4524. Re: Minicircuits Labs products

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 19:28:15 UTC
From: Ken Gunton <deadletterbox@techlock.com>
Message-ID: <gr5huvg5atd221a4dk86bg5sf92mdr3dft@4ax.com>
Source record: 30041

Have you tried contacting them via e-mail? They might be
willing to sell to you.

We have some MCL items in stock. Check out our web
page at www.ohiomicrowave.com and click on the
hyperlink to inventory listing.

Regards,

On Sat, 20 Dec 2003 18:09:35 +0100 (CET), jorge Castano
<jorge.castano@wanadooadsl.net> wrote:

Hi!

Anybody knows if Minicircuits Labs sell overseas? I am in Spain, and the local
representative only
sell to companies (or ask for a large number of minimum items to process the
order) I know that
MiniCircuits has a 1-800 number in US, but i do not know if they will send me
the order.

Any help will be welcome.

Ken Gunton WB6QWF ken att ohiomicrowave dottt commm
Ohio Microwave
Microwave and RF Components to 110 GHz
http://www.ohiomicrowave.com

4525. Re: 2m receiver.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 20:35:05 UTC
From: Gregg <nospam@unknown.org>
Message-ID: <ZF1Gb.21839$6b2.4981@edtnps84>
Source record: 30042

Cheap scanner from your local Buy & Sell paper?

--
Gregg
It's probably useful, even if it can't be SPICE'd
http://geek.scorpiorising.ca

4526. Re: 2m receiver.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-23 22:13:46 UTC
From: Edgar <edesign@sala.lt>
Message-ID: <bsaf06$b8cmb$1@ID-208708.news.uni-berlin.de>
Source record: 30043

In my part of world scanners became legal about year ago, so they are not very popular among population. Buy & Sell paper is not an option:-)

> Cheap scanner from your local Buy & Sell paper?

4527. Re: 2m receiver.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-24 00:02:25 UTC
From: Kieren <kierenmail@hotmail.com>
Message-ID: <Xns945B182D47CDkierenmail@195.129.110.131>
Source record: 30044

Gregg <nospam@unknown.org> wrote in news:ZF1Gb.21839$6b2.4981@edtnps84:

> Cheap scanner from your local Buy & Sell paper?
>

BUY something?? Sort of misses the point of posting to
rec.radio.ameteur.HOMEBREW, doesn't it? Anyway, none of us have any money!
;-)

For my money, I would probably follow a design of a crystal controlled RX
(one channel with probably the same drift as the TX you want to hear!).
There are several designs for this, but consider a few small things first:

1. How local is local? Is the repeater within ~10km - and is there
another powerful signal on a close frequency)? If there is a powerful
local signal, you might have to select your design to be more selective.

2. What aerial can you have? Again, if the repeater is strong and the
other close signals are weak, you can use a very simple radio and still get
good results.

3. How much radio building and fault-finding experience you have.

4528. Re: 2m receiver.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-24 01:32:38 UTC
From: John Miles <jmiles@pop.removethistomailme.net>
Message-ID: <MPG.1a528c8de13899ed98969e@news-central.giganews.com>
Source record: 30045

In article <bs9j3u$b6s13$1@ID-208708.news.uni-berlin.de>,
edesign@sala.lt says...
> Hello,
> I'm looking to rig up a cheap way
> to monitor the local repeater without having to invest in a complete
> transceiver.
>
> I've just gotten into VHF ham radio (HF is more familiar to me). I'm not too
> strong in making radio receivers, but I made VCO's, so I have some homebrew
> skills:-)
> I need a 2m receiver circuit, with good selectivity and stable frequency.
> I've seen some easy to build circuits with good performance on Motorola
> IC's, but I can't find that circuit in my country. Well in my country there
> is a bit difficult to buy any kit or specific parts, so I will do everything
> from parts I could find at local radio shack store.
>
> Any suggestions/help would be greatly appreciated.
>
> Thanks,
> Edgar
> 73!
>

Look at the chips in the Philips SA604AD/SA605AD line. They're great
for FM receiver construction.

-- jm

---
http://www.qsl.net/ke5fx
Note: My E-mail address has been altered to avoid spam

4529. GPS Radiondes on Ebay - what use are they?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-24 12:34:26 UTC
From: Hugh Colborn <dontspamstockden@tiscali.co.uk>
Message-ID: <3fe9876f_2@mk-nntp-2.news.uk.tiscali.com>
Source record: 30046

There have been ex-MOD radiosondes for sale on Ebay UK for a while now and there seems to have been no shortage of buyers (and least one person who seems to bid on them all). Some of them include a GPS receiver, though not a fully featured one - it reports only how much it's moved rather than where it is. The GPS versions fetch a higher price than the ones without so presumably there's something you can actually use these modules for. Does anyone know what?

Perhaps I should buy one rather than risk being the only Radio Amateur in my street without my own radiosonde....

73
Hugh

4530. Re: GPS Radiondes on Ebay - what use are they?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-24 17:15:21 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <qRjGb.31055$R6.6542943@newsfep2-win.server.ntli.net>
Source record: 29897

> There have been ex-MOD radiosondes for sale on Ebay UK for a while now and
> there seems to have been no shortage of buyers (and least one person who
> seems to bid on them all). Some of them include a GPS receiver, though not
a
> fully featured one - it reports only how much it's moved rather than where
> it is. The GPS versions fetch a higher price than the ones without so
> presumably there's something you can actually use these modules for. Does
> anyone know what?
>
> Perhaps I should buy one rather than risk being the only Radio Amateur in
my
> street without my own radiosonde....
==========
These units are probably useful if you are interested in equipping yourself
with a (mobile) APRS or UI-View system.
However ,beware! Ensure that you get hold of info (if not included with the
hardware) how to interface them.
Also beware of 'e-bay fever'. Goods sold on e-bay often fetch higher
prices than identical equipment sold through the official trade channels.

Frank GM0CSZ / KN6WH

4531. MERRY CHRISTMAS!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-24 19:32:14 UTC
From: rob34 <rob34@infinet.com>
Message-ID: <vujqe5o3q97t6c@corp.supernews.com>
Source record: 29898

MERRY CHRISTMAS AND HAPPY NEW YEAR TO ALL!!! Rob WB8VWI

4532. Transistor ID help please

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-24 21:51:01 UTC
From: wntu4@yahoo.com
Message-ID: <6c7a372f.0312241351.248149bf@posting.google.com>
Source record: 29899

Trying to replace a burnt out transistor that I think was a regulator, was attached to a heat sink so it was involved in power or amplification I guess, anyway its located in a power supply and has the code k1821 on it and a logo saying FC as well...and thats all. I cant find any info on this thing, anyhelp is appreciated!!

4533. Introducing Rapi-Morse

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-24 22:49:52 UTC
From: Biz WD=?ISO-8859-1?B?2A==?=HCO <wd0hco@ev1.net>
Message-ID: <BC0F7430.A6C4%wd0hco@ev1.net>
Source record: 29900

WDï¿½HCO's Rapi-MORSE

The World's first interactive Morse code table.

With Rapi-MORSE, anyone can decode Morse code messages by ear within 20 to 30 seconds after starting the program. You don't need to know the Morse code.

That's Right! It's not a TYPO! 20 to 30 SECONDS after starting this program!

You can also use this program with you favorite Morse code teaching program to quickly learn the Morse code and quickly pass that FCC Ham Morse code test. Many students report 50% to 75% improvements in code character retention than just memorizing the code using a Morse tutoring program alone.

How does Rapi-Morse work?

Simple, by doing what scientific research show us the human brain is good at.

Manipulating Objects and embedding them within a Geographic Space.

Furthermore, the use of Internationally recognized standard Traffic Light colors... RED YELLOW GREEN will quickly and easily differentiate between DOTS and DASHES.

But the best part is that this program is FREE and gladly given to anyone with an interest in learning or using the Morse Code.

It comes in two versions:

This one for all Windows Computers:
Rapi-MORSE.exe

This version for all Mac Computers:
Rapi-MORSE

Rapi-MORSE is freeware and was invented and written by Biz Wichy WDï¿½HCO

Get it at:

http://users.ev1.net/~wd0hco/

4534. Re: Transistor ID help please

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 00:54:11 UTC
From: Eamon Skelton <Xnospam@oceanfree.net>
Message-ID: <pan.2003.12.25.00.54.11.704180@oceanfree.net>
Source record: 29901

On Wed, 24 Dec 2003 13:51:01 -0800, wntu wrote:

> Trying to replace a burnt out transistor that I think was a regulator,
> was attached to a heat sink so it was involved in power or
> amplification I guess, anyway its located in a power supply and has
> the code k1821 on it and a logo saying FC as well...and thats all. I
> cant find any info on this thing, anyhelp is appreciated!!

It might be an FET. Try searching for data on 2SK1821.

73, Ed. EI9GQ.

--
Remove 'X' to reply by E-mail.
Linux 2.4.23

4535. Re: Transistor ID help please

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 01:18:04 UTC
From: Eamon Skelton <Xnospam@oceanfree.net>
Message-ID: <pan.2003.12.25.01.18.04.635053@oceanfree.net>
Source record: 29902

On Thu, 25 Dec 2003 00:54:11 +0000, Eamon Skelton wrote:

> It might be an FET. Try searching for data on 2SK1821.
>

You can find the data-sheet here:
http://s-shopping.elisasp.net/datasheet_en/

Look in the high voltage power MOSFET section.

73, Ed.

--
Remove 'X' to reply by E-mail.
Linux 2.4.23

4536. Re: Transistor ID help please

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 15:38:06 UTC
From: dick <enigma_y_2000@yahoo.com>
Message-ID: <2lgwfvaaq8p8$.1s78e20xpdq8$.dlg@40tude.net>
Source record: 29903

On 24 Dec 2003 13:51:01 -0800, wntu4@yahoo.com wrote:

> Trying to replace a burnt out transistor that I think was a regulator,
> was attached to a heat sink so it was involved in power or
> amplification I guess, anyway its located in a power supply and has
> the code k1821 on it and a logo saying FC as well...and thats all. I
> cant find any info on this thing, anyhelp is appreciated!!

Hi,

It may be a 2SK821 FET. Do a Google search for the NTE web site and
crossreference it.

B

4537. Re: Regenerative Receiver with Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 17:11:32 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FEB1A44.4020308@bellsouth.net>
Source record: 29904

Dale Parfitt wrote:
> "jeff luther" <vonzeplin@worldnet.att.net> wrote in message
> news:pVNDb.205076$Ec1.7452313@bgtnsc05-news.ops.worldnet.att.net...
>
>>I am looking for diagrams on building a Regen Receiver useing 2 - 4
>
> tubes.
>
>>About 7 - 10 years ago a radio magazine had an article on building one but
>>I'll be darned if I can remember which one. It had a tickler coil used in
>>the front and slid side to side. If anyone knows of a diagram or building
>>plans please let me know. Thanks
>>
>>vonzeplin@att.net
>>
>>Here's a pix of a 1 tube (actually 3 in 1) compactron) RX that I built
>
> form a Pop Electronics aarticle. There are links on the WEB if you type in
> "6AF11 regen" to your search engine.
> http://parelectronics.com/pics/regen2.jpg
>
> Lots of fun.
>
> Dale W4OP
>
>

Let me make a suggestion as to improving this circuit. IIRC he used the
high gain triode of the 6af11 as the detector, instead use the other triode
(low gain) as the detector. Then wire the first af stage as a combined
grounded
grid rf amp and grounded cathode af amp. This is known as a reflex amp.
to do this use an rf choke in the cathode, plate, and grid. Ground the grid
with a 470 pf cap, feed the af from the detector to the grid through a 1mh
rf choke. Use a 2.5 mh choke in the plate, taking the af out through
the choke
and couple the plate of the tube to the detector via a 10pf cap. A
500uh choke
in the cathode and then the normal bias resitor bypassed for af.
Connect the
antenna via a .001 cap to the cathode. Different value chokes are used
to prevent
turning the amplifier stage into an oscillator if two of the chokes were
resonant

at the same frequency. The plug in coil now only needs two windings.
Use a 47k - 100k resistor as the plate load for the detector and a
200pf variable
throttle cap as the regen control instead of the pot. Use a 100k
resistor as the
plate load for the af stage. See the Aug 1966 issue of PE for a similar
radio
using two tubes (12at7 and 6ak6).

4538. IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 19:30:16 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bsfdrs$cfspf$1@ID-150848.news.uni-berlin.de>
Source record: 29905

Are there any IC sockets (DIL) where the pins on the socket that go into the PCB are more generously spaced than the IC pins themselves?

4539. Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 19:33:16 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bsfe0s$cktrv$1@ID-150848.news.uni-berlin.de>
Source record: 29906

From your experience, who's solder braid is the best? I want to desolder some components and I want the braid to soak up the solder "At the drop of a hat".

4540. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 20:23:48 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <gJHGb.33013$R6.7019828@newsfep2-win.server.ntli.net>
Source record: 29907

> From your experience, who's solder braid is the best? I want to desolder
> some components and I want the braid to soak up the solder "At the drop of
a
> hat".
==========
If the soldered components are of the 0.1 or 0.15 inch pitched type I would suggest you apply a solder (spring operated piston) sucker instead of desoldering braid . Reason : less heat is applied to the components if these are to be re-used. The same applies to the PCB especially if it is a repair job ,hence the PCB is to be retained .Personally I have not been very successful with desoldering braid , but that is perhaps due to a lack of skill . With a sucker I have never had any problems , desoldering components on the above type of boards.

Frank GM0CSZ / KN6WH

4541. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 21:28:36 UTC
From: jgboyles@aol.com
Message-ID: <20031225162836.01554.00000988@mb-m20.aol.com>
Source record: 29908

>From your experience, who's solder braid is the best?

I like Tech Spray Pro Wick 3.3mm width.
73 Gary N4AST

4542. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 23:28:24 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <ghsmuv4drvu6horl3bvi9mojf0651u7ql4@4ax.com>
Source record: 29909

On 25 Dec 2003 21:28:36 GMT, jgboyles@aol.com (JGBOYLES) wrote:

>>From your experience, who's solder braid is the best?
>
>I like Tech Spray Pro Wick 3.3mm width.
>73 Gary N4AST

Whatever brand of wicking solder braid you use, fresher is much
better. Once the surface oxidizes, it will be far more difficult to
get good results.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4543. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-25 23:56:36 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FEB792F.A1BA4188@earthlink.net>
Source record: 29910

Richard wrote:
>
> From your experience, who's solder braid is the best? I want to desolder
> some components and I want the braid to soak up the solder "At the drop of a
> hat".

I use copper braid dipped in liquid rosin flux (RMA). One tip is to live about 1/16" of braid with the solder in it when you clip it off. Then put that part against the joint before applying heat. It can will conduct heat to the old joint faster, and do less damage. The method is called "Wet wicking" Keep in mind that wave soldered boards were done with 80/20 solder so it would cool before leads had a chance to move. So, you may need to clean the surface of the old solder before removing it. Apply a thin bead of RMA flux along a row of pins. Put a small amount of solder on the tip if the iron, and run it down the row to melt oxidized solder off the surface. Then use the solder wick to remove the solder. Before I was laid off, I routinely worked with 288 pin surface mount parts and had to be very careful about lifting pads on $8,000 boards.

After a hole is clear of solder let it cool for a second or two, then touch the tip of the lead and see if it is free. If it is stuck, let the lead adsorb heat from the iron till it breaks free of the plated through hole. Let it go and see that it doesn't stick again. With a little practice you can do a row ow pins very quickly without damaging the board. A good soldering iron is a must, and for modern ESD sensitive parts you need a grounded soldering iron, along with an ES mat and wrist strap.

If you start doing a lot of through hole work, invest in a vacuum desoldering station.
--
Merry Christmas!

Take care, and God bless.
Michael A. Terrell
Central Florida

4544. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 01:50:45 UTC
From: fmmck@aol.com
Message-ID: <20031225205045.14410.00001636@mb-m28.aol.com>
Source record: 29911

<< If the soldered components are of the 0.1 or 0.15 inch pitched type I would suggest you apply a solder (spring operated piston) sucker instead of desoldering braid >>

Frank-

I think it is a good idea to have both in your arsenal. I've used a spring-piston sucker, as well as a squeeze-bulb sucker and solder wick, and found that the spring-piston sucker had a rebound that damaged the traces of the PCB.

If you are trying to recover components from a scrap PCB, the spring-piston sucker would be most efficient so it would probably be your best choice. If you do not want to damage the PCB, then perhaps the squeeze-bulb sucker or the solder wick would be better.

I have used Radio Shack's solder wick since I don't have ready access to anything better. It works, but I suspect they don't use as much flux in the braid as they could.

Richard- I suggest you pay close attention to Michael A. Terrell's reply. He described the way the professional repair people did it where I used to work.

73, Fred, K4DII

4545. mn

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 01:55:30 UTC
From: Crappo <crap@krul.ath.cx>
Message-ID: <pan.2003.12.26.01.55.30.664458@krul.ath.cx>
Source record: 29912

mn

4546. Re: IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 02:03:19 UTC
From: kenneth scharf <wa2mze-spamnot-@bellsouth.net>
Message-ID: <3FEB96E7.4050204@bellsouth.net>
Source record: 29913

Richard wrote:
> Are there any IC sockets (DIL) where the pins on the socket that go into the
> PCB are more generously spaced than the IC pins themselves?
>
>

Well plcc sockets are sorta like that. For dips you'd have to use
a pc breadboard adaptor.

4547. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 02:34:49 UTC
From: rick1_nospam@ultranet.com
Message-ID: <3feb9d8f.6066667@news.rcn.com>
Source record: 29914

Skip <Skip@none.co> wrote:

>Hello List,
>
>I am looking for a source for a Zener Diode. I am building an HF
>Amplifier using a GS-35b and the schematic I'm using to build the amp
>calls for a 36v 50w zoner diode for bias. Here in New Zealand there
>does not seem to be anyone with anythings close to what I need.
>
> Also, would it be possible to string a few lower volt watt zeners
>together to come up with a close value to what is needed?
>
>Thanks for the help
>
>Skip..

36V Zeners are available from www.bgmicro.com. I'm not sure about the
power rating though. You might have to use it with a transistor to
handle the current.

Rick

4548. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 02:50:12 UTC
From: Tracy Fort <beerbarrel@cox.net>
Message-ID: <b48nuvc8kjtj5f461a9icgf4pnf6ja9g4e@4ax.com>
Source record: 29915

On Thu, 25 Dec 2003 23:56:36 GMT, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

>Richard wrote:
>>
>> From your experience, who's solder braid is the best? I want to desolder
>> some components and I want the braid to soak up the solder "At the drop of a
>> hat".
>
> I use copper braid dipped in liquid rosin flux (RMA). One tip is to
>live about 1/16" of braid with the solder in it when you clip it off.
>Then put that part against the joint before applying heat. It can will
>conduct heat to the old joint faster, and do less damage. The method is
>called "Wet wicking" Keep in mind that wave soldered boards were done
>with 80/20 solder so it would cool before leads had a chance to move.
>So, you may need to clean the surface of the old solder before removing
>it. Apply a thin bead of RMA flux along a row of pins. Put a small
>amount of solder on the tip if the iron, and run it down the row to melt
>oxidized solder off the surface. Then use the solder wick to remove the
>solder. Before I was laid off, I routinely worked with 288 pin surface
>mount parts and had to be very careful about lifting pads on $8,000
>boards.
>
> After a hole is clear of solder let it cool for a second or two, then
>touch the tip of the lead and see if it is free. If it is stuck, let the
>lead adsorb heat from the iron till it breaks free of the plated through
>hole. Let it go and see that it doesn't stick again. With a little
>practice you can do a row ow pins very quickly without damaging the
>board. A good soldering iron is a must, and for modern ESD sensitive
>parts you need a grounded soldering iron, along with an ES mat and wrist
>strap.
>
> If you start doing a lot of through hole work, invest in a vacuum
>desoldering station.

Why didn't you just use a Pace station? It seems to me to be rather
risky to use solder wick on surface mount stuff especially with ESD
issues. We are never allowed to use solder wick at work. That said
some of the boards that we do are in excess of 200,000 dollars and are
irreplaceable. These boards are sometimes 8 levels deep and you have
to repair traces that are in the middle of the board. Paces stations
work really well for removing large smd's quickly. Then all you have
to do is run the vacuum over the pads to clean them up.

Tracy

4549. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 03:34:28 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FEBAC3B.46DCADA7@earthlink.net>
Source record: 29916

Tracy Fort wrote:
>
> On Thu, 25 Dec 2003 23:56:36 GMT, "Michael A. Terrell"
> <mike.terrell@earthlink.net> wrote:
>
> >Richard wrote:
> >>
> >> From your experience, who's solder braid is the best? I want to desolder
> >> some components and I want the braid to soak up the solder "At the drop of a
> >> hat".
> >>
> > I use copper braid dipped in liquid rosin flux (RMA). One tip is to
> >live about 1/16" of braid with the solder in it when you clip it off.
> >Then put that part against the joint before applying heat. It can will
> >conduct heat to the old joint faster, and do less damage. The method is
> >called "Wet wicking" Keep in mind that wave soldered boards were done
> >with 80/20 solder so it would cool before leads had a chance to move.
> >So, you may need to clean the surface of the old solder before removing
> >it. Apply a thin bead of RMA flux along a row of pins. Put a small
> >amount of solder on the tip if the iron, and run it down the row to melt
> >oxidized solder off the surface. Then use the solder wick to remove the
> >solder. Before I was laid off, I routinely worked with 288 pin surface
> >mount parts and had to be very careful about lifting pads on $8,000
> >boards.
> >
> > After a hole is clear of solder let it cool for a second or two, then
> >touch the tip of the lead and see if it is free. If it is stuck, let the
> >lead adsorb heat from the iron till it breaks free of the plated through
> >hole. Let it go and see that it doesn't stick again. With a little
> >practice you can do a row ow pins very quickly without damaging the
> >board. A good soldering iron is a must, and for modern ESD sensitive
> >parts you need a grounded soldering iron, along with an ES mat and wrist
> >strap.
> >
> > If you start doing a lot of through hole work, invest in a vacuum
> >desoldering station.
>
> Why didn't you just use a Pace station? It seems to me to be rather
> risky to use solder wick on surface mount stuff especially with ESD
> issues. We are never allowed to use solder wick at work. That said
> some of the boards that we do are in excess of 200,000 dollars and are
> irreplaceable. These boards are sometimes 8 levels deep and you have
> to repair traces that are in the middle of the board. Paces stations
> work really well for removing large smd's quickly. Then all you have

> to do is run the vacuum over the pads to clean them up.
>
> Tracy

These were 17 layer boards that came out of the reflow oven with severe problems. We received a bad batch of paste solder, and it didn't show up, till the boards were built. The old solder had to be cleaned up before they could be removed with the hot air system, and some chips were damaged in reflow. They developed microscopic cracks on the bottom that allowed moisture to creep in between the die and the package. By working under a microscope I could find the damaged parts, clean the leads enough to have them replaced, and go to the next board. Another problem was solder balls trapped under the ICs. A little RMA flux, some 2% silver solder and carefully flooding that edge of the chip melted the stray solder. Then you wicked the edge and resoldered. It takes about five minutes a side to fix a 288 pin package. If you are good at SMD work, you can do a better job than a reflow oven.

There are things you will see on a production floor you will never encounter in the field because you don't get a board till any manufacturing problems are corrected. I also did preliminary testing on prototype boards for engineering, qualified new parts and vendors for purchasing.

I wasn't your average tech. Some people there loved me, others hated me, because I wasn't afraid to walk into the head of engineering to tell him there was a problem, and if they couldn't fix it, my next stop was the president of the company. There were a lot of ECOs and major redesigns that I pushed through. I also removed several well know manufacturers from our approved vendor list, because they refused to correct quality problems. Beckman and Vicor are a couple that come to mind. Beckman SMD pots were made with defective seals, so they sucked water inside when the boards were cleaned after reflow. Vicor had a horrible failure rate on their modular power supplies, and changing the supply required a chassis redesign to hold the new power supply.

--
Merry Christmas!

Take care, and God bless.
Michael A. Terrell
Central Florida

4550. KK7B T-2 on 455 KHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 05:02:55 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <3iPGb.18806$Q%5.8433@nwrddc01.gnilink.net>
Source record: 29917

Hate to reinvent the wheel- has anyone used the KK7B TX board on 455KHz?
What are you using for the power splitter and quadrature?

Tnx,

Dale W4OP

4551. Anyone want/need metal cabinets with slopeing fronts? yours for postage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 05:24:20 UTC
From: Robert Casey <wa2ise@ix.netcom.com>
Message-ID: <3FEBC5F9.7040903@ix.netcom.com>
Source record: 29918
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

I have about 6 metal cabinets, vaguely similar to that which houses
a Heathkit impedance bridge. About 7 inches tall, 7 inches deep
on the bottom, 5 inches on the top, sloped front from the top to a
point 2 inches from the bottom, then straight vertical down to the
bottom. Vent holes on the sides and back, access rectangular hole
in the bottom of the back.

Attempt at ASCII diagram, side view:

```
_____
| \
| \
|_____|
```

Various widths from 7 to about 15 inches.

I don't have a use, and need to get rid of some stuff.
Looks too good to toss, so they're yours for the cost
of postage, from Oradell NJ 07649.

4552. Re: Anyone want/need metal cabinets with slopeing fronts? yours for postage

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 06:03:01 UTC
From: Brenda Ann <brendad@shinbiro.com>
Message-ID: <bsggbs$of6$1@news1.kornet.net>
Source record: 29919
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

"Robert Casey" <wa2ise@ix.netcom.com> wrote in message
news:3FEBC5F9.7040903@ix.netcom.com...
> I have about 6 metal cabinets, vaguely similar to that which houses
> a Heathkit impedance bridge. About 7 inches tall, 7 inches deep
> on the bottom, 5 inches on the top, sloped front from the top to a
> point 2 inches from the bottom, then straight vertical down to the
> bottom. Vent holes on the sides and back, access rectangular hole
> in the bottom of the back.
>
> Attempt at ASCII diagram, side view:
> _____
> | \
> | \
> |_____|
>
> Various widths from 7 to about 15 inches.
>
> I don't have a use, and need to get rid of some stuff.
> Looks too good to toss, so they're yours for the cost
> of postage, from Oradell NJ 07649.

Sounds like a good project box.. how much for shipping to APO, AP
96205-0044?

>

4553. Re: QRP Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 09:47:48 UTC
From: fmtx@euroseek.com
Message-ID: <ca3ae38d.0312260147.ea24711@posting.google.com>
Source record: 29920

rhockenberry@verizon.net (Ross Hockenberry) wrote in message
news:<3d9a0169.14028026@news.verizon.net>...
> ANyone know of any good web pages for QRP projects?
>
>
> Ross Hockenberry
> rhockenberry@verizon.net
>
> KB8WLX

http://www.geocities.com/Radio_QRP/

4554. Re: IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 10:22:09 UTC
From: matt wilson <mwilson2@nospam.bigpond.net.au>
Message-ID: <lZTGb.65587$aT.24829@news-server.bigpond.net.au>
Source record: 29921

There is also the QIL or Quad-in-line format, where altenate pins are offset into second rows. You would have to find a DIL to QIL adaptor/socket.

I guess it all depends on WHY you need wider pin spacings.

"kenneth scharf" <wa2mze-spamnot-@bellsouth.net> wrote in message news:3FEB96E7.4050204@bellsouth.net...
> Richard wrote:
> > Are there any IC sockets (DIL) where the pins on the socket that go into the
> > PCB are more generously spaced than the IC pins themselves?
> >
> >
>
> Well plcc sockets are sorta like that. For dips you'd have to use
> a pc breadboard adaptor.
>

4555. Re: Shakira getting dirty with dildo

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 13:12:11 UTC
From: Mark Russo <rmrusso1@optonline.net>
Message-ID: <3FEC3477.768DB44@optonline.net>
Source record: 29922
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

does it cover the 2 meter and 440 band and does it use the SO-238
connector?

John wrote:

> Shakira spreading on bed with dildo

4556. Re: IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 15:56:57 UTC
From: KD7TOG <kd7tog@earthlink.net>
Message-ID: <dTYGb.7313$lo3.2672@newsread2.news.pas.earthlink.net>
Source record: 29923

You can try using wirewrap sockets, and reform the leads to meet your
requirements ....

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:bsfdrs$cfspf$1@ID-150848.news.uni-berlin.de...
> Are there any IC sockets (DIL) where the pins on the socket that go into
the
> PCB are more generously spaced than the IC pins themselves?
>
>

4557. Re: IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 20:31:03 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bsi5pj$d6l24$1@ID-150848.news.uni-berlin.de>
Source record: 29924

KD7TOG wrote:
> You can try using wirewrap sockets, and reform the leads to meet your
> requirements ....

Ha, quite amazing, though wirewraps was obsolete technolgy.

http://www.circuitspecialists.com/level.itml/icOid/3529

Maybe I can bend the leads so that I end up wiith Quad In Line. Or whatever.

4558. Re: IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 20:41:27 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bsi6cs$cvdqo$1@ID-150848.news.uni-berlin.de>
Source record: 29925

Are there any IC sockets, where the pins go outwards from the socket, rather than downwards into the PCB?

4559. Re: IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 21:47:53 UTC
From: john graesser <graesser@tca.net>
Message-ID: <vupasjf11v2g02@corp.supernews.com>
Source record: 29926

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:bsi5pj$d6l24$1@ID-150848.news.uni-berlin.de...
> KD7TOG wrote:
> > You can try using wirewrap sockets, and reform the leads to meet your
> > requirements ....
>
> Ha, quite amazing, though wirewraps was obsolete technolgy.

I've never used it for rf projects, but for digital it still works just fine
for prototyping. Assuming you still have a supply of chips that are dips.
thanks, John.
KC5DWD

4560. Re: KK7B T-2 on 455 KHz

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 22:49:15 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <LV2Hb.32490$NZ1.7453@nwrddc02.gnilink.net>
Source record: 29927

<nospam@nouce.bellatlantic.net> wrote in message
news:om4puv0gaj45udn9rurjmb9cbfb7d50lr7@4ax.com...
> On Fri, 26 Dec 2003 05:02:55 GMT, "Dale Parfitt"
> <par@parelectronics.com> wrote:
>
> >Hate to reinvent the wheel- has anyone used the KK7B TX board on 455KHz?
> >What are you using for the power splitter and quadrature?
>
> Hi Dale,
>
> Two Ft37-43 wound as needed for the splitter. The turns ratio will
> be 1:3 (5:15 turns)for the step down to 25ohms for the
> autotransformer and the splitter will need to have enough turns to be
> around 20turns bifilar. The center of the bifilar coil goes to the
> tap point of the autotransformer. That will get you in the ball park.
>
> The quad can be done using the same methods as shown for HF though the
> C's and L's are much larger. If your using a fixed freq a R-C shifter
> will work. The SBL-1 DBMs are only rated down the 1mhz on the LO
> port so performance may not be as good. The SBL-1-1 or other DBM
> will give better performance at 455khz.
>
> Check Experimental Methods in RF Design for tons of Info. Also Google
> "Phasing TX" and "Phasing RX". All of the phase shifters that work
> for the R2 and MiniR2 (new Breed and others) will work for the T2 so
> that should provide plenty of ideas.
>
> I run a 20m miniR2 and T2 through a TenTec 1208(transverter) for 6m
> SSB ops at times. Turns out to be the hottest 6m RX I have bar none.
>
>
Thanks Allison- some good ideas and areas to research. My intention is to
build what R.L. Drake called a "reciter" to go with my Davco DR-30 RX. The
Davco has on its rear panel, the 455 KHz BFO, VFO and heterodyne oscillator
outputs making this approach attractive.

73,

Dale W4OP

> Allison
> KB1gmx

4561. Re: Shakira getting dirty with dildo

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 23:03:10 UTC
From: Fudge <fudge@nrtco.net>
Message-ID: <e63Hb.20$8W5.6076@news20.bellglobal.com>
Source record: 29928
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

What the Hell does this have to do with Amateur Radio you moron?

John
VA3JQ

"John" <fagljesl@eafkidqk.com> wrote in message
news:FlWGb.76862$031.26844@fe3.columbus.rr.com...
> Shakira spreading on bed with dildo
>
>
>
>

4562. Re: Shakira getting dirty with dildo

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 23:22:45 UTC
From: ogrowup@webtv.net
Message-ID: <8205-3FECC2C5-821@storefull-2236.public.lawson.webtv.net>
Source record: 29930

I think this a*****e cross-posted this spam to every site on Usenet!

"Stupidty is the only universal capital crime; the sentence is death.
There is no appeal, and execution is
carried out automatically and without pity."
Robert A. Heinlein
"TIme Enough For Love"

4563. Re: IC Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-26 23:30:41 UTC
From: Roger Gt <Xenot@pacbell.net>
Message-ID: <Bw3Hb.2602$g35.2336@newssvr25.news.prodigy.com>
Source record: 29929

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:bsi6cs$cvdqo$1@ID-150848.news.uni-berlin.de...
> Are there any IC sockets, where the pins go outwards from the socket,
rather
> than downwards into the PCB?
>
I have had good luck bending pins out with the socket about .05 inches about
the board. Then trim to fit the pads provided. Some very narrow sockets
you can bend the pins out at the point they would normally seat. Others,
with the tab at a right angle to the body can't be bent at all. To much
chance of breakage!

4564. "Press n' Peel Blue" PCB paper AND new laser printers.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-27 04:29:21 UTC
From: Mike <electrocole@charter.net>
Message-ID: <vuq2kqnmvqe2cc@corp.supernews.com>
Source record: 29931

Does any experimenter have any good advice for purchasing a current make, model laser printer that will accept the "Press & Peel," blue, printed circuit board, transfer paper with full, dark, trace rendition, transfer ability??? I want to create really good patterns using the "Press & Peel" method. I do not want to use the method of using a presensitized, photoresist, printed circuit board.
I contacted Frank at the "Press n' Peel" company and he could not answer my question. Maybe someone in "homebrew" can. Thank you for any advice you can lend to me at this time. Goodbye for now.

4565. http://groups.yahoo.com/group/Tube_Amps/

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-27 09:26:12 UTC
From: Adshar64 <adshar@ihug.com.au>
Message-ID: <bsjj9h$l1k$1@lust.ihug.co.nz>
Source record: 29932

http://groups.yahoo.com/group/Tube_Amps/

4566. Re: "QRP Projects" See: http://www.geocities.com/Radio_QRP/

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-27 12:34:47 UTC
From: fmtx@euroseek.com
Message-ID: <ca3ae38d.0312270434.79555f97@posting.google.com>
Source record: 29933

"Can you still buy \"Spangles\"?" <john.smith@micro$oft.com> wrote in message
news:<bs9gfijhb1@newstree.wise.edt.ericsson.se>...
> "Ross Hockenberry" <rhockenberry@verizon.net> wrote in message
> news:3d9a0169.14028026@news.verizon.net...
> > ANyone know of any good web pages for QRP projects?
> > Ross Hockenberry
> > rhockenberry@verizon.net
> > KB8WLX
>
> http://w1.859.telia.com/~u85920178/

http://www.geocities.com/Radio_QRP/

4567. Re: 2m receiver.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-27 13:01:56 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3fed836a$0$1728$5a62ac22@freenews.iinet.net.au>
Source record: 29934

Elektor Magazine did a 2M FM receiver a few years ago. They have good quality PCBs so most of the job is done. The only problem was that the oscillator was free running and tunable. This might not be stable enough. In this case I would suggest a crystal osc for a single frequency, multiplied up. If you want it programmable, you will have to use a PLL circuit, and things start to get a bit harder. Could you try E Bay for an old FM rig and modify it?

Richard

Edgar <edesign@sala.lt> wrote in message
news:bs9j3u$b6s13$1@ID-208708.news.uni-berlin.de...
> Hello,
> I'm looking to rig up a cheap way
> to monitor the local repeater without having to invest in a complete
> transceiver.
>
> I've just gotten into VHF ham radio (HF is more familiar to me). I'm not
too
> strong in making radio receivers, but I made VCO's, so I have some
homebrew
> skills:-)
> I need a 2m receiver circuit, with good selectivity and stable frequency.
> I've seen some easy to build circuits with good performance on Motorola
> IC's, but I can't find that circuit in my country. Well in my country
there
> is a bit difficult to buy any kit or specific parts, so I will do
everything
> from parts I could find at local radio shack store.
>
> Any suggestions/help would be greatly appreciated.
>
> Thanks,
> Edgar
> 73!
>
>
>

4568. Re: 2m receiver.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-27 15:45:36 UTC
From: Edgar <edesign@sala.lt>
Message-ID: <bsk9es$do898$1@ID-208708.news.uni-berlin.de>
Source record: 29935

Thanks to everyone, I found pretty easy to build 2m receiver. And it is working quite well, all I have to do is to find box to it.
Well digital readout would be advantage, but I'll try to manage it later. Maybe on 2004.

Happy DX next year.

Your sincerely,
Edgar
73!

4569. Re: "Press n' Peel Blue" PCB paper AND new laser printers.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-27 16:50:41 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <BLiHb.671492$Tr4.1680458@attbi_s03>
Source record: 29936

"Mike" <electrocole@charter.net> wrote in message
news:vuq2kqnmvqe2cc@corp.supernews.com...
> Does any experimenter have any good advice for purchasing a current make,
> model laser printer that will accept the "Press & Peel," blue, printed
> circuit board, transfer paper with full, dark, trace rendition, transfer
> ability??? I want to create really good patterns using the "Press & Peel"
> method. I do not want to use the method of using a presensitized,
> photoresist, printed circuit board.

Buy an old used HP Laserjet III for $100 or less and dedicate it. They last
several lifetimes.

W4ZCB

4570. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-27 19:54:36 UTC
From: fmmck@aol.com
Message-ID: <20031227145436.16110.00001299@mb-m22.aol.com>
Source record: 29937

<< Rubbing alcohol can be used to remove the excess when you
are through. >>

Bill & Richard-

Ordinary rubbing alcohol has 70% alcohol and 30% water in it. If you search, some drug stores carry 90% isopropyl rubbing alcohol.

You may also find a product in the automotive stores that uses alcohol to remove water from your gas tank and fuel system. An example I found at Walmart, is "Iso-HEET" water remover that contains isopropyl alcohol as its main ingredient. It works quite well to remove solder flux, and doesn't seem to leave any residue of its own.

73, Fred, K4DII

4571. DDS Kit - debugging inquiry

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 00:04:32 UTC
From: Gavin Jacobs <notasnoball@inhell.com>
Message-ID: <k6pHb.71297$ss5.24146@clgrps13>
Source record: 29938

Santa put one of these kits in my stocking:
http://www.njqrp.org/dds/index.html

So today I had a relaxing morning building the kit. Everything is going according to the notes; except I don't have any output at
all.

I checked the voltages (12 and 5), current draw (93 mA), temperatures of the chips (warm to touch), and I could see bits going in
from SETFREQ.

I just have an Optascope (max 100 KHz), so I tried loading in a frequency of 10 KHz, but I don't see anything on the output.

Has anyone else built one? What can I check next?

Thanks,

Gavin

4572. Re: DDS Kit - debugging inquiry

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 00:46:52 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <0KpHb.6254$BJ4.3457@nwrdny03.gnilink.net>
Source record: 29939

Gavin,
I built one of these and it works fine (once I got my software debugged!).
You can see what I made with it here:

http://mysite.verizon.net/jdrocci/

Are you sure it's being loaded correctly? What are you using for software?

Joe W3JDR

"Gavin Jacobs" <notasnoball@inhell.com> wrote in message
news:k6pHb.71297$ss5.24146@clgrps13...
> Santa put one of these kits in my stocking:
> http://www.njqrp.org/dds/index.html
>
> So today I had a relaxing morning building the kit. Everything is going
according to the notes; except I don't have any output at
> all.
>
> I checked the voltages (12 and 5), current draw (93 mA), temperatures of
the chips (warm to touch), and I could see bits going in
> from SETFREQ.
>
> I just have an Optascope (max 100 KHz), so I tried loading in a frequency
of 10 KHz, but I don't see anything on the output.
>
> Has anyone else built one? What can I check next?
>
> Thanks,
>
> Gavin
>
>

4573. Re: "Press n' Peel Blue" PCB paper AND new laser printers.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 03:35:09 UTC
From: "Jim, N2VX" <ZZZjim_cronin@juno.comZZZ>
Message-ID: <ijjsuvgkune4mfrqauvpdus88btruh8sg2@4ax.com>
Source record: 29940

On Fri, 26 Dec 2003 20:29:21 -0800, "Mike" <electrocole@charter.net>
wrote:

>Does any experimenter have any good advice for purchasing a current make,
>model laser printer that will accept the "Press & Peel," blue, printed
>circuit board, transfer paper with full, dark, trace rendition, transfer
>ability??? I want to create really good patterns using the "Press & Peel"
>method. I do not want to use the method of using a presensitized,
>photoresist, printed circuit board.
> I contacted Frank at the "Press n' Peel" company and he could not
>answer my question. Maybe someone in "homebrew" can. Thank you for any
>advice you can lend to me at this time. Goodbye for now.
>

I picked a laserprinter according to how well it did toner transfer.
Went to all the local stores and got test sheets from each printer,
took them home and ironed on a 2"x2" piece from each. Also made sure
each had the darkness setting turned up.

There was a wide range, some would not stick and some did OK. The
best of the lot was a Brother laserprinter.

Try it yourself and see which ones work.

73,
Jim

4574. Re: DDS Kit - debugging inquiry

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 11:26:22 UTC
From: mike@corn2.freeserve.co.uk
Message-ID: <3feebb62.1348811556@news.freeserve.net>
Source record: 29941

On Sun, 28 Dec 2003 00:04:32 GMT, "Gavin Jacobs"
<notasnoball@inhell.com> wrote:

>Santa put one of these kits in my stocking:
>http://www.njqrp.org/dds/index.html
>
This is the second time I've heard of this problem.
I have noticed an error message when I load SETFREQ reporting that the
program "could not open driverLINX driver" but I have no idea what
that is or whether it really needs it to function as I have not tried
it yet.
If you go to OM3CPH's website there is a PC prog there which does
work. Also on that site is a useful "Wobbulator" program using the
AD9850 and an A/D converter to display frequency response on the PC
monitor

http://www.qsl.net/om3cph

HTH, All the best for the New Year. Mike W, G8NXD qthr

4575. Re: what lead-free solder do you use, and where can I buy it?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 13:28:28 UTC
From: H Brown <harryhbrown@earthlink.net>
Message-ID: <0UAHb.3721$d4.3420@newsread1.news.atl.earthlink.net>
Source record: 29942

Mike,

I was in Pompei in 2000 and saw the lead pipes that were used to distribute water throughout the town. They even had valves to turn the water on and off, It looked like they made the pipe by rolling a sheet around a dowell and then folding the lead to make a seal. They may have used other methods also that I did not see. It was pretty interesting. We seldom give the antients credit for what they did and think of things like indoor plumbing is something new.

According to the guide, they knew that Lead was a problem back then (Pompei was covered with ash from nearby Mt. Vesuvuis in 79 AD). They were in the process of changing from lead to something else which I cannot remember.

73, Harry, W3IIT

"Mike Coslo" <mcoslo@adelphia.net> wrote in message
news:Q1sFb.4129$Vv2.1249144@news1.news.adelphia.net...
kenneth scharf wrote:

> Jeff Spidle wrote:
>
>> hmmm, I have recently had the same discussion with my XYL, we have a 1 yr
>> old.
>>
>> My self and another NASA trained ham, N9AEP, just completed teaching a
>> soldering class for our ham club, Schaumburg Amateur Radio Club.
>>
>> The EU is going to require all soldering to be Pb free in 2004, I believe
>> that all US manufacturers will be required to do so in '06. I'm sure
>> I'll be
>> corrected on the dates.
>>
>>
> The reason for banning lead solder isn't that it is dangerous to people
> using it,
> but rather that old electronic equipment ends up in landfill and so does
> the lead.
> Auto batteries require special disposal for this reason. The idea is to
> ban the use
> of lead in all products (where possible) to eliminate disposal problems.
>
> But just how good IS lead free solder? I guess it DOES work well in
> plumbing
> where it has been in use for many years.
>

> If lead is insoluble in water, then WHY isn't it used in plumbing? The
> small
> amount that it IS soluble is the danger. Guess the Romans went mad due
> to their
> use of lead pipes (that's where the word plumber comes from, the latin
> for lead
> is plumbum, and the atomic symbol for lead is Pb). Could be the lead
> pipes were
> the reason for the fall of the empire?
>

They were poisoning themselves with lead, but it wasn't from the plumbing. The water that was carried to Rome from the aqueducts was extremely hard, and a layer of calcium formed on the interior of the pipes just about immediately after being put in use.

Where they got their lead was from storage containers for wine. They used lead containers for this! I believe they credited the lead with preservative powers. The acidic wine pulled a lot of lead out ot the container and into the gullets of the drinkers.

- Mike -

4576. Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 14:01:26 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de>
Source record: 29943
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Although I have been interested an amateur radio for about 30 years, I've never focused much attention on radios made with ICs.

Lately I have got an interest in FM receivers, and have discovered some FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000, (these three being a chipset), and LA1235 etc etc.

But, doing a web search , you cannot find any homebrew AM/FM RX using these IC's.

Why is this? I would have though they would be ideal for the hobbyist to mess around with.

4577. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 15:25:15 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <i7ttuv00ddried95nlrmft966n55vjmtpi@4ax.com>
Source record: 29944

On Sun, 28 Dec 2003 01:25:06 -0800, Bill Turner <noway@nohow.com>
wrote:

>On 27 Dec 2003 19:54:36 GMT, fmmck@aol.com (Fred McKenzie) wrote:
>
>>Ordinary rubbing alcohol has 70% alcohol and 30% water in it. If you search,
>>some drug stores carry 90% isopropyl rubbing alcohol.
>
>This stuff is getting pretty rare, but it would be preferable if you can
>find it. I used to see 99% isopropyl alcohol but haven't found any for
>years. I keep looking, though.

90% is out there, but as said, tough to find. 99% sounds like
something from an industrial supplier.

As a caveat, one of the chains had a sale on rubbing alcohols a little
ways back, and one of them was 90% ethanol (denatured). However, the
other ingredients included methanol, acetone, and a few other things
which would make it useless for cleaning. I went with the 70% IPA,
because the only other ingredient was water.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4578. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 15:26:14 UTC
From: Al <no.spam@here.com>
Message-ID: <no.spam-FDF9B9.10261428122003@news.verizon.net>
Source record: 29945

In article <d98tuvobfmnff1tr8ga6tb0r08hg2fl08d@4ax.com>,
Bill Turner <noway@nohow.com> wrote:

> On 27 Dec 2003 19:54:36 GMT, fmmck@aol.com (Fred McKenzie) wrote:
>
> >Ordinary rubbing alcohol has 70% alcohol and 30% water in it. If you search,
> >some drug stores carry 90% isopropyl rubbing alcohol.
>
> _____________________
>
> This stuff is getting pretty rare, but it would be preferable if you can
> find it. I used to see 99% isopropyl alcohol but haven't found any for
> years. I keep looking, though.

Rubbing alchohol contains goodies like lanoline or aloe which leaves a
residue. Most of the time it doen't matter, unless, of course you are
looking for high reliability. My local electronics store carries the
electronics grade of isopropanol.

What is weird about the electronics store is that it no longer carries
semiconductors except for LEDs, diodes and selected transistors. They
dropped the line as they said it was not selling and it had a huge
inventory cost. And this outfit is very busy as it sells to installers.
I think their biggest seller is cat-5 cable followed by the hardware
that goes with it. The repairmen have gone the way of the buggy whip
makers.

Al

--
There's never enough time to do it right the first time.....

4579. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 17:02:21 UTC
From: Ralph Mowery <rmowery@ctc.net>
Message-ID: <vcidnVdxlJv2lHKiRVn-jg@ctc.net>
Source record: 29946

> What is weird about the electronics store is that it no longer carries
> semiconductors except for LEDs, diodes and selected transistors. They
> dropped the line as they said it was not selling and it had a huge
> inventory cost. And this outfit is very busy as it sells to installers.
> I think their biggest seller is cat-5 cable followed by the hardware
> that goes with it. The repairmen have gone the way of the buggy whip
> makers.

Most comsumer electronics have gone to the surface mounted devices and few can work on them. The repair people will usually send off the whole board for a replacement they get for a fixed price. Now each manufactor has their own special IC to do the differant jobs. There is no subistution. About 15 to 20 years ago there were several makers of transistors that had the universal replacements where a few devices could replace thousands of differat types.

4580. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 17:03:08 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FEF0CC7.CEF4AD21@earthlink.net>
Source record: 29947

Al wrote:
>
>
> Rubbing alchohol contains goodies like lanoline or aloe which leaves a
> residue. Most of the time it doen't matter, unless, of course you are
> looking for high reliability. My local electronics store carries the
> electronics grade of isopropanol.
>
> Al

For some things I remove flux with a spray can of carburetor cleaner.
It is a mix of Toluene, Acetone and Methanol. I bough a bunch of cans at
a dollar store. There are other automotive cleaners that have more
alcohol in them. I think some brands of disk brake cleaner may be mostly
alcohol. I will have to dig into the stash in my shop to take a look the
next time I can spend some time there.

--
Merry Christmas!

Take care, and God bless.
Michael A. Terrell
Central Florida

4581. how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 17:44:43 UTC
From: alanh_27@yahoo.com
Message-ID: <1e3670a7.0312280944.21212553@posting.google.com>
Source record: 29948
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

how to sharpen the mini dike cutters and nipper cutters used in electrical & electronic work?

They're too small to handle with jigs, and the blades don't even open very widely. Yet, their utility is directly proportional to how recently they've been sharpened/honed.

4582. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 18:09:47 UTC
From: Jon Elson <elson@pico-systems.com>
Message-ID: <3FEF1C6B.5080207@pico-systems.com>
Source record: 29949
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.engr.manufacturing

Alan Horowitz wrote:
> how to sharpen the mini dike cutters and nipper cutters used in
> electrical & electronic work?
>
> They're too small to handle with jigs, and the blades don't even open
> very widely. Yet, their utility is directly proportional to how
> recently they've been sharpened/honed.

I have tried to do this with swiss files and small pocket sharpening
stones. it really isn't worth the trouble, and they never work as
well as a good new cutter. Yes, I hate to throw them away, too.
But, I have bought some good Xcelite and other cutters that have served
me well for years in light production work. I don't cut drill bits
with them, however.

4583. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 18:34:36 UTC
From: Martin Riddle <martinriddle@hotmail.com>
Message-ID: <0nFHb.3919$d4.3458@newsread1.news.atl.earthlink.net>
Source record: 29950
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

The NE602 is a favorite with the Ham crowd. Plenty of projects found on the
web, including FM.

Cheers

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de...
> Although I have been interested an amateur radio for about 30 years, I've
> never focused much attention on radios made with ICs.
>
> Lately I have got an interest in FM receivers, and have discovered some
> FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000, (these
three
> being a chipset), and LA1235 etc etc.
>
> But, doing a web search , you cannot find any homebrew AM/FM RX using
these
> IC's.
>
> Why is this? I would have though they would be ideal for the hobbyist to
> mess around with.
>
>

4584. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 19:13:04 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bsna0i$elcsu$1@ID-150848.news.uni-berlin.de>
Source record: 29951
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Martin Riddle" <martinriddle@hotmail.com> wrote in message
news:0nFHb.3919$d4.3458@newsread1.news.atl.earthlink.net...
> The NE602 is a favorite with the Ham crowd. Plenty of projects found on
the
> web, including FM.
>
> Cheers

Hi

It could be that the ICs I'm searching under are not popular with
homebrewers. Or, that articles are in printed publications, (like Practical
Wireless etc) or folks just rely on application notes.

ICs I've mentioned are ones typically found in your average AM/FM radio
perhaps in the '90's.

LA1177: Electronic Tuning-Use FM Front End for CarRadio, Home Stereos.
LA1266: AM/FM Tuner Syatem of Electronic Tuning Type.
LM7000: Direct PLL Frequency Synthesiser for Elexctronic Tuning.

LA1235:FM IF Sysyem Applications.

But, I think if anyone wants to mess with these ICs it's more economical to
get some 90's radio, take it apart and rebuild it, with mods. That a way you
get all the hard-to-get bits, like the display.

So, these could be the reasons I've not found many articles incorporating
the ICs I mentioned.

> "Richard" <nearlynews_email@ntlworld.com> wrote in message
> news:bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de...
> > Although I have been interested an amateur radio for about 30 years,
I've
> > never focused much attention on radios made with ICs.
> >
> > Lately I have got an interest in FM receivers, and have discovered some
> > FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000, (these
> three
> > being a chipset), and LA1235 etc etc.
> >
> > But, doing a web search , you cannot find any homebrew AM/FM RX using
> these
> > IC's.
> >
> > Why is this? I would have though they would be ideal for the hobbyist

to
> > mess around with.

4585. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 19:15:58 UTC
From: Richard Henry <rphenry@home.com>
Message-ID: <QZFHb.15533$7D3.13808@fed1read02>
Source record: 29952
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

"Alan Horowitz" <alanh_27@yahoo.com> wrote in message
news:1e3670a7.0312280944.21212553@posting.google.com...
> how to sharpen the mini dike cutters and nipper cutters used in
> electrical & electronic work?
>
> They're too small to handle with jigs, and the blades don't even open
> very widely. Yet, their utility is directly proportional to how
> recently they've been sharpened/honed.

Hard cone-shaped grinder head for Dremel tool.

4586. FS Ad: Electronic Components including TIL311 Hex Displays - LEDs - TTL Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 19:18:26 UTC
From: jrpart@excite.com
Message-ID: <357f4a42.0312281118.2b7a3c27@posting.google.com>
Source record: 29953
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.homebrew,uk.radio.amateur

All prices are in US Funds.

QTY. Part # Unit Price Description
---- --------- ---------- -----------
OPTO.

125 TIL311 $7.00 ea. The TI TIL-311 is a Hexadecimal Dot
Matrix Display with integral TTL driver
electronics to accept, store & display
4-bit binary data, Epoxy package
(Note: This part wholesales at about $16.50 each)

8 TIL311A $7.00 ea. The TI TIL-311A is a Hexadecimal Dot
Matrix Display with integral TTL driver
circuit to accept, store & display
4-bit binary data, Plastic package

10 DIS1417 $7.00 ea. The TI DIS-1417 is a Hexadecimal Dot
Matrix Display with integral TTL driver
circuit to accept, store & display
4-bit binary data, Epoxy package

For a copy of the TIL311 Datasheet see:
http://www-s.ti.com/sc/ds/til311.pdf and it is mirrored at
http://umwnt1.physics.lsa.umich.edu/mttc/images/til311.pdf

275 Green LED $0.10 ea. Rectangular 5mm x 2mm face/lens
$17.50 per bag of 250 ($0.07 each) and

8,250 Red LED $0.10 ea. T1 3/4, 5mm Diameter or 0.2" Diameter
Sharp P/N: GL5PR4 (5mA at 1.9V)
$17.50 per bag of 250 ($0.07 each) and
$100 per box of 2000 ($0.05 each)

106 MAN6440 $0.95 ea. Dual Digit, Green 7 Segment display,
0.56" tall character, Common Cathode
$15 per tube of 20 MAN- 6440 ($0.75 ea.)

85 FND6740 $0.95 ea. Dual Digit, Red 7 Segment display,
0.56" tall character, Common Cathode
$15 per tube of 20 FND-6740 ($0.75 ea.)

TTL CHIPS, DIP Package

525 7407N $0.18 ea. $4.00 per tube of 25 ($0.16 each)
Hex Non-Inverted Buffer with
Open-Collector outputs

605 74ALS20AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
Dual 4-Input Positive NAND Gates

240 74ALS27AN $0.19 ea. $4.00 per tube of 25 ($0.16 each)
Triple 3-Input Positive NOR Gates

1,325 74LS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
Dual D-Type Positive Edge-triggered
Flip-Flops with Preset and Clear.

100 74ALS74AN $0.25 ea. $5.00 per tube of 25 ($0.20 each)
Dual D-Type Positive Edge-triggered
Flip-Flops with Preset and Clear.

RESISTORS

55,000 100 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
$15 per box of 5000 or
$100 for 50,000 pieces.

3,400 220 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
$12 per box of 3400 or

3,400 680 Ohm, 5%, 1/4 Watt Carbon film resistor, $1 per 100,
$12 per box of 3400 or

A pack of 100 resistors is $4 inclusive shipping to anywhere
in the US and Canada

e-mail: jrpart@excite.com

Minimum purchase $4 including postage.

No shipping is included in the above prices. To quote a
total including shipping, I require your full ZIP code or
postal code in addition to a list of what you are interested
in. Please specify the country for international orders
outside of North America. The shipping you will be quoted
is the cost of the postage stamp (plus insurance if requested).

The only part that I will ship for a total of $4 (by regular
mail) to anywhere in the US and Canada is a pack of 100
resistors.

All components are new. All semi-conductors are stored in
anti-static tubes/bags or on anti-static foam if you purchase
less than a tube/bag.

Offers on the lot are welcome. Keep in mind that I am looking
for a price below wholesale, but more than the commercial buyers
of surplus electronic parts are offering.

4587. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 19:30:57 UTC
From: Ross Mac <this.is.a.mung@example.invalid>
Message-ID: <RbGHb.251229$Ec1.8710613@bgtnsc05-news.ops.worldnet.att.net>
Source record: 29954
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

"Alan Horowitz" <alanh_27@yahoo.com> wrote in message
news:1e3670a7.0312280944.21212553@posting.google.com...
> how to sharpen the mini dike cutters and nipper cutters used in
> electrical & electronic work?
>
> They're too small to handle with jigs, and the blades don't even open
> very widely. Yet, their utility is directly proportional to how
> recently they've been sharpened/honed.

Do you have a friend that works in a machine shop?...No problem for those guys. I had a friend at one company I worked that was a tool and die man. He could put an awesome edge on them. Some of the finer cutters are pretty expensive and are worth sharpening, if not, I might recommend http://www.mcmaster.com/ . They are a pretty good deal for cutters!

4588. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 19:33:59 UTC
From: averyfineman@aol.com
Message-ID: <20031228143359.11022.00002974@mb-m14.aol.com>
Source record: 29955

In article <bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de>, "Richard"
<nearlynews_email@ntlworld.com> writes:

>Although I have been interested an amateur radio for about 30 years, I've
>never focused much attention on radios made with ICs.
>
>Lately I have got an interest in FM receivers, and have discovered some
>FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000, (these three
>being a chipset), and LA1235 etc etc.
>
>But, doing a web search , you cannot find any homebrew AM/FM RX using these
>IC's.
>
>Why is this? I would have though they would be ideal for the hobbyist to
>mess around with.

Yes, you CAN find the parts...those that survive after the 20 to 30 year
period from their new introduction until now. The MC3362 is a one-chip
FM receiver package available from Kits and Parts. Just add the dual
IF filters and support passives, perhaps a power audio IC for more
sound, maybe an RF stage for maximum sensitivity. Dieter has a
datasheet available for download on it if you like.

Problem is that few of those old ICs survive. They didn't sell well enough
to support continued production. Hundreds of IC designs have met that
fate, were successful, were produced, were sold. They just didn't sell
enough. A few were sold off to other semi makers (Fairchild got all of
the old National Semi digital line, for example...ON Semi got some of
the old Motorola ICs). About three "independent" semi makers in the
USA exist as second sources for old, obsolete semiconductors,
including specialty ICs. The old RCA Sommerville works and their
mighty CMOS line of both digital (CDxxxx) and analog (CAxxxx) got
partially picked up by Harris when RCA was sold to GE, but then
Harris sold off most of those to others, including Intersil and a few to
Maxim (according to part numbers and description).

What you, me, and many other hobbyists have to face is that the
scene in semiconductor ICs is CHANGING. There exist (and have
existed for at least a decade) "foundry" services to allow designs of
complex ICs that may be the entirety of a new electronic project.
Those won't even appear on the distributor market, just single
purchase lot of 100,000 or so, made, installed, and in a successful
product only to be succeeded by a changed, more competitive
device.

You CAN find out much with the right search words, including old part numbers. Unfortunately, many of those old parts have become "unobtainium" and exist only in archival datasheet records. A few remain: MC3362, a one-chip FM receiver; SA602 and SA612 Gilbert cell RF mixers; MC1350 low-VHF differential amplifier; several LMxxx audio devices from National; MC145151 parallel-load PLL all-in-one; CD4046 phase-freq detector for PLLs; 555 timers. The venerable 741 op-amp has long since been replaced by several general purpose op-amps still produced by several makers. Many CDxxxx CMOS digital devices are still available at very low prices (Jameco) and a few CAxxxx analog CMOS are still there.

Outside of the Heathkits at the last decade of their existance, I doubt you will find much in the way of articles and "plans" for a homebuilt AM/FM receiver. When the already-manufactured article costs less than the collection of parts needed to build one, why bother? :-) If you want to build a special version for yourself, there's a heaping glob of appnotes and datasheets for available components on the web...but then you have to DESIGN something (true homebrew) instead of copying someone else's design.

Len Anderson
retired (from regular hours) electronic engineer person

4589. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 19:33:59 UTC
From: averyfineman@aol.com
Message-ID: <20031228143359.11022.00002975@mb-m14.aol.com>
Source record: 29956

In article <d98tuvobfmnff1tr8ga6tb0r08hg2fl08d@4ax.com>, Bill Turner
<noway@nohow.com> writes:

>On 27 Dec 2003 19:54:36 GMT, fmmck@aol.com (Fred McKenzie) wrote:
>
>>Ordinary rubbing alcohol has 70% alcohol and 30% water in it. If you
>search,
>>some drug stores carry 90% isopropyl rubbing alcohol.
>
>_____________________
>
>This stuff is getting pretty rare, but it would be preferable if you can
>find it. I used to see 99% isopropyl alcohol but haven't found any for
>years. I keep looking, though.

If you want high-proof isopropyl alcohol, you need "reagent grade"
stuff which is available from chemical supply businesses. Clean
room assembly places buy the stuff in bulk. Some medical supply
places have it, too.

When using isopropyl the next thing needed is cotton swabs...lots
of them (on wooden sticks), another expense item. :-)

Len Anderson
retired (from regular hours) electronic engineer person

4590. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 20:01:22 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <ahduuvod4qif1660knf3bvpths7mnplab5@4ax.com>
Source record: 29957

On Sun, 28 Dec 2003 08:11:26 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Sun, 28 Dec 2003 15:25:15 GMT, Gary S. <Idontwantspam@net> wrote:
>
>>I went with the 70% IPA,
>>because the only other ingredient was water.
>
>I wonder how you know the other ingredient is water? I have tried
>unsuccessfully to find out the denaturant and have never had any luck.
>Are they putting it on the list of ingredients now? The last time I
>tried was a couple of years ago.

This brand did list the ingredients, although denaturing is not an
issue with IPA.

The ethanol had a number of ingredients, but no % breakdown except the
alcohol. Told me what I needed.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4591. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 20:03:08 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <plduuvc5q3j6tollkm2aku982k24nnbfo3@4ax.com>
Source record: 29958

On Sun, 28 Dec 2003 17:03:08 GMT, "Michael A. Terrell"
<mike.terrell@earthlink.net> wrote:

> For some things I remove flux with a spray can of carburetor cleaner.
>It is a mix of Toluene, Acetone and Methanol. I bough a bunch of cans at
>a dollar store. There are other automotive cleaners that have more
>alcohol in them. I think some brands of disk brake cleaner may be mostly
>alcohol. I will have to dig into the stash in my shop to take a look the
>next time I can spend some time there.

Careful. Many brake cleaners include lots of toluene and other
solvents which are extremely unhealthy for skin contact or breathing
fumes.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4592. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 20:13:42 UTC
From: Uncle Al <UncleAl0@hate.spam.net>
Message-ID: <3FEF3976.ED4B134F@hate.spam.net>
Source record: 29959
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

Alan Horowitz wrote:
>
> how to sharpen the mini dike cutters and nipper cutters used in
> electrical & electronic work?
>
> They're too small to handle with jigs, and the blades don't even open
> very widely. Yet, their utility is directly proportional to how
> recently they've been sharpened/honed.

One properly buys quality tooling and replaces the carbide inserts as
necessary.

--
Uncle Al
http://www.mazepath.com/uncleal/qz.pdf
http://www.mazepath.com/uncleal/eotvos.htm
(Do something naughty to physics)

4593. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 20:26:33 UTC
From: Spehro Pefhany <speffSNIP@interlogDOTyou.knowwhat>
Message-ID: <phduuvo4tdscau816ijgos4bqvosu69jef@4ax.com>
Source record: 29960
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

On 28 Dec 2003 09:44:43 -0800, the renowned alanh_27@yahoo.com (Alan Horowitz) wrote:

>how to sharpen the mini dike cutters and nipper cutters used in
>electrical & electronic work?
>
>They're too small to handle with jigs, and the blades don't even open
>very widely. Yet, their utility is directly proportional to how
>recently they've been sharpened/honed.

The ones we use (Xcelite microshears, made in the US) are cheap enough ($5-$6 US in small quantities, probably half that for a production shop) to be considered disposable. Biggest problem is with people that try to cut hard stuff (nick the blades) or stuff that's too large diameter with them (snap the blade off).

Best regards,
Spehro Pefhany
--
"it's the network..." "The Journey is the reward"
speff@interlog.com Info for manufacturers: http://www.trexon.com
Embedded software/hardware/analog Info for designers: http://www.speff.com

4594. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 20:54:18 UTC
From: Jeff Wisnia <jwisnia@conversent.net>
Message-ID: <3FEF42FA.4E0675B5@conversent.net>
Source record: 29961
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

Richard Henry wrote:

> "Alan Horowitz" <alanh_27@yahoo.com> wrote in message
> news:1e3670a7.0312280944.21212553@posting.google.com...
> > how to sharpen the mini dike cutters and nipper cutters used in
> > electrical & electronic work?
> >
> > They're too small to handle with jigs, and the blades don't even open
> > very widely. Yet, their utility is directly proportional to how
> > recently they've been sharpened/honed.
>
> Hard cone-shaped grinder head for Dremel tool.

You've got a steadier hand and better eye than me, Richard...

Whenever I've tried that I've screwed up the parallelism of the blades and they don't touch completely along their full length.

It's not just piano wire and other hard stuff that takes its toll on the blades. I've got what's now a "spare pair' I've had since a kid with a pretty good "war wound" in 'em from the time I forgot which end was up and cut through a lamp cord while it was still plugged into an outlet. (But, they still work great if I'm careful about where I place the wire. <G>)

Happy Holidays,

Jeff

Jeff Wisnia (W1BSV + Brass Rat '57 EE)

"If you can smile when things are going wrong, you've thought of someone to blame it on."

4595. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 21:00:38 UTC
From: John Woodgate <jmw@jmwa.demon.contraspam.yuk>
Message-ID: <FHjkHLF2R07$Ew9J@jmwa.demon.co.uk>
Source record: 29962
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

I read in sci.electronics.design that Richard <nearlynews_email@ntlworld
.com> wrote (in <bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de>) about
'Were IC's ever etensively employed in AM/FM RX homebrew projects?', on
Sun, 28 Dec 2003:
>Lately I have got an interest in FM receivers, and have discovered some
>FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000, (these three
>being a chipset), and LA1235 etc etc.
>
>But, doing a web search , you cannot find any homebrew AM/FM RX using these
>IC's.
>
>Why is this? I would have though they would be ideal for the hobbyist to
>mess around with.

They are not so easy to obtain in small quantities. They were aimed at
high-volume consumer product manufacturers.
--
Regards, John Woodgate, OOO - Own Opinions Only. http://www.jmwa.demon.co.uk
Interested in professional sound reinforcement and distribution? Then go to
http://www.isce.org.uk
PLEASE do NOT copy news posts to me by E-MAIL!

4596. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 21:06:32 UTC
From: donutbandit <none@none.com>
Message-ID: <bsngko$46c$4@news.snowcrest.net>
Source record: 29964
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Richard" <nearlynews_email@ntlworld.com> wrote in
news:bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de:

> Although I have been interested an amateur radio for about 30 years,
> I've never focused much attention on radios made with ICs.
>
> Lately I have got an interest in FM receivers, and have discovered
> some FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000,
> (these three being a chipset), and LA1235 etc etc.
>
> But, doing a web search , you cannot find any homebrew AM/FM RX using
> these IC's.
>
> Why is this? I would have though they would be ideal for the hobbyist
> to mess around with.
>
>

In the early 1970s, the electronics rags were loaded with IC projects.

The problem is that those ICs haven't been made since the early 1970s.

A tube never changes. I can buy a 6BA6 and buld the same RF amp that was
being built in the 1950s and 60s.

I can substitute a 6AU6 and it will still work.

I can use transistors and do the same thing.

An IC has internal "wiring" that is specific to it alone. If you can't get
that particular IC, you can't build the project.

4597. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 21:08:21 UTC
From: R J Carpenter <rcarpen@erols.com>
Message-ID: <3fef4645$0$4745$61fed72c@news.rcn.com>
Source record: 29963

The "Guru of Advanced Thinking About Advanced Radios" of Rockwell-Collins gave an interesting talk at the Cedar Rapids Central States Conference a few years ago.

One point he made was that (even) Collins had to buy enough chips for their complete expected production run, and eventual spare parts, right at the design-in stage. Otherwise either -

1) The part would be unavailable before the production run was completed, or
2) A part with the same number would be available, but it would be enough different that it would either not work or would degrade performance.

Even the Big Boys have parts problems.

73 de bob w3otc

4598. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 21:41:14 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <bsnilqlar1@freenet9.carleton.ca>
Source record: 29965
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

John Woodgate (jmw@jmwa.demon.contraspam.yuk) writes:
>
> They are not so easy to obtain in small quantities. They were aimed at
> high-volume consumer product manufacturers.

And that leads to another reason why they aren't used.

They are intended for very specific use, in something that will be
built in large quantities with the same design.

But what works for an AM/FM broadcast radio may not be best for some other
use.

I remember when RCA came out with the CA3088 AM receiver on an IC back
in 1971. QST ran an article about it, hinting at big things, yet also
pointint out deficiences. It was intended for a 455KHz IF, so you'd
be stuck with image problems as you started using the IC in the shortwave
range. I think there might have been limitations on the IF strip so
you couldn't run it at a higher frequency. The mixer was a single
transistor, and if I'm remembering, it was used as the local oscillator
also. Maybe okay in a generic broadcast receiver, but not great for
higher frequencies or where better performance was desired. The detector
was built in, and of course, it was AM only. There was no easy way to
bypass that detector, at a time when few hams would want to build an
AM only receiver.

In trying to fit a very specific application, it was lousy for more
general use.

Since then, there have been plenty of AM and AM/FM radios in an IC.
Some have worked better than others for other uses (who can forget
Ralph Burhan describing Loran C receivers using them?), mainly because
they were less integrated, or at least had pinouts in the right places.

Less grandiose ICs work better. The Motorola FM IF strips were at
first just the IF strip, and since they were intended for narrow band
FM, they were better suited for use in amateur applications. Even the
later variants, that added the front end, had the advantage that the
input and outputs were available off-IC so one could fiddle with things
where needed.

And then when you get to the point where an IC is simply taking care of
one stage, such as a mixer, or an IF amplifier, there is infinitely
more use of them in various designs. Of course, they are less useful
to mass marketers, because they take up more space and give more performance
than needed for AM/FM broadcast, so there is a limited market for them.

Michael VE2BVW

4599. Parts Needed.

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 21:55:26 UTC
From: jsrboz321@aol.com
Message-ID: <20031228165526.26263.00001866@mb-m06.aol.com>
Source record: 29967

Hello,
I am looking for a pair of UTC HVC-4 Variductors for a crossover project
I am working on. If you have a pair or know where I might locate a pair please
email me directly. Thanks.

Jim

4600. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 21:55:42 UTC
From: Jim Thompson <invalid@invalid.invalid>
Message-ID: <j5kuuvs0m45vjlhkgsl5cgbkkbl03jubj4@4ax.com>
Source record: 29966
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On 28 Dec 2003 21:06:32 GMT, donutbandit <none@none.com> wrote:

>"Richard" <nearlynews_email@ntlworld.com> wrote in
>news:bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de:
>
>> Although I have been interested an amateur radio for about 30 years,
>> I've never focused much attention on radios made with ICs.
>>
>> Lately I have got an interest in FM receivers, and have discovered
>> some FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000,
>> (these three being a chipset), and LA1235 etc etc.
>>
>> But, doing a web search , you cannot find any homebrew AM/FM RX using
>> these IC's.
>>
>> Why is this? I would have though they would be ideal for the hobbyist
>> to mess around with.
>>
>>
>
>In the early 1970s, the electronics rags were loaded with IC projects.
>
>The problem is that those ICs haven't been made since the early 1970s.
>
>A tube never changes. I can buy a 6BA6 and buld the same RF amp that was
>being built in the 1950s and 60s.
>
>I can substitute a 6AU6 and it will still work.
>
>I can use transistors and do the same thing.
>
>An IC has internal "wiring" that is specific to it alone. If you can't get
>that particular IC, you can't build the project.

Realistically, now-a-days, IC's are mostly "systems-on-a-chip", and
are usually custom-designed for a specific application; jelly-bean
analog chips (except perhaps OpAmps and linear voltage regulators) are
gradually fading from the scene.

...Jim Thompson
--
James E.Thompson, P.E.	mens
Analog Innovations, Inc.	et
Analog/Mixed-Signal ASIC's and Discrete Systems	manus

Phoenix, Arizona Voice:(480)460-2350	
E-mail Address at Website Fax:(480)460-2142	Brass Rat
http://www.analog-innovations.com	1962

I love to cook with wine. Sometimes I even put it in the food.

4601. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 22:09:04 UTC
From: "John C. Polasek" <jpolasek@cfl.rr.com>
Message-ID: <41luuv07lsbnsekn3sfid737kciop6tn0g@4ax.com>
Source record: 29968
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

On 28 Dec 2003 09:44:43 -0800, alanh_27@yahoo.com (Alan Horowitz)
wrote:

>how to sharpen the mini dike cutters and nipper cutters used in
>electrical & electronic work?
>
>They're too small to handle with jigs, and the blades don't even open
>very widely. Yet, their utility is directly proportional to how
>recently they've been sharpened/honed.
If you're handy with tools and have some ingenuity, you could use a
Dremel with the thin cutoff wheel. BUT you would have to clamp the
Dremel and then secure the dikes at the proper angle so you could
slide the blade along the cutoff wheel, being sure the edge was in the
plane of the wheel. The grinding would be done with the face of the
wheel. There ought to be enough room to let the wheel in.
Anything less than that and your dikes will be ruined due to lack of
parallelism.

4602. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 22:13:21 UTC
From: wb4una@aol.com
Message-ID: <20031228171321.09478.00001417@mb-m17.aol.com>
Source record: 29969

we use to use a file on the back side of the cutters....worked great..you have to watch the spacing between as you go...

randy

ARS: WB4UNA
Randy Chavis
247 Goff Court
West Columbia
S.C. 29172

4603. Koch CW Trainer Update

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 22:19:51 UTC
From: haf47@juno.com
Message-ID: <f03bf94f.0312281419.d1a40f6@posting.google.com>
Source record: 29970

For those who are trying to learn the Morse code, there is no better way to learn it than by the Koch method.

In my opinion there is no better software available using the Koch method than the marvelous program from Ray Goff, G4FON of the UK.

This program begins with the practice of just two letters..when they are mastered another letter is added to the mix...when they are mastered, then another letter added, etc. And YOU'RE the one adding additional letters at your own pace.

It's easy, and it's the fastest way I know of to learn the code, and the software is free.

Is there anyone who would care to admit that they cannot learn 2 letters of the code? If you can do two letters, you can learn the entire code.

The G4FON Koch CW Trainer version 6 is available for download at:

www.qsl.net/g4fon

Happy Holidays to all de WA2AFD

4604. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 23:33:02 UTC
From: Mike Coslo <mcoslo@adelphia.net>
Message-ID: <OKJHb.7172$Vv2.3388400@news1.news.adelphia.net>
Source record: 29971

Bill Turner wrote:

> On Sun, 28 Dec 2003 15:25:15 GMT, Gary S. <Idontwantspam@net> wrote:
>
>
>>I went with the 70% IPA,
>>because the only other ingredient was water.
>
>
> ____________________
>
> I wonder how you know the other ingredient is water? I have tried
> unsuccessfully to find out the denaturant and have never had any luck.
> Are they putting it on the list of ingredients now? The last time I
> tried was a couple of years ago.

Most denatured alcohol is denatured with methyl alcohol. The water is just there to dilute it.

But the denaturing can be done with several substances.

http://laws.justice.gc.ca/en/E-14/C.R.C.-c.568/98295.html

has some regulations for denatured alcohol. It's for Canada, but I'm sure it will apply to most places. It is fairly far down the page.

- Mike KB3EIA -

4605. Re: Were IC's ever etensively employed in AM/FM RX homebrew projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 23:45:17 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <bsnpud$enesh$1@ID-150848.news.uni-berlin.de>
Source record: 29972
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:bsmnn1$ehq9t$1@ID-150848.news.uni-berlin.de...
> Although I have been interested an amateur radio for about 30 years, I've
> never focused much attention on radios made with ICs.
>
> Lately I have got an interest in FM receivers, and have discovered some
> FM-related IC's/chipsets. ICs such as LA1177, LA1266, LM7000, (these
three
> being a chipset), and LA1235 etc etc.
>
> But, doing a web search , you cannot find any homebrew AM/FM RX using
these
> IC's.
>
> Why is this? I would have though they would be ideal for the hobbyist to
> mess around with.

Okay, from what folks have said, I gather that as time has moved on, ICs relevant to construction of AM/FM radios have tended, more and more, not to appeal to homebrewers because their specs are seen as not being that good, and they have lost much of their flexibility/applicability - due to current design/production/marketing trends.

4606. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-28 23:45:33 UTC
From: Jonathan Barnes <jbarnes@ATnetcomuk.co.uk>
Message-ID: <bsnqlc$cq1$1@taliesin2.netcom.net.uk>
Source record: 29973
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

If you buy a top quality cutter, and keep a cheaper pair for piano wire the good pair will last several years of use, and occasionally you will have to throw away the cheaper cutter.
Compound leaver types generally have blades which are less sharp and withstand abuse better than normal cutters so use this type for the piano wire.

It's not normally worth the effort to do a proper job of re-sharpening, cheaper to buy a new pair if you value time.

Jonathan

Barnes's theorem; for every foolproof device
there is a fool greater than the proof.

To reply remove AT

"Alan Horowitz" <alanh_27@yahoo.com> wrote in message
news:1e3670a7.0312280944.21212553@posting.google.com...
> how to sharpen the mini dike cutters and nipper cutters used in
> electrical & electronic work?
>
> They're too small to handle with jigs, and the blades don't even open
> very widely. Yet, their utility is directly proportional to how
> recently they've been sharpened/honed.

4607. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 00:01:11 UTC
From: jgboyles@aol.com
Message-ID: <20031228190111.26118.00001939@mb-m06.aol.com>
Source record: 29974

>Most denatured alcohol is denatured with methyl alcohol. The water is
>just there to dilute it.
>
>But the denaturing can be done with several substances.

Maybe he should have asked about the best denatured alcohol, so the thread would evolve into the best desoldering braid :-).
73 Gary N4AST

4608. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 00:16:00 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <5dsuuvo83efaee4renu5elda408k3dli0m@4ax.com>
Source record: 29975

On Sun, 28 Dec 2003 23:33:02 GMT, Mike Coslo <mcoslo@adelphia.net>
wrote:

>But the denaturing can be done with several substances.
>
>http://laws.justice.gc.ca/en/E-14/C.R.C.-c.568/98295.html
>
>has some regulations for denatured alcohol. It's for Canada, but I'm
>sure it will apply to most places. It is fairly far down the page.
>
That is what I expected, and would have been fine with. But this
particular one has acetone, and several other things. Since I didn't
buy it, I can't read off the other ones.

The regs say that it must be denatured to avoid certain taxes and
sales regs, but I agree that there are multiple ways to do it.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4609. Re: Zener Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 00:39:06 UTC
From: DOUGLAS SNOWDEN <SNOWDEN@peoplepc.com>
Message-ID: <vv0dkt19p13a76@corp.supernews.com>
Source record: 29989

I think I remember seeing something about this at AG6K
web site. I built a 3-1000Z amp once and strung 1N5400 series diodes
together. Of course the bias was lower.

Doug N4IJ

<rick1_nospam@ultranet.com> wrote in message
news:3feb9d8f.6066667@news.rcn.com...
> Skip <Skip@none.co> wrote:
>
> >Hello List,
> >
> >I am looking for a source for a Zener Diode. I am building an HF
> >Amplifier using a GS-35b and the schematic I'm using to build the amp
> >calls for a 36v 50w zoner diode for bias. Here in New Zealand there
> >does not seem to be anyone with anythings close to what I need.
> >
> > Also, would it be possible to string a few lower volt watt zeners
> >together to come up with a close value to what is needed?
> >
> >Thanks for the help
> >
> >Skip..
>
> 36V Zeners are available from www.bgmicro.com. I'm not sure about the
> power rating though. You might have to use it with a transistor to
> handle the current.
>
> Rick
>

4610. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 01:26:39 UTC
From: Richard Henry <rphenry@home.com>
Message-ID: <lpLHb.15683$7D3.7081@fed1read02>
Source record: 29976
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

"Jeff Wisnia" <jwisnia@conversent.net> wrote in message
news:3FEF42FA.4E0675B5@conversent.net...
>
>
> Richard Henry wrote:
>
> > "Alan Horowitz" <alanh_27@yahoo.com> wrote in message
> > news:1e3670a7.0312280944.21212553@posting.google.com...
> > > how to sharpen the mini dike cutters and nipper cutters used in
> > > electrical & electronic work?
> > >
> > > They're too small to handle with jigs, and the blades don't even open
> > > very widely. Yet, their utility is directly proportional to how
> > > recently they've been sharpened/honed.
> >
> > Hard cone-shaped grinder head for Dremel tool.
>
> You've got a steadier hand and better eye than me, Richard...

Good point. Anyone else remember the TV miniseries Twin Peaks, where the opening sequence showed an automated sawmill-blade-sharpening machine?

A true story: I bought my first pair of cutters when I was working summers as an apprentice electrician. Sometime during the second summer, I cut a live cable, which burned a notch in the blades just perfect for stripping #14 wire.

A couple of years back, I changed jobs, so I was retrieving my tools from the R&D lab. I saw a pair of notched-blade cutters just like I remembered. After a brief discussion with one of the lab techs, who said they were his and had a story similar to mine. I thought that was too much of a coincidence, so I stuck them in my toolbox.

Last month, I was cleaning out my garage and found two pairs of notched-blade cutters.

4611. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 02:03:38 UTC
From: bamboo@localnet.com
Message-ID: <23e8adb1.0312281803.25325838@posting.google.com>
Source record: 29977
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

alanh_27@yahoo.com (Alan Horowitz) wrote in message
news:<1e3670a7.0312280944.21212553@posting.google.com>...
> how to sharpen the mini dike cutters and nipper cutters used in
> electrical & electronic work?
>
> They're too small to handle with jigs, and the blades don't even open
> very widely. Yet, their utility is directly proportional to how
> recently they've been sharpened/honed.

I sharpen for a living.
My advice is to do them by hand with a diamond file such as an ez-lap
Grinding takes off too much material too quickly and you never get
them to meet just right.

4612. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 02:18:41 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <hm3vuvck9b5apsqvq8rtlmuevdvg7q6kpv@4ax.com>
Source record: 29978

On 29 Dec 2003 00:01:11 GMT, jgboyles@aol.com (JGBOYLES) wrote:

>>Most denatured alcohol is denatured with methyl alcohol. The water is
>>just there to dilute it.
>>
>>But the denaturing can be done with several substances.
>
>Maybe he should have asked about the best denatured alcohol, so the thread
>would evolve into the best desoldering braid :-).
>73 Gary N4AST

How many brands of desoldering braid are there, and how distinctive
are they from each other?

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4613. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 03:02:39 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FEF9948.2EAEA1AB@earthlink.net>
Source record: 29979

"Gary S." wrote:
>
> On 29 Dec 2003 00:01:11 GMT, jgboyles@aol.com (JGBOYLES) wrote:
>
> >>Most denatured alcohol is denatured with methyl alcohol. The water is
> >>just there to dilute it.
> >>
> >>But the denaturing can be done with several substances.
> >
> >Maybe he should have asked about the best denatured alcohol, so the thread
> >would evolve into the best desoldering braid :-).
> >73 Gary N4AST
>
> How many brands of desoldering braid are there, and how distinctive
> are they from each other?
>
> Happy trails,
> Gary

I have seen at least a half dozen brands. They seem to have different
flux formulations because some work a lot better than others. That is
why I switched to buying bulk ground braid and liquid flux. (Kester 197)

--
Merry Christmas!

Take care, and God bless.
Michael A. Terrell
Central Florida

4614. Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 03:35:27 UTC
From: Virgil Smith <vsmith26@comcast.net>
Message-ID: <3iNHb.504277$275.1417484@attbi_s53>
Source record: 29980

I have a bunch of oddball crystals that I want to test. I know I can just build up a generic oscillator to find the resonant frequency, but out of curiousity I would like to know the quality of the things, too.

Anyone know of any neat ideas for measuring the Q of a crystal?

I would welcome any and all suggestions,

-vs-

4615. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 04:10:00 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <3FEFA914.EC5C0F4E@earthlink.net>
Source record: 29981

Bill Turner wrote:
>
> On Sun, 28 Dec 2003 17:03:08 GMT, "Michael A. Terrell"
> <mike.terrell@earthlink.net> wrote:
>
> > For some things I remove flux with a spray can of carburetor cleaner.
> >It is a mix of Toluene, Acetone and Methanol.
>
> --------------------
>
> That's a nasty combination. Be sure it never gets on any plastics.
>
> --
> Bill W6WRT

I use it to clean flux off soldered metal shields, or when I restuff
oil filled bathtub capacitors. I'm aware of the damage to plastics. I
worked in electronics manufacturing myself. In some ways I miss the
circuit board washing machine, and just handing a board to the woman in
the cleaning room for hand cleaning after I had repaired it.
--
Merry Christmas!

Take care, and God bless.
Michael A. Terrell
Central Florida

4616. Re: Who makes the best solder braid?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 04:50:24 UTC
From: "Gary S." <Idontwantspam@net>
Message-ID: <9ecvuvop0rr383astkrauos4gm4ccmqtfa@4ax.com>
Source record: 29982

On Sun, 28 Dec 2003 19:54:42 -0800, Bill Turner <noway@nohow.com>
wrote:

>On Sun, 28 Dec 2003 23:33:02 GMT, Mike Coslo <mcoslo@adelphia.net>
>wrote:
>
>>Most denatured alcohol is denatured with methyl alcohol.
>
>Methyl alcohol should be avoided around plastics because it will attack
>some of the softer ones. Isopropyl is the safest of all the many
>alcohols.
>
>Before I retired I was a manufacturing engineer in the aircraft
>electronics industry and ran many tests of this nature. I was never
>able to harm any plastic with pure isopropyl, but methyl and ethyl both
>caused damage to some materials. Of course, we were able to buy pure
>isopropyl in 55 gallon drums. :-)

Yes, I have seen it that way, and we used enough to need the 55 gallon
drums.

Goes to show that reading labels is important for all sorts of things.

At another time, I was at a place which had a process which required
the pure 190 proof ethanol. As this was drinkable, it had an ATF tax
stamp just like you would see on a bottle of liquor.

Since the tax is proportional to the alcohol content, the tax was more
than the alcohol itself.

Happy trails,
Gary (net.yogi.bear)
---
at the 51st percentile of ursine intelligence

Gary D. Schwartz, Needham, MA, USA
Please reply to: garyDOTschwartzATpoboxDOTcom

4617. Re: Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 07:08:42 UTC
From: k7itm@aol.com
Message-ID: <3200347.0312282308.ec67456@posting.google.com>
Source record: 29983

If you have access to old QSTs, you should be able to find articles about measuring crystal parameters. Look especially for things by Wes Hayward, W7ZOI. There's a fairly simple crystal-tester you can build to measure enough parameters to extract equivalent L, Cs, Cp and R, I believe. I 'spose someone will pop in with a more specific reference for you.

Cheers,
Tom

"Virgil Smith" <vsmith26@comcast.net> wrote in message news:<3iNHb.504277$275.1417484@attbi_s53>...
> I have a bunch of oddball crystals that I want to test. I know I can just
> build up a generic oscillator to find the
> resonant frequency, but out of curiousity I would like to
> know the quality of the things, too.
>
> Anyone know of any neat ideas for measuring the Q of a
> crystal?
>
> I would welcome any and all suggestions,
>
> -vs-

4618. Re: Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 07:49:32 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000002.0071fa48@btinternet.com>
Source record: 29984

Hi,

To calculate Q at series resonance, you will need to ascertain both the effective series resistance and one of the series reactances (XL or XC). In his Jan/Feb 2002 article "Quartz Crystal Parameter Measurement", Jack Hardcastle, G3JIR uses a simple test rig and a mathematical/graphical method to determine both the resistance and effective series capacitance.

There is an obvious error in the circuit to look out for though, where an extra series crystal (Y2) was inadvertently added by the draughtsman.

Cheers - Joe

4619. Re: Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 07:53:12 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.00000003.007556e5@btinternet.com>
Source record: 29985

Oops!

I should have said that the article was in 'QEX'.

Cheers - Joe

4620. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 10:36:50 UTC
From: Karl Vorwerk <kfvorwerk@worldnet.att.net>
Message-ID: <6tTHb.253725$Ec1.8786620@bgtnsc05-news.ops.worldnet.att.net>
Source record: 29986
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

My brother has a pair too.
Karl

"Richard Henry" <rphenry@home.com> wrote in message
news:lpLHb.15683$7D3.7081@fed1read02...
>
> "Jeff Wisnia" <jwisnia@conversent.net> wrote in message
> news:3FEF42FA.4E0675B5@conversent.net...
> > >
> > >
> > > Richard Henry wrote:
> > >
> > > > "Alan Horowitz" <alanh_27@yahoo.com> wrote in message
> > > > news:1e3670a7.0312280944.21212553@posting.google.com...
> > > > > how to sharpen the mini dike cutters and nipper cutters used in
> > > > > electrical & electronic work?
> > > > >
> > > > They're too small to handle with jigs, and the blades don't even
open
> > > > very widely. Yet, their utility is directly proportional to how
> > > > recently they've been sharpened/honed.
> > > >
> > > Hard cone-shaped grinder head for Dremel tool.
> > >
> > You've got a steadier hand and better eye than me, Richard...
> >
> Good point. Anyone else remember the TV miniseries Twin Peaks, where the
> opening sequence showed an automated sawmill-blade-sharpening machine?
>
> A true story: I bought my first pair of cutters when I was working
summers
> as an apprentice electrician. Sometime during the second summer, I cut a
> live cable, which burned a notch in the blades just perfect for stripping
> #14 wire.
>
> A couple of years back, I changed jobs, so I was retrieving my tools from
> the R&D lab. I saw a pair of notched-blade cutters just like I
remembered.
> After a brief discussion with one of the lab techs, who said they were his
> and had a story similar to mine. I thought that was too much of a
> coincidence, so I stuck them in my toolbox.
>
> Last month, I was cleaning out my garage and found two pairs of

> notched-blade cutters.
>
>
>

4621. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 10:57:33 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <xMTHb.11552$BJ4.5680@nwrdny03.gnilink.net>
Source record: 29987
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

I have had very good results by grinding across the flat closed face of the cutters.
If you look at the construction of the closed jaws, you'll probably see that they form a relatively flat face on the outside, with a vee-shaped profile on the inside. Also, if you hold the cutters up to a light with the jaws closed and the flat face towards you, you can easily see any places where the jaws are 'dinged'.
Now take the cutters over to a grinder or belt sander and, keeping the jaws closed, grind the flat face away uniformly. As you remove face material, you'll see that the jaws take on a very sharp new edge and there will be less light leakage through the closed jaws. Make sure you don't use a grinding wheel or sanding belt that is too coarse for this operation. For the final step, lap the newly ground closed face with a finer abrasive.
While at the grinder, I also like to form a nice sharp peak at the tip of the jaws so I can get into small places and cut fine things (like one leg of an IC).

You can get a uniform, razor-sharp cutting edge with this technique. It's good for a couple of re-sharpenings, then you should discard them.

Joe
W3JDR

"Karl Vorwerk" <kfvorwerk@worldnet.att.net> wrote in message
news:6tTHb.253725$Ec1.8786620@bgtnsc05-news.ops.worldnet.att.net...
> My brother has a pair too.
> Karl
>
> "Richard Henry" <rphenry@home.com> wrote in message
> news:lpLHb.15683$7D3.7081@fed1read02...
> >
> > "Jeff Wisnia" <jwisnia@conversent.net> wrote in message
> > news:3FEF42FA.4E0675B5@conversent.net...
> > >
> > >
> > > Richard Henry wrote:
> > >
> > > > "Alan Horowitz" <alanh_27@yahoo.com> wrote in message
> > > > news:1e3670a7.0312280944.21212553@posting.google.com...
> > > > > how to sharpen the mini dike cutters and nipper cutters used in
> > > > > electrical & electronic work?
> > > > >
> > > > > They're too small to handle with jigs, and the blades don't even
> open

> > > > > very widely. Yet, their utility is directly proportional to how
> > > > > recently they've been sharpened/honed.
> > > >
> > > > Hard cone-shaped grinder head for Dremel tool.
> > >
> > > You've got a steadier hand and better eye than me, Richard...
> >
> > Good point. Anyone else remember the TV miniseries Twin Peaks, where
the
> > opening sequence showed an automated sawmill-blade-sharpening machine?
> >
> > A true story: I bought my first pair of cutters when I was working
> summers
> > as an apprentice electrician. Sometime during the second summer, I cut
a
> > live cable, which burned a notch in the blades just perfect for
stripping
> > #14 wire.
> >
> > A couple of years back, I changed jobs, so I was retrieving my tools
from
> > the R&D lab. I saw a pair of notched-blade cutters just like I
> remembered.
> > After a brief discussion with one of the lab techs, who said they were
his
> > and had a story similar to mine. I thought that was too much of a
> > coincidence, so I stuck them in my toolbox.
> >
> > Last month, I was cleaning out my garage and found two pairs of
> > notched-blade cutters.
> >
> >
> >
>
>

4622. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 13:56:56 UTC
From: jim <jim@noname.com>
Message-ID: <3FF032D6.1EEF@noname.com>
Source record: 29988
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

Alan Horowitz wrote:
>
> how to sharpen the mini dike

mess with thier girl

4623. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 17:15:44 UTC
From: alanh_27@yahoo.com
Message-ID: <1e3670a7.0312290915.4db6a4b6@posting.google.com>
Source record: 29990
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

bamboo@localnet.com (Beecrofter) wrote
> I sharpen for a living.

what do you call your profession?

Are there any tinkers left?

4624. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 17:39:47 UTC
From: Ross Mac <this.is.a.mung@example.invalid>
Message-ID: <DFZHb.254857$Ec1.8819276@bgtnsc05-news.ops.worldnet.att.net>
Source record: 29991
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

"Beecrofter" <bamboo@localnet.com> wrote in message
news:23e8adb1.0312281803.25325838@posting.google.com...
> alanh_27@yahoo.com (Alan Horowitz) wrote in message
news:<1e3670a7.0312280944.21212553@posting.google.com>...
> > how to sharpen the mini dike cutters and nipper cutters used in
> > electrical & electronic work?
> >
> > They're too small to handle with jigs, and the blades don't even open
> > very widely. Yet, their utility is directly proportional to how
> > recently they've been sharpened/honed.
>
> I sharpen for a living.
> My advice is to do them by hand with a diamond file such as an ez-lap
> Grinding takes off too much material too quickly and you never get
> them to meet just right.

Grinding won't take off too much unless you do just that! I watched a tool
and die man sharpen a pair of flush cut dikes to like new on a special
grinder used in that industry.
The big catch is..."do you have a friend in the machining biz"!

4625. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 18:18:47 UTC
From: Steve Dunbar <stvdnb@NOSPAMyahoo.com>
Message-ID: <vv0s0b30ahm14d@corp.supernews.com>
Source record: 29992
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

Beecrofter wrote:

> My advice is to do them by hand with a diamond file such as an ez-lap
> Grinding takes off too much material too quickly and you never get
> them to meet just right.

I agree 100%. I used to work in the tool crib for a company that made cable assemblies and wiring harnesses. We needed sharp dikes for cutting small wires and deflashing overmolded connectors. I used a diamond file (DMT Duofold), or a bit of fine sandpaper held against a 6" steel rule. You need to be careful not to round over the tips of the blades.

Good quality small dikes are expensive. I think we paid about $35 for Lindstroms, and around $50 for Swanstrom. These cutters can last for several years of heavy use if they're taken care of and not abused. Cutting hard wire or dropping them point first on a hard concrete floor can ruin them instantly.

Swanstrom offers a reconditioning service for dikes, but they have a minimum order of $75. <http://www.swanstromtools.com/recon.htm>

--
--
Steve

4626. Re: Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 18:53:59 UTC
From: Virgil Smith <vsmith26@comcast.net>
Message-ID: <bL_Hb.682027$HS4.4836768@attbi_s01>
Source record: 29993

"Joe McElvenney" <ximac@btinternet.com> wrote in message
news:VA.00000003.007556e5@btinternet.com...
> Oops!
>
> I should have said that the article was in 'QEX'.
>
>
> Cheers - Joe
>
>

Hi, Joe:

Sounds like just what I need. Thanks a lot!

(Now to dig up the back issue of QEX.)

73,

-vs-

4627. Ham equipment for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 20:08:05 UTC
From: Carl Walthall <w16857@motorola.com>
Message-ID: <bsq0g0fhi1@avnika.corp.mot.com>
Source record: 29996
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

I selling some old toys so I can get new one's.

Kenwood TL-922A Amp.
Will do 160-10 meters but 10 meter option not installed, 1.5KW, (2) 3-500Z
Very nice condition with a few scatches, will send pictures on request.
$950.00 O.B.O plus shipping.

ICOM IC-2720H
2 Meter / 440 Mhz daul band mobile, lots of features and in new condition.
Radio is 6 months old. $275.00 O.B.O plus shipping.

Yeasu FT90R
The radio is in new condition but I lost the manual and mobile bracket.
Should be able to download the manual from Yeasu's site. $175.00 O.B.O plus
shipping.

Will send pictures on request.
Please contact me at.
n8cdw@direcway.com

Carl

4628. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 20:22:17 UTC
From: jim <jim@noname.com>
Message-ID: <3FF08D28.5BBC@noname.com>
Source record: 29994
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

> A couple of years back, I changed jobs, so I was retrieving my tools from
> the R&D lab. I saw a pair of notched-blade cutters just like I remembered.
> After a brief discussion with one of the lab techs, who said they were his
> and had a story similar to mine. I thought that was too much of a
> coincidence, so I stuck them in my toolbox.
>
> Last month, I was cleaning out my garage and found two pairs of
> notched-blade cutters.

4629. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 20:29:23 UTC
From: jim <jim@noname.com>
Message-ID: <3FF08ED0.5772@noname.com>
Source record: 29995
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

> the R&D lab. I saw a pair of notched-blade cutters just like I remembered.
> After a brief discussion with one of the lab techs, who said they were his
> and had a story similar to mine. I thought that was too much of a
> coincidence, so I stuck them in my toolbox.
>
> Last month, I was cleaning out my garage and found two pairs of
> notched-blade cutters.

reminds me back in 1993 we just bought a new 93 taurus, silver/blue... no tags on car yet... went to check on something at college with the whole family... it was hot as hell out there... going back to the car the wife say, "for christ sakes dont just stand there, open it up and start up the air." I look inside and see a box of tissues on the seat... ask the wife did she leave them there.. she says no.. i said then this is not our car(an exact copy of it though).. ours was on the next row... back in 1956 as i kid i remeber a story a friend told me: his uncle had just bought a 1956 ford, victoria, convertible, black and yellow(with a black rag top)... pretty nice looking car back then.. the uncle and his wife go the the supermaket, park the car in the lot(big lot) and buy the groceries and come out and open up the car and then open the trunk... the uncle ask the wife if she put all these clothes in the trunk... she says NO.. they then figure it is not their car..... they look all over and cannot find their car anywhere... they call the police... the police then check out the car and find out where it was sold and the vin. number... they contact the dealership and find out who bought it.. an old man who lived in the neighborhood... they drove over to his house and find that he drove off in his uncle's car and put it into his garage..... so with a pair of pliers i guess it can happen....

4630. Toluene (was: Who makes the best solder braid?)

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 21:18:46 UTC
From: Frank Dinger <gm0cszx.xkn6wh@ntlworld.com>
Message-ID: <eDeIb.316$Qr5.119377@newsfep2-win.server.ntli.net>
Source record: 29857

> > For some things I remove flux with a spray can of carburetor cleaner.
> >It is a mix of Toluene, Acetone and Methanol.
>
> ____________________
>
> That's a nasty combination. Be sure it never gets on any plastics.
======================
Indeed especially the toluene (a benzol derivative) is particularly nasty .
Do NOT bring in contact with skin or inhale. It can cause cancer.

Many moons ago some benzol (chemical formula C6H6) was added to car petrol
to increase the octane rating , but because of the above problems an
alternative was added to achieve the same. Also certain paints (for example
those for concrete workshop floors) contained toluene (an excellent
solvent) but these are now banned ,at least in the EU.

Frank GM0CSZ / KN6WH

4631. Re: Yahoo Group for Radio Shack DX-394 Users

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 22:05:28 UTC
From: Tom Holden <holden_family@sympatico.ca>
Message-ID: <lv1Ib.3572$Vl6.931110@news20.bellglobal.com>
Source record: 29847
Cross-posted to:
rec.radio.shortwave,alt.radio.scanner,alt.radio.scanner.uk,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

As co-ListOwner/co-Moderator of the RADIOSHACKDX394 and DX-394C Yahoo groups, I think I have a small obligation and privilege as 2003 draws to a close to look back over the past year in the life of our subject, the remarkable Radio Shack/Realistic DX-394 communications receiver plus the activity in our groups and share some observations with you. This has indeed been a remarkable year for both - the number of messages and growth in membership perhaps being the easiest indicators.

Over the nearly three years since jimtown54 founded RADIOSHACKDX394 it has grown to some 550 members, one of the largest product-specific communications receiver groups in Yahoo, second perhaps only to the DX398 group. The message archive has mushroomed from a mere 88 messages added in 2001, an explosion of 546 more in 2002, to an amazing 1450 new messages in 2003. This signifies a growing knowledge of our DX-394 community and keen interest in the possibilities for improving this economical, feature-rich radio. Most members are from the US and Canada, there's a significant number from the UK and small numbers from almost every continent.

Early this year, I was prompted to consolidate all the known modifications into a master list or index so that people would not have to search in the thousands of messages and scattered pages on the Internet to discover the proverbial needle. Through the year, this index has grown to include 62 mods - by far, more than for any other radio. For those willing to experiment with and learn a little radio-electronics, there can be few more intriguing and rewarding platforms than the DX-394 as it combines both digital control and conventional analog RF electronics in a box that is larger and more spacious than most radios in its price range. It is relatively easy to work on, if you have good eyes and a steady hand!

Interest in the digital control possibilities led to the formation of the DX-394C group last winter - now numbering 91 members and 89 messages. Few have undertaken the challenge of converting the DX-394 to computer control but the Files section is a rich trove of information to help the daring ones embark. The group has been quiet since April - I hope to see more activity through the long winter nights and to resume my own PIC-based project (or re-launch it on another platform).

Later in the year, John (KB9KQN) launched the DX394L group for those disinterested in modifications and wanting a community of fellow DX-394 users with whom they could exchange general listening tips and interesting frequencies.

John and Howard (derny_99) agreed to take on co-Moderator responsibilities for RADIOSHACKDX394 - new membership requests are now processed by one of us

within hours of the application. Spam and off-topic postings have been pretty well controlled. Recently, we escalated the security and now require Moderator approval for initial postings from new members.

Trade in the DX-394 on eBay continues at a steady pace since I started tracking sales from Oct 24. Fifty DX-394's have been sold since then, an average of over 5 per week. Average selling price was US$159 out of a range from $105.50 to $265. The higher prices being commanded for well-modified radios.

So 2003 has been a banner year for the DX-394. Let's hope it continues in 2004. I wish you good health and prosperity in the coming year along with great listening and learning with your DX-394(s).

73, Tom VE3MEO

4632. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 23:08:37 UTC
From: Ken Bessler <kg0wxIHATESPAM@yahoo.com>
Message-ID: <bsqc5e$c8dc$1@ID-213023.news.uni-berlin.de>
Source record: 29848
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

"jim" <jim@noname.com> wrote in message news:3FF032D6.1EEF@noname.com...
> Alan Horowitz wrote:
> >
> > how to sharpen the mini dike
>
> mess with thier girl

PLONK

4633. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-29 23:57:59 UTC
From: bamboo@localnet.com
Message-ID: <23e8adb1.0312291557.28078990@posting.google.com>
Source record: 29849
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

alanh_27@yahoo.com (Alan Horowitz) wrote in message
news:<1e3670a7.0312290915.4db6a4b6@posting.google.com>...
> bamboo@localnet.com (Beecrofter) wrote
> > I sharpen for a living.
>
> what do you call your profession?
>
> Are there any tinkers left?

Daily Grind Sharpening Service

Edge Monger?

My accountant just lists me as machinest.

4634. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 00:17:19 UTC
From: Wim Lewis <wiml@underhill.hhhh.org>
Message-ID: <bsqg6f$3jm$0@216.39.137.58>
Source record: 29850

In article <3fd50e8d$1@duster.adelaide.on.net>,
duckman <donw@internode.on.net> wrote:
>Had a question for open discussion
>
> Is there available, can it be done to have an AM and/ and or FM transmitter
>that will broadcast over the entire AM and FM broadcast band at the same
>time. Or at least multiple stations. E.G.

Do you want to broadcast a large number of different signals simultaneously
from the same transmitter, or many copies of the same signal?

Both should be pretty straightforward to do... if you want to broadcast
many copies of the same signal, you could just replace the LO with
a circuit that generates a number of carriers, superimposed. Each
frequency component in the LO will produce a corresponding copy of the
audio signal in the RF or IF output.

I don't know if it's possible to broadcast a single audio signal spread
over a wide band (instead of having one copy at each standard AM station
frequency, as above). My intuition says it should be possible to
amplitude-modulate some wideband noise, and any AM receiver with an
envelope detector would recover the signal. But mathematically, I'm not
so sure --- where would the sidebands go, how would the receiver
distinguish them from the overlapping "carrier"? Or could this be
thought of as a sort of self-despreading spread spectrum signal?
Perhaps I should just go to bed ...

--
Wim Lewis <wiml@hhhh.org>, Seattle, WA, USA. PGP keyID 27F772C1

4635. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 02:23:07 UTC
From: ghirardi@wt.net
Message-ID: <eec6920c.0312291823.45c6aee6@posting.google.com>
Source record: 29851
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

Joe (#7 in the responses) has the right idea. But the best tool for sharpening small dikes is a one inch belt sander, used where the belt is not backed up. It is pliable enough to follow the contour of the cutters. Try to use a grinder and you will have to be six times as careful. The magic trick is to grind where the cutters touch, and not grind where they don't touch. Eventually they will touch everywhere. Cut a piece of cardboard ever once in a while during the grinding process to keep the feathered edge from faking you out. The cutters will come out as flush cut cutters. A little touch-up with a stone to get a more severe angle at the edge will make them a little tougher. I usually don't bother.

I have sharpened cutters like this for probably 25 years. When I throw away a pair of cutters, the metal on the handle side of the hinge pin is probably hitting before the blades close. I have filed away the handle side a couple of times when I liked the cutters and wanted to sharpen them one-more-time. The mark of a good pair of dikes is whether it will cut a hair right at the tip.

Brownnsharp

4636. CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 03:49:39 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3ff0f678$0$1752$5a62ac22@freenews.iinet.net.au>
Source record: 29852

Dear all

I am looking for ideas for a software CW decoder with ASCII output.
There are a number of programs published - what algorithms do these use in general?
I presume the software would have to have some sort of PLL to select and filter a signal
and then an adaptive algorithm to allow for sending operator error in keying, noise and variations in keying speed. I am looking for a solution which trades off accuracy for minimum codespace and speed. If necessary, some of the work could be done in hardware - eg I could limit and square up the audio waveform and present it the processor as digital level transitions, so AGC would not be an issue.
Any ideas?

Thanks in advance

Richard

4637. Re: Yahoo Group for Radio Shack DX-394 Users

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 06:49:53 UTC
From: "jim.gm4dhj" <jim.gm4dhj@ntlworld.com>
Message-ID: <sd9Ib.85$Qr5.9885@newsfep2-win.server.ntli.net>
Source record: 29853
Cross-posted to:
rec.radio.shortwave,alt.radio.scanner,alt.radio.scanner.uk,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Junk...

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.556 / Virus Database: 348 - Release Date: 12/26/03

4638. Re: CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 09:31:09 UTC
From: "Wolfgang K. Meister" <no.mail@please.com>
Message-ID: <ach2vvouom3154or4odrng9c0g8gl697or@4ax.com>
Source record: 29854

On Tue, 30 Dec 2003 11:49:39 +0800, "Richard Hosking"
<richardh@iinet.net.au> wrote:

>I am looking for ideas for a software CW decoder with ASCII output.
>There are a number of programs published - what algorithms do these use in
>general?

There are two steps that you have complete: make a digital signal out
of the received analog output - and decode it.

Have a look at:
http://wwwhome.cs.utwente.nl/~ptdeboer/ham/rscw/algorithm.html

73s
OE1MWW
Wolfgang

4639. Re: CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 12:10:53 UTC
From: Richard Hosking <richardh@iinet.net.au>
Message-ID: <3ff16bfb$0$1741$5a62ac22@freenews.iinet.net.au>
Source record: 29855

Wolfgang
Thanks for your reply
I am not very sophisticated mathematically and I have not studied communication theory. Your article is most helpful. However it looks as though it might be somewhat hard to implement in a small/slow codespace such as a microcontroller. (It may well be impossible to do this job in such a device.)
Still I thought I would try.
Off the top of my head I thought I would start with a hard limited audio signal, with transitions at digital hi/low level, rather than a sampled signal. This would obviously limit the signal to noise ratio, but I was not planning to use this for weak signal work. The clock/demodulation algorithm would then deal with the timing between transitions of the signal, rather than a spectral analysis. This would be relatively simple to implement with a timer to count the interval between transitions. The controller could track carrier freq with a Freq Locked Loop algorithm, over a limted range.(say 600-900 Hz) If there are no transitions or randomly timed transitions (noise), then the controller assumes a space Similarly, the controller tracks sending speed by timing the length of dots and dashes, and adjusting the algorithm to track this. This length could be initially acquired by timing an initial series of dots/dashes. The length would presumably fall into two groups, with the shorter length being dots. The average of these shorter "on" periods would be the bit rate. The controller could keep a moving average of the signal, discarding any "on" periods that are longer than say 2.0 times the current average. Finally, I would use the bit rate to time gaps >(say) 2.5 times the bit rate to separate characters and decode them with a simple lookup table.
No doubt there are lots of problems with this approach!
I would be interetsed in your comments

Richard

Wolfgang K. Meister <no.mail@please.com> wrote in message news:ach2vvouom3154or4odrng9c0g8gl697or@4ax.com...
> On Tue, 30 Dec 2003 11:49:39 +0800, "Richard Hosking"
> <richardh@iinet.net.au> wrote:
>
> >I am looking for ideas for a software CW decoder with ASCII output.
> >There are a number of programs published - what algorithms do these use in
> >general?
>
> There are two steps that you have complete: make a digital signal out
> of the received analog output - and decode it.
>

> Have a look at:
> http://wwwhome.cs.utwente.nl/~ptdeboer/ham/rscw/algorithm.html
>
> 73s
> OE1MWW
> Wolfgang

4640. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 12:46:58 UTC
From: John Walton <jdwalton@comcast.net>
Message-ID: <gqudnSVsYrao7myiRVn-iQ@comcast.com>
Source record: 29856
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.engr.manufacturing

I've come to the same conclusion. A good pair of mini-dikes is worth the investment, so much so that I asked my wife to get me a Xcelta pair of flush cutters for Christmas -- they were about $70. I've pitched the Xcelite ones. After a year or so they are just shot.

Jack

"Jon Elson" <elson@pico-systems.com> wrote in message news:3FEF1C6B.5080207@pico-systems.com...
>
>
> Alan Horowitz wrote:
> > how to sharpen the mini dike cutters and nipper cutters used in
> > electrical & electronic work?
> >
> > They're too small to handle with jigs, and the blades don't even open
> > very widely. Yet, their utility is directly proportional to how
> > recently they've been sharpened/honed.
>
> I have tried to do this with swiss files and small pocket sharpening
> stones. it really isn't worth the trouble, and they never work as
> well as a good new cutter. Yes, I hate to throw them away, too.
> But, I have bought some good Xcelite and other cutters that have served
> me well for years in light production work. I don't cut drill bits
> with them, however.
>

4641. SSTV Website Update ON4JU

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 14:45:30 UTC
From: Patrick <on4ju@amsat.org>
Message-ID: <3ff18f90$0$20062$ba620e4c@news.skynet.be>
Source record: 29858

```
OM,
SSTV Website update ON4JU
New pictures december

http://users.skynet.be/on4ju

Thanks for visite
Happy 2004
'73s
Patrick ON4JU
```

4642. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 16:19:51 UTC
From: Franz Heymann <notfranz.heymann@btopenworld.com>
Message-ID: <bss8j6$10m$12@sparta.btinternet.com>
Source record: 29859
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

"brownnsharp" <ghirardi@wt.net> wrote in message
news:eec6920c.0312291823.45c6aee6@posting.google.com...

[snip]

Until I had seen this thread, I would have said that it was imppossible to
have so much to say about sharpening a pair of cutters.

Franz

4643. Re: CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 17:14:54 UTC
From: LA8AK@online.no
Message-ID: <3ff19e99.91964835@news.online.no>
Source record: 29860

On Tue, 30 Dec 2003 11:49:39 +0800, "Richard Hosking"
<richardh@iinet.net.au> wrote:

> If necessary,
>some of the work could be done in hardware - eg I could limit and square up
>the audio waveform and present it the processor as digital level
>transitions, so AGC would not be an issue.
>Any ideas?
>
>Thanks in advance
>
>Richard
>
Would also be interested, but have not experimented in this field
since I used the Apple II computer. Good decoding was a problem, but
also too often simple detectors were described. I did some experiments
with slide-back detector which was originally constructed for two-tone
RTTY (850Hz shift) and as such a good choice for single signal, but I
couldn't see much difference from the ATC network used for RTTY

Also had some good experience with MC1496, S042P similar detectors
instead of using envelope detectors

73
Jan-Martin
LA8AK
http://home.online.no/~la8ak/c11.htm
--
Amount of SPAM is so large that MailWasher must delete 99% of the incoming mails
Cannot check every email manually. Please use intelligent title for email.
Mails without titles or using just "hi" is deleted

4644. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 17:33:05 UTC
From: Circuit Breaker </dev/null@127.0.0.1>
Message-ID: <pan.2003.12.30.17.33.04.136350@bellsouth.net>
Source record: 29861

duckman wrote:
> <something suspicious>

I've been to about 5 different radio related groups this morning lurking for information about a problem I have in a similar field to this duckman guy, and (1) his request has been -- identically worded, if not mistaken -- in each of the groups I've read, a couple related to pirate radio, a couple related to professional broadcast radio, and a couple related to ham radio. What gives?

Anywhoo, I've got a similar question I post shortly.

I know someone who has a desire for a piece of equipment that does the same thing, but his reasoning is for people who blast their radios while going down the street. It would be merely for shutting them up -- after all, the person blaring the radio is usually the only one who wants to hear it.

Anyway, 73 de KE4EDD

--

```
__ ____
/ _| | _ \ Unregistered Linux User #18,000,002
| |__ | _ \
\__/ |___/ Learning is the ONLY substitution for EDUCATION!
```

4645. Re: CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 17:42:00 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <INilb.18967$E17.9279@nwrddc02.gnilink.net>
Source record: 29862

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3ff16bfb$0$1741$5a62ac22@freenews.iinet.net.au...
> Wolfgang
> Thanks for your reply
> I am not very sophisticated mathematically and I have not studied
> communication theory. Your article is most helpful. However it looks as
> though it might be somewhat hard to implement in a small/slow codespace
such
> as a microcontroller. (It may well be impossible to do this job in such a
> device.)
> Still I thought I would try.
> Off the top of my head I thought I would start with a hard limited audio
> signal, with transitions at digital hi/low level, rather than a sampled
> signal. This would obviously limit the signal to noise ratio, but I was
not
> planning to use this for weak signal work. The clock/demodulation
algorithm
> would then deal with the timing between transitions of the signal, rather
> than a spectral analysis. This would be relatively simple to implement
with
> a timer to count the interval between transitions. The controller could
> track carrier freq with a Freq Locked Loop algorithm, over a limted
> range.(say 600-900 Hz) If there are no transitions or randomly timed
> transitions (noise), then the controller assumes a space Similarly, the
> controller tracks sending speed by timing the length of dots and dashes,
and
> adjusting the algorithm to track this. This length could be initially
> acquired by timing an initial series of dots/dashes. The length would
> presumably fall into two groups, with the shorter length being dots. The
> average of these shorter "on" periods would be the bit rate. The
controller
> could keep a moving average of the signal, discarding any "on" periods
that
> are longer than say 2.0 times the current average. Finally, I would use
the
> bit rate to time gaps >(say) 2.5 times the bit rate to separate characters
> and decode them with a simple lookup table.
> No doubt there are lots of problems with this approach!
> I would be interetsed in your comments
>
> Richard
>
Many years back, I built a TTL deocder from a QST article- by Petway??
Anyway he used a number of storage registers- one for average dot length,

one for average character spece length and one for average word space length. After initialization, a clock would run at the receipt of each element. The count was then compared to previous average- if the clock count was larger, the average was incremented by 1; shorter, it was decremented by 1.
The machine did a surprisingly good job on hand sent Morse. Although the hardware technology is antiquated by today's standards, the algorithm was elegant and easily understood. I would estimate this article (2 or 3 parter) appeared in QST from the early 70's.

GL,

Dale W4OP

4646. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 18:08:03 UTC
From: Ghost Writer <SPAMFREE@SPAMFREE.COM>
Message-ID: <bajIb.4714$5M.99959@dfw-read.news.verio.net>
Source record: 29863

Ah YES..... I'd LOVE to come up with a device to blow out those extra loud car systems. HOW RIDICULOUS they are. Aside from such a device, the next good idea is invest in any companies making hearing aids. They WILL be JUMPING IN STOCK in about 5 years. Any names come to mind? I'd like to start looking. G.W.

"Circuit Breaker" </dev/null@127.0.0.1> wrote in message news:pan.2003.12.30.17.33.04.136350@bellsouth.net...
> I know someone who has a desire for a piece of equipment that does the
> same thing, but his reasoning is for people who blast their radios while
> going down the street. It would be merely for shutting them up -- after
> all, the person blaring the radio is usually the only one who wants to
> hear it.
>
> Anyway, 73 de KE4EDD

4647. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 18:16:41 UTC
From: Circuit Breaker </dev/null@127.0.0.1>
Message-ID: <pan.2003.12.30.18.16.41.527125@bellsouth.net>
Source record: 29864

Ghost Writer wrote:

> Ah YES..... I'd LOVE to come up with a device to blow out those extra loud
> car systems. HOW RIDICULOUS they are. Aside from such a device, the next
> good idea is invest in any companies making hearing aids. They WILL be
> JUMPING IN STOCK in about 5 years. Any names come to mind? I'd like to start
> looking. G.W.

;-) Google for: hearing aid "Mel Tillis"

--

__ ____
/ _| | _ \ Unregistered Linux User #18,000,002
| |__ | _ \
__/ |___/ Learning is the ONLY substitution for EDUCATION!

4648. Re: Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 18:23:46 UTC
From: wa5bdu@yahoo.com
Message-ID: <ca1a467b.0312301023.5f9f95bd@posting.google.com>
Source record: 29865

"Virgil Smith" <vsmith26@comcast.net> wrote in message news:<3iNHb.504277
>
> Anyone know of any neat ideas for measuring the Q of a
> crystal?
>
> I would welcome any and all suggestions,
>
> -vs-

Let's see if I can describe a method based on W7ZOI's efforts, with some updates by K8IQY. By the way, the W7ZOI techniques from QST were added as appendixes into one of Doug Demaw's ARRL books. Demaw integrated Hayward's various test jigs into one crystal tester. You can get a board from Far Circuits.

You put the crystal in a specific (typically 50 ohm) environment by putting 50 ohm attenuators between generator and crystal and between crystal and detector. The detector might be a diode detector plus voltmeter or an oscilloscope. You'll also have another 50 ohm 3 dB pad in series that can be switched in and out.

1. With the pad switched IN, adjust frequency until the peak output is read (resonance). Note the center frequency and meter indication.

2. Switch the pad OUT and find the frequencies above and below the center frequency that give the same indication. These are the + and ï¿½ 3 dB frequencies and the difference between them is the bandwidth.

Now you can calculate Q by dividing the center frequency by the bandwidth. Pretty low isn't it? This is a loaded Q, not the crystal's Q. The total resistance in the circuit is 50 ohms source plus 50 ohms load plus the crystal's yet unknown Rs.

3. Tune back to the center frequency where the output is at its peak. Unplug the crystal and substitute a pot of maybe 0 to 25 ohms range. (I actually just substitute fixed resistors since I don't have a decent pot like this.) When you find a value that gives the same meter indication as the crystal did, that is the value of Rs. (This is because we are at series resonance, so Xc and XL have cancelled.)

Alright. Another formula for loaded Q is XL / R. R in this case is 100 ohms plus the Rs you just measured. And XL is 2*PI*Fc*L, where Fc is the center frequency you measured earlier. You already have the loaded Q from step 2, so you are down to one unknown. Just solve for XL and/or L, which is the equivalent inductance of the crystal. In like manner, you can find the series C, since Xc = XL.

And finally, the Q you wanted (the crystal's Q) is XL / Rs.

Now you know about everything about the crystal and can get one of your Hayward or Demaw books and start designing some filters. Hayward has nice software for this in both Introduction to RF Design and Experimental Methods in RF Design, both from ARRL. If you want to include holder (parallel) C in your modeling, 5 pF is a good estimate.

Jim Kortge, K8IQY puts his crystal in a 12.5 ohm environment by using 4:1 (impedance) bifilar transformers into and out of the crystals (50 ohm attenuators are still used though, to assure known generator and load resistances). This has the advantage of making the resistance measurement easier, but it makes the loaded bandwidth smaller, so you need a good stable generator that you can read to the Hz. Those little DDS units are nice. Be sure to use filtering if necessary for signal purity. Jim designed a nice little VXO (variable crystal oscillator) that uses one of the crystals from the set you are measuring in the oscillator circuit. See it on NJQRP's page:

http://www.njqrp.org/pvxo/index.html

I followed Jim's lead but used resistive 50 to 12.5 ohm matching pads instead of transformers. That way I got rid of any reactive effects (which are minimal) of the transformers, but required a lot more driving power due to the loss in the matching pads.

OK, that was probably more than you wanted to know. Hope I remembered this stuff right.

73ï¿½Nick, WA5BDU
in Arkansas

4649. Transmitter tuning, antenna, etc

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 18:37:01 UTC
From: Circuit Breaker </dev/null@127.0.0.1>
Message-ID: <pan.2003.12.30.18.37.00.854506@bellsouth.net>
Source record: 29866

Hello group

Forgive me for not lurking a bit longer here, but there's plenty of interesting topic here so I'm going to be reading for a while yet....

I have recently built a small FM-Broadcast-band transmitter. I did this a year ago when I was spending a lot of time in the hangar working on my car. I got tired of all the crap my local radio stations are playing, and I simply don't have any locals that play anything decent.

So, I have my own collection of music that I wanted to pipe out to the hangar.

The first option was MP3's and playing them into the hangar's radio's line input via my laptop. Well, this got real old, real quick. I decided the better option was to take my desktop and add a line output to a small transmitter.

I built the transmitter (I'll get the URLs for the schematics if anyone wants them - they're very basic, and I very slightly modified them) on a Radio Smack breadboard I have, and it worked great. I even had it feeding a 10-foot length of 75-ohm TV coax into a pair of 30-guage antenna leads at the other end - I forget the actual length, but I think that each lead (dipole) is about 4.75 feet. I don't have my scratch papers with me, so I forget the numbers I used, but I think I was going for a half or 5/8 wavelength at center band (88.1 - 107.9 : 95.5???)

ON THE BREADBOARD, the thing worked beautifully. I live on an airpark with a 2600-foot runway, and we live in the middle. I drove in my car with a handheld FM receiver and I picked up the signal - barely - at the end of the runway, so I have about a 1300-foot radius of signal. That was then.

I decided I liked it enough to solder it together. Using a different style of PCboard (e.g., it didn't match the breadboard) it no longer worked. Same components, electronically the same positions. Triple checked. Twice. Then rebuilt twice, and checked again. Didn't work.

I decided this year to try again, starting from scratch, on the breadboard. Got it working again, if not as well, so I soldered again - this time to a matching PC board pattern. This time it works, but very very limited range.

I have tried various coils. Most homemade, one out of an old 49 MHz Walkie Talkie, and some commercial from a Radio Splat variety pack. I'm also using a ~ 20 to 40 pF variable capacitor from an old AM/FM handheld receiver.

When I use a very short (e.g., < 4 inches) antenna, it transmits, but only to the bathroom (about 10 feet away). If I use longer wire, it has to be coiled up, and is still very short range. I was using an external dipole before and got great range (considering) from it, and I want to continue using that.

I normally would think that one lead of the dipole goes to ANT OUT, and the other to chassis ground (which for a 9-v battery-operated device, I would expect to be the - leg). That kills it. If I have only the one lead of the antenna hooked up, I can get some signal, but not very good range (only slightly better than with 4" antenna). I discovered by accident (using a bare wire coil and having a loose shield of a piece of coax accidentally touching it) that by grounding the shield of the coax to POSITIVE 9v that I can tune it. But, that was still not a very good tuning. Range was okay, but still limited to about 20 feet.

I'm not too worried about it, except that I *KNOW* I am capable of a 1300-foot range with this thing, so I'd like to get at least a healthy proportion of that back (I might use this as a community radio that would have a total of about 60 homes in its range).

I find that the best result I've had over the past two days is with a bare wire coil, about two turns, on about a 3/16 " diameter wind. Aircore. Spacing about 1/16th to 1/8th of an inch. Unfortunately, I was unable to test my range when the "accident" happened, and also, I have not been able - with like components - to duplicate the "accident" exactly.

The transmitter itself works beautifully as far as tuning and stability and clarity and volume, if there is no antenna. Any antenna at all, and it won't tune.

I have looked on the web for information, but I've found nothing that helps me... only websites selling commercial radios, kits, etc. that I can't afford, being a poor college student. I've looked in the Radio Amatuer's Handbook for 1993, the latest edition we have, but it didn't help me - a bit too technical, and I'm a hands-on learner (also didn't help that the handbook uses parts I don't have and can't buy from a local Radio Slack store shelf). I also checked out the Antenna book from same year, it was about as useful as the R.A.H.

I know that without the schematics (sorry, I don't have time to get them now, but I will later if needed), and without seeing the device, it would be hard to tell me what's going wrong. I will take any advice into consideration though.

Many TIA and 73 de KE4EDD
--

```
__ ____
/ _| | _ \ Unregistered Linux User #18,000,002
| |__ | _ \
\__/ |___/ Learning is the ONLY substitution for EDUCATION!
```

4650. CW Sounder 1000 ohm coil voltage?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 19:38:17 UTC
From: Skipp <skipp025@yahoo.com>
Message-ID: <bssk79nnm3@woodrow.ucdavis.edu>
Source record: 29867
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Hello there,

I'm hoping some of you telegraph key and sounder collectors/operators will have an answer for me.

I've got a 1000 ohm sounder here that I'd like to operate. Is/was there as standard/defined voltage or current used by telegraph services for the various mechanical telegraph sounders, based on their coil resistance?

Thanks for your reply answers.

skipp025 at yahoo.com

4651. Re: Ham equipment for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 19:54:03 UTC
From: Larry Gagnon <lagagnon@fakeuniserve.com>
Message-ID: <vv3lrsajr46ib6@corp.supernews.com>
Source record: 29868
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Carl Walthall wrote:

> I selling some old toys so I can get new one's.
>
This newsgroup is for homebrew discussions only, not selling.

Larry VE7EA

4652. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 19:58:41 UTC
From: Mark Fergerson <nunya@biz.ness>
Message-ID: <3FF1D8F1.8030300@biz.ness>
Source record: 29869
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.electronics.repair,sci.physics,sci.engr.manufacturing

Franz Heymann wrote:
> "brownnsharp" <ghirardi@wt.net> wrote in message
> news:eec6920c.0312291823.45c6aee6@posting.google.com...
>
> [snip]
>
> Until I had seen this thread, I would have said that it was imppossible to
> have so much to say about sharpening a pair of cutters.

How many pairs have you ruined? I've notched quite a few
in my time. It ain't trivial when Accounting comes a
knocking. ;>)

Mark L. Fergerson

4653. Re: transmitter question - its a dousy

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 20:26:02 UTC
From: motsteve@attbi.com
Message-ID: <motsteve-3012031529010001@192.168.0.100>
Source record: 29870

In article <bsqg6f$3jm$0@216.39.137.58>, Wim Lewis
<wiml@underhill.hhhh.org> wrote:

> In article <3fd50e8d$1@duster.adelaide.on.net>,
> duckman <donw@internode.on.net> wrote:
> >Had a question for open discussion
> >
> > Is there available, can it be done to have an AM and/ and or FM transmitter
> >that will broadcast over the entire AM and FM broadcast band at the same
> >time. Or at least multiple stations. E.G.
>
> Do you want to broadcast a large number of different signals simultaneously
> from the same transmitter, or many copies of the same signal?
>
> Both should be pretty straightforward to do... if you want to broadcast
> many copies of the same signal, you could just replace the LO with
> a circuit that generates a number of carriers, superimposed. Each
> frequency component in the LO will produce a corresponding copy of the
> audio signal in the RF or IF output.
>
> I don't know if it's possible to broadcast a single audio signal spread
> over a wide band (instead of having one copy at each standard AM station
> frequency, as above). My intuition says it should be possible to
> amplitude-modulate some wideband noise, and any AM receiver with an
> envelope detector would recover the signal. But mathematically, I'm not
> so sure --- where would the sidebands go, how would the receiver
> distinguish them from the overlapping "carrier"? Or could this be
> thought of as a sort of self-despreading spread spectrum signal?
> Perhaps I should just go to bed ...

If you just want to jam, build a 10.7 MHz transmitter and turn it on when
desired. Most cheap radios don't have good IF rejection and the signal
will capture the normally weak incoming signal from the broadcast.
However, the whole thing is illegal no matter what the method.

Steve

4654. Re: how to sharpen mini dike cutters, nipper cutters?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 21:24:31 UTC
From: Loren Coe <loren@netnews.attbi.com>
Message-ID: <j2mIb.705017$Fm2.607042@attbi_s04>
Source record: 29871
Cross-posted to: rec.crafts.metalworking,rec.radio.amateur.homebrew,sci.engr.manufacturing

In article <gqudnSVsYrao7myiRVn-iQ@comcast.com>, John Walton wrote:
> I've come to the same conclusion. A good pair of mini-dikes is worth the
> investment, so much so that I asked my wife to get me a Xcelta pair of flush
> cutters for Christmas -- they were about $70. I've pitched the Xcelite
> ones. After a year or so they are just shot. > > Jack

Yikes! $70.00 mini-cutters? what about them will make them longer
lived than the Xcelites? replaceable blades? --Loren

4655. Re: Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-30 22:20:16 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <ASmIb.19361$tY5.10269@nwrdny01.gnilink.net>
Source record: 29872

See the "Examples" section of my web site to see how a DDS signal generator
and a little software makes these measurements easy:
http://mysite.verizon.net/jdrocci/

Joe
W3JDR

"Nick Kennedy" <wa5bdu@yahoo.com> wrote in message
news:ca1a467b.0312301023.5f9f95bd@posting.google.com...
> "Virgil Smith" <vsmith26@comcast.net> wrote in message news:<3iNHb.504277
> >
> > Anyone know of any neat ideas for measuring the Q of a
> > crystal?
> >
> > I would welcome any and all suggestions,
> >
> > -vs-
>
> Let's see if I can describe a method based on W7ZOI's efforts, with
> some updates by K8IQY. By the way, the W7ZOI techniques from QST were
> added as appendixes into one of Doug Demaw's ARRL books. Demaw
> integrated Hayward's various test jigs into one crystal tester. You
> can get a board from Far Circuits.
>
> You put the crystal in a specific (typically 50 ohm) environment by
> putting 50 ohm attenuators between generator and crystal and between
> crystal and detector. The detector might be a diode detector plus
> voltmeter or an oscilloscope. You'll also have another 50 ohm 3 dB
> pad in series that can be switched in and out.
>
> 1. With the pad switched IN, adjust frequency until the peak output
> is read (resonance). Note the center frequency and meter indication.
>
> 2. Switch the pad OUT and find the frequencies above and below the
> center frequency that give the same indication. These are the + and -
> 3 dB frequencies and the difference between them is the bandwidth.
>
> Now you can calculate Q by dividing the center frequency by the
> bandwidth. Pretty low isn't it? This is a loaded Q, not the
> crystal's Q. The total resistance in the circuit is 50 ohms source
> plus 50 ohms load plus the crystal's yet unknown Rs.
>
> 3. Tune back to the center frequency where the output is at its peak.
> Unplug the crystal and substitute a pot of maybe 0 to 25 ohms range.
> (I actually just substitute fixed resistors since I don't have a

> decent pot like this.) When you find a value that gives the same
> meter indication as the crystal did, that is the value of Rs. (This
> is because we are at series resonance, so Xc and XL have cancelled.)
>
> Alright. Another formula for loaded Q is XL / R. R in this case is
> 100 ohms plus the Rs you just measured. And XL is 2*PI*Fc*L, where Fc
> is the center frequency you measured earlier. You already have the
> loaded Q from step 2, so you are down to one unknown. Just solve for
> XL and/or L, which is the equivalent inductance of the crystal. In
> like manner, you can find the series C, since Xc = XL.
>
> And finally, the Q you wanted (the crystal's Q) is XL / Rs.
>
> Now you know about everything about the crystal and can get one of
> your Hayward or Demaw books and start designing some filters. Hayward
> has nice software for this in both Introduction to RF Design and
> Experimental Methods in RF Design, both from ARRL. If you want to
> include holder (parallel) C in your modeling, 5 pF is a good estimate.
>
> Jim Kortge, K8IQY puts his crystal in a 12.5 ohm environment by using
> 4:1 (impedance) bifilar transformers into and out of the crystals (50
> ohm attenuators are still used though, to assure known generator and
> load resistances). This has the advantage of making the resistance
> measurement easier, but it makes the loaded bandwidth smaller, so you
> need a good stable generator that you can read to the Hz. Those
> little DDS units are nice. Be sure to use filtering if necessary for
> signal purity. Jim designed a nice little VXO (variable crystal
> oscillator) that uses one of the crystals from the set you are
> measuring in the oscillator circuit. See it on NJQRP's page:
>
> http://www.njqrp.org/pvxo/index.html
>
> I followed Jim's lead but used resistive 50 to 12.5 ohm matching pads
> instead of transformers. That way I got rid of any reactive effects
> (which are minimal) of the transformers, but required a lot more
> driving power due to the loss in the matching pads.
>
> OK, that was probably more than you wanted to know. Hope I remembered
> this stuff right.
>
> 73-Nick, WA5BDU
> in Arkansas

4656. Re: FA: Ugliest homebrew linear project EVER - Ebay ad, but ya gotta see this

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 00:51:08 UTC
From: Mike Burch <mburch46@mchsi.com>
Message-ID: <%3plb.17325$xX.48413@attbi_s02>
Source record: 29873

Wow! You are so right!!! Hideous and built on the extreme cheap and
then some. It looks like he is getting some bids however. But like the
previous respondents mentioned, at least he tried and that is worth a lot.

Mike Burch K8MB

Apache Junction, Arizona

4657. Source for Microwave Diodes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 03:47:01 UTC
From: tayl0rr@yahoo.com
Message-ID: <ff33c2c3.0312301947.79ceaa56@posting.google.com>
Source record: 29874

Does anyone know of a source for Microwave Diodes in quantities less than 100 pieces? I'm specifically looking for HSMS 2850 but any site that carries microwave diodes would be helpfull.

I tried Microwave Components but their number has been disconnected.

Thanks
Rob
AG4WR

4658. Re: CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 07:13:57 UTC
From: "Wolfgang K. Meister" <no.mail@please.com>
Message-ID: <lhs4vv09e2e0vpgllnhkcvqao2o58ir1bp@4ax.com>
Source record: 29875

On Tue, 30 Dec 2003 20:10:53 +0800, "Richard Hosking"
<richardh@iinet.net.au> wrote:

>Wolfgang
>Thanks for your reply

Richard,

I will dig into my paper piles - I do have a very small and tiny Basic
source with a flow chart, published years ago. I wanted to write this,
but time went by and in the meantime ready built software is available
in the net. Stay tuned - I will post it.

73s and DX for 2004

Wolfgang
OE1MWW

4659. Re: CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 07:43:44 UTC
From: Tim Wescott <tim@wescottnospamdesign.com>
Message-ID: <vv4vhbpgqbpke1@corp.supernews.com>
Source record: 29876

Disclaimer: I've never decoded morse in my life, so most of what I write is educated guessing.

For my master's thesis I built a receiver that demodulated 400 baud MSK. The RF chain delivered a signal centered around 2kHz to a 68HC11 which sampled at 6400Hz and demodulated the data entirely in software -- and it only had 2k bytes of code space. Granted, it was all in assembly, and it used 94% of the available processor time to do it, but it did work. In spite of having some really ugly compromises in the signal processing (the sampling rate was really too low, and the only "multiply" was to add, not add, or subtract from an accumulator) the receiver had performance within a dB of the theoretical optimum. I think with something modern like an AVR or a PIC a 16-baud OOK signal should be possible (fun, too).

OK, so you still have the problem with the math.

Consider using not one, but two comparators to square up your signal, so a "non-signal" rarely gets above the threshold. You're back to needing AGC (at least to set the comparator), but you can close the loop in your software by looking at the comparator outputs for the right signatures (too much output = too low threshold, too little output = too high threshold), and set the threshold from the uP. With a good signal to noise ratio this should have a nice broad center to it that'll be easy to find. With a good narrow CW filter your signal to noise ratio will get better...

Once your threshold is set you can integrate the "buzz" from the comparators to see if you're receiving a carrier. You should probably integrate for some period of time (the length of the fastest code you want to receive would be good, it'd give you a sorta-kinda-matched filter) and take the presense of signal 1/2 of the time to indicate the transmitter is "on".

I like the idea of using the dibits to form a PLL, but for receiving bad code at an unknown rate you'd probably be better off making a little histogram of the on and off times of the code. You should be able to see two peaks in the histogram for "on" corresponding to dot and dash, and three for "off" corresponding to intra-letter, inter-letter and inter-word spacing. At this point you can start looking for dashes, dots, and spaces (maybe going back over your data to catch the beginning of the message, if you have enough RAM) and decoding words. You could also estimate the speed of the code that you're receiving and feed it back to your KSMF (that's kinda-sorta-matched filter, of course) for better noise figure.

Once you have your stream of dashes, dots, inter-charater and inter-word spaces you can separate the charaters, look them up in a table and just reject anything that doesn't seem to fit. I suspect that your performance would be pretty good at this point, and if not the theoretical ne-plus-ultra

of decoders it would be better at receiving the lousy senders than
Wofgang's.

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3ff16bfb$0$1741$5a62ac22@freenews.iinet.net.au...
> Wolfgang
> Thanks for your reply
> I am not very sophisticated mathematically and I have not studied
> communication theory. Your article is most helpful. However it looks as
>

4660. 40 meter DSB project

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 08:49:28 UTC
From: n2cqr@clix.pt
Message-ID: <97f305da.0312310049.14f7b01b@posting.google.com>
Source record: 29877

I thought you guys would like to hear about my current project:

40 meter double sideband transmitter. Solid State. To be used with my
Drake 2-B receiver. I wanted something that would allow me to contact
UK hams. My antenna will be low to the ground and NVIS should work fine.

I have kind of unusual VFO: Crystal controlled 10.1 Mhz oscillator mixing
with a 3.0-3.1 Mhz VFO. 40673 mixer. Produces 7-7.1 Mhz signal (European
40 meter ham band). I have two LC filters after the mixer to knock down
the 10.1 and 3 Mhz signals. I plan on letting the 3 Mhz VFO run all the time
(in both transmit and receive modes) -- I'll switch the 10.1 Mhz crystal
oscillator off when in receive mode.

Balanced Modulator is an NE602 using the circuit from the K2. This produces
a very nice deep null in the carrier.

I'm using a D-104 with the transistor amp in the base, so there was no need
for an audio amp in the rig -- D-104 goes directly into the NE-602.

RF amp is from a Doug DeMaw article in the Feb 1997 issue of CQ. Looks like
I'll be getting at least a few watts out.

I did the initial tests this morning -- all systems go. I should have it on
the air this weekend. It will have a real wooden breadboard for the base, and
an aluminium "kick panel" (for a door) for the cabinet.

I'll keep you all posted on progress.
73 from London. Happy New Year!
Bill M0HBR CU2JL N2CQR
meara.london@virgin.net

4661. Re: CW software decoder algorithm?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 14:04:58 UTC
From: xpyttl <xpyttl_nospam@earthling.net>
Message-ID: <vv5ls849d72e4e@corp.supernews.com>
Source record: 29878

"Richard Hosking" <richardh@iinet.net.au> wrote in message
news:3ff16bfb$0$1741$5a62ac22@freenews.iinet.net.au...

> I am not very sophisticated mathematically and I have not studied
> communication theory. Your article is most helpful. However it looks as
> though it might be somewhat hard to implement in a small/slow codespace
such
> as a microcontroller. (It may well be impossible to do this job in such a
> device.)

In the August '98 QST, IK3OIL published an article on a CW decoder based on a PIC16F84, which may well be, by today's standards, the most limited microcontroller in use by hobbyists. (Well, I suppose you could tie one hand behind your back by adding a Basic compiler on top of it or something like that!) That particular device, while far from perfect, works a lot better than the various PC based programs that I've tried.

Last I looked, he still had most of the information on his web site. I know others have done work to improve on his program, but I don't know of any of that work that has been published. One nasty feature is that a long series of dahs can greatly confuse his algorithm and it can take a while to recover from that. Were you to implement his algorithm in a '628 or something like that, or even to simply replace the rather lengthy code he has around displaying the speed with a little more work on the algorithm, I'm sure it could be improved.

He did use an external decoder to recognize the CW signal, a 567 or something of that ilk. Some folks have worked on that end, too. It seems like there should be a better approach, but I haven't seen anything dramatically better.

..

4662. Re: Transmitter tuning, antenna, etc

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 14:17:12 UTC
From: Circuit Breaker </dev/null@127.0.0.1>
Message-ID: <pan.2003.12.31.14.17.11.675969@bellsouth.net>
Source record: 29879

I said I'd get the schematics, here they are:

http://www.reconnsworld.com/transmit/fm_trasm.gif

Actually, mine were printed out from that page, but it seems the guy has added a whole bunch more since I was there. I printed this out a year ago (12/13/2002) and he added some stuff in mid-2003... Got a 3W transmitter, a 15-18W transmitter, an IC-based stereo transmitter, a 48 MHz beacon transmitter... neat stuff indeed.

Anyway, I've gotten a couple of ideas from looking at the more complicated designs, and I'm going to try a coupld of things and see what works and what doesn't. I'm still very interested in any thoughts the groups has to offer about why mine works as marginally as it does...

TIA and 73
--
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__ ____
/ _| | _ \ Unregistered Linux User #18,000,002
| |__ | _ \
\__/ |___/ Learning is the ONLY substitution for EDUCATION!
```

4663. Re: Transmitter tuning, antenna, etc

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 15:42:14 UTC
From: Joe McElvenney <ximac@btinternet.com>
Message-ID: <VA.0000000c.003e9637@btinternet.com>
Source record: 29880

Hi,

Further to my e-mail, having seen the schematic now, it is probably the antenna which is screwing things up.

Firstly, take the antenna off the collector of the oscillator and either link-couple it (a couple of turns with one end grounded) or tap it down the tank coil till the oscillator starts reliably. You are not looking for an exact match here but a way of coupling energy more efficiently into the antenna without the oscillator thinking that it's his mother.

Secondly, the base biassing you have on the oscillator is too dependent on individual transistor parameters. I suggest that you connect the base to ground through another 10K and then adjust the emitter resistor until you have 5 to 10 mA flowing through it. You can tell when you have it about right by measuring the voltage across it. Touching the circuit near the coil with your finger should also show some variation in voltage if the circuit is oscillating.

Finally, you appear to be relying on the battery for an RF return circuit which is not good. Try placing a capacitor of about 0.01uF between the supply and ground, close in to the oscillator.

Cheers - Joe

4664. Re: Transmitter tuning, antenna, etc

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 18:01:16 UTC
From: Circuit Breaker </dev/null@127.0.0.1>
Message-ID: <pan.2003.12.31.18.01.14.946159@bellsouth.net>
Source record: 29881

Joe McElvenney wrote:

> Hi,
>
> Further to my e-mail, having seen the schematic now, it
> is probably the antenna which is screwing things up.
>
> Firstly, take the antenna off the collector of the
> oscillator and either link-couple it (a couple of turns
> with one end grounded) or tap it down the tank coil till
> the oscillator starts reliably.

Okay, I've not had the experience with this, but my father has. I normally would ask him for help, but lately, he has been irritated when I have asked, I suppose because he thinks I already know a lot of these ideas. Anyway, having used your reply, I was able to get him to explain what you meant.

In my discussion with him, he mentioned that because of the simplicity of the radio, I would have what amounts to line loss by link-coupling the antenna. He suggested the tapping bit. After explaining that to me, I recall now having seen schematics that used that technique. I think that's what I'll try.

> You are not looking for an exact match here but a way of coupling
> energy more efficiently into the antenna without the oscillator thinking
> that it's his mother.

If I get the image you're trying to send, I must say that's one effective way of getting your point across ;-)

> Secondly, the base biassing you have on the oscillator
> is too dependent on individual transistor parameters. I
> suggest that you connect the base to ground through another
> 10K and then adjust the emitter resistor until you have 5
> to 10 mA flowing through it. You can tell when you have it
> about right by measuring the voltage across it. Touching
> the circuit near the coil with your finger should also show
> some variation in voltage if the circuit is oscillating.

Sounds easy enough. I assume you mean the base of Q2?

> Finally, you appear to be relying on the battery for an
> RF return circuit which is not good. Try placing a
> capacitor of about 0.01uF between the supply and ground,
> close in to the oscillator.

And this seems to be standard practice, the capacitor. I've seen reference to that on just about every circuit dealing with oscillators (I have a small collection of "Engineer's Mini Notebooks" from Radio Snap, along with a book from an old electronics lab kit I got about 14 years ago. Shouldn't be a problem to implement.

> Cheers - Joe

Thanks for the help, Joe - I'll let you know how it goes when I get the chance. Right now my father's needing my help loading a trailer with some carpet and then we're off to our old house to see if the carpet can fit in anywhere. After that I should have a few hours to tinker, I'll try this then.

Cheers to you, and 73 de KE4EDD
--

```
__ ____
/ _| | _ \ Unregistered Linux User #18,000,002
| |__ | _ \
\__/ |___/ Learning is the ONLY substitution for EDUCATION!
```

4665. Re: Crystal Q measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 19:48:59 UTC
From: Virgil Smith <vsmith26@comcast.net>
Message-ID: <LKFIb.16482$I07.45385@attbi_s53>
Source record: 29882

"Nick Kennedy" <wa5bdu@yahoo.com> wrote in message
news:ca1a467b.0312301023.5f9f95bd@posting.google.com...
> "Virgil Smith" <vsmith26@comcast.net> wrote in message news:<3iNHb.504277
> >
> > Anyone know of any neat ideas for measuring the Q of a
> > crystal?
> >
> > I would welcome any and all suggestions,
> >
> > -vs-
>
> Let's see if I can describe a method based on W7ZOI's efforts, with
> some updates by K8IQY. By the way, the W7ZOI techniques from QST were
> added as appendixes into one of Doug Demaw's ARRL books. Demaw
> integrated Hayward's various test jigs into one crystal tester. You
> can get a board from Far Circuits.
>
> You put the crystal in a specific (typically 50 ohm) environment by
> putting 50 ohm attenuators between generator and crystal and between
> crystal and detector. The detector might be a diode detector plus
> voltmeter or an oscilloscope. You'll also have another 50 ohm 3 dB
> pad in series that can be switched in and out.
>
> 1. With the pad switched IN, adjust frequency until the peak output
> is read (resonance). Note the center frequency and meter indication.
>
> 2. Switch the pad OUT and find the frequencies above and below the
> center frequency that give the same indication. These are the + and -
> 3 dB frequencies and the difference between them is the bandwidth.
>
> Now you can calculate Q by dividing the center frequency by the
> bandwidth. Pretty low isn't it? This is a loaded Q, not the
> crystal's Q. The total resistance in the circuit is 50 ohms source
> plus 50 ohms load plus the crystal's yet unknown Rs.
>
> 3. Tune back to the center frequency where the output is at its peak.
> Unplug the crystal and substitute a pot of maybe 0 to 25 ohms range.
> (I actually just substitute fixed resistors since I don't have a
> decent pot like this.) When you find a value that gives the same
> meter indication as the crystal did, that is the value of Rs. (This
> is because we are at series resonance, so Xc and XL have cancelled.)
>
> Alright. Another formula for loaded Q is XL / R. R in this case is
> 100 ohms plus the Rs you just measured. And XL is 2*PI*Fc*L, where Fc

> is the center frequency you measured earlier. You already have the
> loaded Q from step 2, so you are down to one unknown. Just solve for
> XL and/or L, which is the equivalent inductance of the crystal. In
> like manner, you can find the series C, since Xc = XL.
>
> And finally, the Q you wanted (the crystal's Q) is XL / Rs.
>
> Now you know about everything about the crystal and can get one of
> your Hayward or Demaw books and start designing some filters. Hayward
> has nice software for this in both Introduction to RF Design and
> Experimental Methods in RF Design, both from ARRL. If you want to
> include holder (parallel) C in your modeling, 5 pF is a good estimate.
>
> Jim Kortge, K8IQY puts his crystal in a 12.5 ohm environment by using
> 4:1 (impedance) bifilar transformers into and out of the crystals (50
> ohm attenuators are still used though, to assure known generator and
> load resistances). This has the advantage of making the resistance
> measurement easier, but it makes the loaded bandwidth smaller, so you
> need a good stable generator that you can read to the Hz. Those
> little DDS units are nice. Be sure to use filtering if necessary for
> signal purity. Jim designed a nice little VXO (variable crystal
> oscillator) that uses one of the crystals from the set you are
> measuring in the oscillator circuit. See it on NJQRP's page:
>
> http://www.njqrp.org/pvxo/index.html
>
> I followed Jim's lead but used resistive 50 to 12.5 ohm matching pads
> instead of transformers. That way I got rid of any reactive effects
> (which are minimal) of the transformers, but required a lot more
> driving power due to the loss in the matching pads.
>
> OK, that was probably more than you wanted to know. Hope I remembered
> this stuff right.
>
> 73-Nick, WA5BDU
> in Arkansas

Hi, Nick,

No, not more than I wanted to know at all. I'm quite happy to have this
level
of info.

Thanks for the detailed reply -- gives me something to mull over during the
holidays.

-vs-

4666. Re: Source for Microwave Diodes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 20:21:44 UTC
From: skavanagh72nospam@yahoo.ca
Message-ID: <5249fb3f.0312311221.50ef4633@posting.google.com>
Source record: 29883

tayl0rr@yahoo.com (Robert) wrote in message
news:<ff33c2c3.0312301947.79ceaa56@posting.google.com>...
> Does anyone know of a source for Microwave Diodes in quantities less
> than 100 pieces? I'm specifically looking for HSMS 2850 but any site
> that carries microwave diodes would be helpfull.

Down East Microwave (www.downeastmicrowave.com) has a limited
selection of diodes. You might try a post to WA1MBA's microwave email
reflector (see wa1mba.org for details).

Steve, VE3SMA

4667. Re: Source for Microwave Diodes?

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 20:28:00 UTC
From: Ken Gunton <deadletterbox@techlock.com>
Message-ID: <dcc6vvcul3joideqk1497qbig8pvccnfu9@4ax.com>
Source record: 29884

We have 1N23Gs in stock.

www.ohiomicrowave.com

Regards,
Ken Gunton
WB6QWF

On 30 Dec 2003 19:47:01 -0800, tayl0rr@yahoo.com (Robert) wrote:

Does anyone know of a source for Microwave Diodes in quantities less
than 100 pieces? I'm specifically looking for HSMS 2850 but any site
that carries microwave diodes would be helpfull.

I tried Microwave Components but their number has been disconnected.

Thanks
Rob
AG4WR

Ken Gunton WB6QWF ken att ohiomicrowave dottt commm
Ohio Microwave
Microwave and RF Components to 110 GHz
http://www.ohiomicrowave.com

4668. WTD Leader LAG-26 manual/ Lodestar AG-2601A AG-2601A manua

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 20:33:30 UTC
From: Carl WA1KPD <nantucketbound@yahoo.com>
Message-ID: <NsadnTXJspkHr26iRVn-vA@comcast.com>
Source record: 29885
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Help!
I need a manual for a Leader LAG-26 audio generator. the Lodestar AG2601a
may be the same unit

AAAAAAAAAARRRRRRRRRRGHHHHHHHHHH

Trying to get the homebrew 6L6 modulator working I accidentally toasted the
input to my leader LAG-26 audio generator with 500VDC into the audio out.
Several resistors, possibly some transistors went south. Anyone have a
source for the manual? I have not been able to locate one on the web.....

Thanks and 73
--
Carl
WA1KPD
Visit My Boatanchor Collection at
http://home.comcast.net/~chnord/wa1kpd.html

Disclaimer: Any resemblance to the views of anybody living or dead is
coincidental.
No animals were hurt in the writing of this
response -- unless you count my dog who desperately wants to go outside now.

4669. 12 v timer project ... need ideas!

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 22:12:18 UTC
From: j999w@aol.com
Message-ID: <20031231171218.19854.00001365@mb-m01.aol.com>
Source record: 29886

I'm looking for ideas for a stand alone timer to turn on and off a remote shortwave or BCB receiver and tape recorder. No AC mains available. Switching requirements no more than about 5 amps.

Haven't had much luck scouring the web.

Ideas?

John WB9UAI

4670. FS: Lots of 500: 50V 22uF Electrolytic Capacitors :: $ 27 SHIPPED

Newsgroup: rec.radio.amateur.homebrew
Date: 2003-12-31 22:42:37 UTC
From: jrakar@en.com
Message-ID: <10f72e79.0312311442.6f95d3d9@posting.google.com>
Source record: 29887

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Lots of 500: 50V 22uF Electrolytic Capacitors

The price is: $ 27.00 per factory sealed bag of 500

which INCLUDES the UPS shipping cost

Check out more info and pics at:

http://www.jrakar.com/glw/electronics/capacitors/50velect.htm

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Also, please check out our other lists of Capacitors for Sale at:

http://www.jrakar.com/glw/electronics/caps.htm

Thanks,

Jerry

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Please also check out our other pages:

Main Electronic Components page at:
http://www.jrakar.com/glw/electronics/ec.htm

Capacitors for Sale page at:
http://www.jrakar.com/glw/electronics/caps.htm

Crystals for Sale page at:
http://www.jrakar.com/glw/electronics/crystals.htm

DIP Switches for Sale page at:
http://www.jrakar.com/glw/electronics/dipswitches.htm

ICs for Sale page at:
http://www.jrakar.com/glw/electronics/ics.htm

Relays for Sale page at:
http://www.jrakar.com/glw/electronics/relays.htm

Sockets for Sale page at:
http://www.jrakar.com/glw/electronics/sockets.htm

Main Web Page at: www.jrakar.com

:: Thank You ::

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